NORTH CITY PROJECT
PURE WATER SAN DIEGO PROGRAM

FINAL

FEBRUARY 27, 2018

Environmental Impact Report/
Environmental Impact Statement
SCH #2016081016 / PTS #499621

Prepared for:

The City *of* SAN DIEGO

Development Services Department
1222 First Avenue, MS-301
San Diego, California 92101

Pure Water San Diego

FINAL

North City Project, Pure Water San Diego Program
Environmental Impact Report / Environmental Impact Statement
SCH #2016081016 / PTS #499621

Prepared for:

The City *of* SAN DIEGO

Development Services Department
1222 First Avenue, MS-301
San Diego, California 92101
Contact: Mark Brunette

FEBRUARY 2018

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THE CITY OF SAN DIEGO

ENVIRONMENTAL IMPACT REPORT

Project No. 499621
SCH No. 2016081016

SUBJECT: **Pure Water San Diego Program, North City Project**

A SITE DEVELOPMENT PERMIT AND MHPA BOUNDARY LINE ADJUSTMENT for the development of the Pure Water San Diego Program, North City Project. The North City Project would create up to 30 MGD of locally controlled water and reduce flows to the Point Loma WWTP, which in turn would reduce total suspended solids discharged to the ocean. The North City Project would construct facilities that have the ability to produce an annual average daily flow of 30 MGD in 2021. The North City Project will expand the existing North City Water Reclamation Plant (NCWRP) and construct an adjacent North City Pure Water Facility. Two alternative purified water pipelines are considered: one to Miramar Reservoir and one to San Vicente Reservoir. Other project components include a new pump station and forcemain to deliver additional wastewater to the NCWRP; a brine/centrate discharge pipeline; upgrades to the existing Metro Biosolids Center; a new North City Renewable Energy Facility at the NCWRP; and a new Landfill Gas (LFG) Pipeline between the Miramar Landfill gas collection system and the NCWRP.

The North City Project includes a variety of facilities located throughout the central coastal areas of San Diego County in the North City geographic area. A new pure water facility and three pump stations would be located within the corporate boundaries of the City of San Diego (City). Proposed alternative pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside and other areas in unincorporated San Diego County. The proposed LFG Pipeline would traverse federal lands within Marine Corps Air Station (MCAS) Miramar. Applicant: **City of San Diego Public Utilities Department**

FINAL DOCUMENT February 27, 2018:

In response to comments received during public review and City staff input subsequent to distribution of the Draft Environmental Impact Report (EIR), minor revisions, clarifications and/or additions have been made to the document which do not change the conclusions of the Final EIR

regarding the project's potential environmental impacts and required mitigation. As defined in CEQA Section 15088.5, these revisions, clarifications or additions to the document - which are shown in strikeout/underline format, do not represent "significant new information" and therefore, recirculation of the Draft EIR is not warranted. No new significant environmental impacts would occur from these modifications, and similarly, no substantial increase in the severity of environmental impacts would occur.

Additionally, in accordance with CEQA Section 15089, responses to comments received during the public review period of the Draft EIR have been included in this final document and are located immediately after these Conclusions.

CONCLUSIONS:

Based on the analysis conducted for the project described above, the City has prepared the following Environmental Impact Report/Environmental Impact Statement (EIR/EIS) in accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) to inform public agency decision-makers and the public of the significant environmental effects that could result if the project is approved and implemented, identify possible ways to minimize the significant effect, and describe reasonable alternatives to the project (State CEQA Guidelines Section 15121).

As further described in the attached EIR/EIS, the City has determined that the North City Project would have a significant environmental effect in the following areas: **land use (San Vicente Reservoir Alternative Only), aesthetics (San Vicente Reservoir Alternative Only), air quality, biological resources, health and safety/hazards, historical resources, noise, paleontological resources, public utilities and transportation, circulation, and parking.**

The North City Project would not result in a significant environmental effect in the following areas: **land use (Miramar Reservoir Alternative Only), aesthetics (Miramar Reservoir Alternative Only), environmental justice, energy, geology and soils, greenhouse gas emissions, hydrology and water quality, public services, water supply, and recreation.**

Mitigation measures are proposed to reduce impacts related to **land use (San Vicente Reservoir Alternative Only), aesthetics (San Vicente Reservoir Alternative Only), air quality, biological resources, health and safety/hazards, historical resources, noise, paleontological resources, public utilities and transportation, circulation, and parking** to below a level of significance. The attached EIR/EIS and Technical Appendices document the basis for the above Determination.

SIGNIFICANT UNMITIGATED IMPACTS:

Impacts associated with aesthetics (San Vicente Reservoir Alternative Only); air quality (San Vicente Reservoir Alternative only); noise (both Project Alternatives); and transportation, circulation, and parking (both Project Alternatives) were identified as being significant and unavoidable.

The San Vicente Reservoir Alternative would involve construction activities associated with the Mission Trails Booster Station that would result in a substantial change to the natural topography of the proposed site; no mitigation measures are available, and therefore, would result in a significant and unavoidable impact related to aesthetics.

The San Vicente Reservoir Alternative daily construction emissions would result in an exceedance of the NOx threshold. The North City Project shall be required to implement best management practices, to use equipment that is equipped with Tier 3 or better diesel engines, to use the minimum engine size of construction equipment suitable for the required job, and to maintain equipment with the manufacturer's specifications. However, even following implementation of these mitigation measures it is likely that NOx emissions will exceed thresholds for construction emissions. Therefore, daily construction emissions associated with the San Vicente Reservoir Alternative would result in a temporary, significant and unavoidable impact.

The North City Project (both Project Alternatives) construction activities are anticipated to create temporary substantial noise increases and result in short-term exceedances of the City's noise standard for construction. The North City Project shall be required to implement best management practices, limit construction hours unless a special permit has been obtained, place mufflers on equipment engines, keep idling equipment and mobile staging as far as practicable from noise-sensitive land uses, us electrically powered equipment, erect temporary noise barriers, and nighttime work shall minimize use of operating equipment and minimize noise. However, even following implementation of these mitigation measures it is likely that construction noise levels will exceed City thresholds. Therefore, construction noise levels associated with the North City Project would result in a temporary, significant and unavoidable impact.

The North City Project (both Project Alternatives) construction traffic is anticipated to exceed City significance thresholds for roadway segments and intersections. The North City Project shall be required to implement a transportation demand management program. However, even following implementation of this mitigation measure, it is likely that construction traffic will exceed significance thresholds. Therefore, construction traffic associated with the North City Project would result in a temporary, significant and unavoidable impact.

MITIGATION MONITORING AND REPORTING PROGRAM:

Mitigation measures relative to **air quality, biological resources, health and safety/hazards, historical resources, noise, paleontological resources, public utilities and transportation,**

circulation, and parking are identified within Section 6.3, Air Quality; Section 6.4, Biological Resources; Section 6.9, Health and Safety/Hazards; Section 6.10, Historical Resources; Section 6.12, Noise; Section 6.13, Paleontological Resources; Section 6.15, Public Utilities; and Section 6.16, Transportation, Circulation, and Parking of the EIR/IES to reduce environmental impacts to below a level of significance. The mitigation measures are also fully contained in Chapter 10, Mitigation Monitoring and Reporting Program, of the EIR/EIS.

RECOMMENDED ALTERNATIVES FOR REDUCING SIGNIFICANT IMPACTS:

NEPA and CEQA require that environmental documents identify and analyze a reasonable range of feasible alternatives that could be implemented to meet the North City Project purpose and need and objectives. In addition, CEQA and NEPA focus on alternatives that would avoid or substantially lessen any of the significant/adverse effects of the North City Project. This EIR/EIS evaluates the No Action/No Project Alternative and two North City Project Alternatives: the Miramar Reservoir Alternative (Locally Preferred Alternative) and the San Vicente Reservoir Alternative.

Per Section 15126.6(e)(2) of the CEQA Guidelines, an environmentally superior alternative must be identified (other than the No Project Alternative). The Miramar Reservoir Alternative would be considered environmentally superior because it would result in a lesser degree of impacts to biological resources, less electricity and energy consumption, and a greater net decrease in greenhouse gas emissions when compared to the San Vicente Reservoir Alternative. The Miramar Reservoir Alternative would also avoid significant and unavoidable impacts associated with air quality and aesthetics which would occur under the San Vicente Reservoir Alternative.

RESULTS OF PUBLIC REVIEW:

( ) No comments were received during the public input period.

( ) Comments were received but did not address the accuracy or completeness of the Draft EIR/EIS. No response is necessary and the letters are attached at the end of the EIR/EIS.

(X) Comments addressing the accuracy or completeness of the Draft EIR/EIS were received during the public input period. The letters and responses are located immediately after the Conclusions.

Individuals, organizations, and agencies that received a copy or notice of the Draft EIR/EIS and were invited to comment on its accuracy and sufficiency is provided below. Copies of the Final EIR/EIS, the Mitigation Monitoring and Reporting Program and any technical appendices may be reviewed in the office of the Development Services Department, or purchased for the cost of reproduction.

Kerry Santoro
Deputy Director
Development Services Department

September 7, 2017
Date of Draft Report

February 27, 2018
Date of Final Report

Analyst: Mark Brunette

DISTRIBUTION OF DRAFT ENVIRONMENTAL IMPACT REPORT:

The following individuals, organizations and agencies received a copy of notice of the Draft EIR and were invited to comment on its accuracy and sufficiency.

DISTRIBUTION:

United States Government
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Naval Facilities Engineering Command, SW Division, Environmental Planning
MCAS Miramar
Marine Corps Recruit Depot Facilities Division
Environmental Protection Agency
U. S. Fish and Wildlife Service
USDA Natural Resources Conservation Services
Army Corps of Engineers
Bureau of Reclamation
Department of Veterans Affairs

State of California
Caltrans District 11
Department of Fish and Wildlife
Cal Recycle
Dept of Health Services Division of Drinking Water & Environmental Mgmt

California Environmental Protection Agency
Department of Toxic Substance Control
State Parks
Department of Parks and Recreation
Natural Resources Agency
Regional Water Quality Control Board, Region 9
Department of Water Resources
State Clearinghouse
California Coastal Commission
California Air Resources Board
California Transportation Commission
California Transportation Commission
California Boating & Waterways
California State Coastal Conservancy
State Water Resources Control Board, Division of Financial Assistance
Native American Heritage Commission
California Energy Commission
California Dept. of Conservation
California State Lands Commission
Department of Transportation
State Office of Historic Preservation

San Diego County

Agriculture Department
Air Pollution Control Board
Planning and Land Use
Planning and Development
Parks Department
Noise Control Hearing Board
Public Works
County Water Authority
Department of Environmental Health
San Diego Fish and Wildlife Advisory Commission

City of San Diego

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Stacey LoMedico
Paz Gomez
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Ron Villa
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Christine Leone
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*Councilmember Zapf, District 2
*Councilmember Ward, District 3
*Council President Cole, District 4
*Councilmember Kersey, District 5
*Councilmember Cate, District 6
*Councilmember Sherman, District 7
*Councilmember Alvarez, District 8
*Councilmember Gomez, District 9

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Fire and Life Safety Services
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Environmental Services Department
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Darren Greenhalgh
Lisa Wood

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Kris McFadden, Director
Andrew Kleis
Ruth Kolb

Real Estate Assets Department
Cybele Thompson, Director
Barry Slotten

Libraries
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Balboa Branch Library
Beckwourth Branch Library
Benjamin Branch Library

Carmel Mountain Ranch Branch Library
Carmel Valley Branch Library
City Heights/Weingart Branch Library
*Clairemont Branch Library
College-Rolando Branch Library
Kensington-Normal Heights Branch Library
La Jolla/Riford Branch Library
*Linda Vista Branch Library
Logan Heights Branch Library
Malcolm X Library & Performing Arts Center
*Mira Mesa Branch Library
Mission Hills Branch Library
*Mission Valley Branch Library
North Clairemont Branch Library
North Park Branch Library
Oak Park Branch Library
Ocean Beach Branch Library
Otay Mesa-Nestor Branch Library
Pacific Beach/Taylor Branch Library
Paradise Hills Branch Library
Point Loma/Hervey Branch Library
Rancho Bernardo Branch Library
Rancho Peñasquitos Branch Library
READ San Diego
San Carlos Branch Library
San Ysidro Branch Library
*Scripps Miramar Ranch Branch Library
Serra Mesa Branch Library
Skyline Hills Branch Library
Tierrasanta Branch Library
*University Community Branch Library
North University Branch Library
University Heights Branch Library

City Government
Civic San Diego
San Diego Housing Commission

Community Forest Advisory Board
Small Business Advisory Board
La Jolla Shores PDO Advisory Board

City Advisory Committees
Mission Bay Park Committee
Airports Advisory Committee
Historical Resources Board
Park and Recreation Board
Wetlands Advisory Board
Community Forest Advisory Board

Other City Governments
City of Chula Vista
City of Coronado
City of Del Mar
City of El Cajon
City of Escondido
City of Imperial Beach
City of La Mesa
City of Lemon Grove
City of National City
City of Poway
City of Santee

School Districts
Chula Vista School District
Grossmont Union High School District
La Mesa-Spring Valley School District
National School District
Poway Unified School District
San Diego Unified School District
San Ysidro School District
Santee School District
South Bay Unified School District
San Diego Community College District
UCSD Library

Community Groups, Associations, Boards, Committees and Councils

Community Planners Committee
Balboa Park Committee
Black Mountain Ranch –Subarea I
Otay Mesa - Nestor Planning Committee
Otay Mesa Planning Committee
Clairemont Mesa Planning Committee
Greater Golden Hill Planning Committee
Serra Mesa Planning Group
Kearny Mesa Community Planning Group
Linda Vista Community Planning Committee
La Jolla Community Planning Association
La Jolla and Golden Triangle Chamber of Commerce
City Heights Area Planning Committee
Kensington-Talmadge Planning Committee
Normal Heights Community Planning Committee
Eastern Area Planning Committee
Midway/Pacific Highway Community Planning Group
Mira Mesa Chamber of Commerce
Mira Mesa Community Planning Group
Mira Mesa Town Council
Mission Beach Precise Planning Board
Mission Valley Unified Planning Organization
Navajo Community Planners Inc.
Carmel Valley Community Planning Board
Del Mar Mesa Community Planning Board
North Park Planning Committee
Ocean Beach Planning Board
Old Town Community Planning Committee
Pacific Beach Community Planning Committee
Pacific Highlands Ranch – Subarea III
Rancho Peñasquitos Planning Board
Peninsula Community Planning Board
Point Loma Ecological Conservation Area Working Group
Rancho Bernardo Community Planning Board
Sabre Springs Community Planning Group

San Pasqual - Lake Hodges Planning Group
San Ysidro Planning and Development Group
Scripps Ranch Civic Association
Scripps Ranch Recreation Council
Scripps Ranch Community Planning Group
Scripps Ranch Villages HOA
Miramar Ranch North Planning Committee
Skyline - Paradise Hills Planning Committee
Torrey Hills Community Planning Board
Southeastern San Diego Planning Committee
Encanto Neighborhoods Community Planning Group
College Area Community Planning Board
Tierrasanta Community Council
The Promontory and Scripps Lake HOA
Torrey Highlands – Subarea IV
Torrey Pines Community Planning Board
University City Community Association
University City Community Planning Group
Uptown Planners

Town/Community Councils

Town Council Presidents Association
Barrio Station, Inc.
Downtown Community Council
Harborview Community Council
Clairemont Town Council
Serra Mesa Community Council
La Jolla Town Council
Rolando Community Council
Oak Park Community Council
Darnell Community Council
Mission Beach Town Council
Mission Valley Community Council
San Carlos Area Council
Carmel Mountain Ranch Community Council
Ocean Beach Town Council, Inc.
Pacific Beach Town Council

Rancho Penasquitos Town Council
Rancho Bernardo Community Council, Inc.
San Dieguito Planning Group
United Border Community Town Council
Tierrasanta Community Council
Murphy Canyon Community Council

Other Agencies, Organizations and Individuals

San Diego Association of Governments
San Diego Unified Port District
San Diego County Regional Airport Authority
Metropolitan Transit System
San Diego Gas & Electric
San Dieguito River Park JPA
San Diego Chamber of Commerce
Building Industry Association
San Diego River Park Foundation
San Diego River Coalition
Sierra Club
San Diego Canyonlands
San Diego Natural History Museum
San Diego Audubon Society
Jim Peugh
San Diego River Conservancy
Environmental Health Coalition
California Native Plant Society
San Diego Coast & Baykeeper
Citizens Coordinate for Century 3
Endangered Habitats League
San Diego Tracking Team
League of Women Voters
National City Chamber of Commerce
Carmen Lucas
South Coastal Information Center
San Diego Historical Society
San Diego Archaeological Center
Save Our Heritage Organization

Ron Chrisman
Clint Linton
Frank Brown - Inter-Tribal Cultural Resource Council
Campo Band of Mission Indians
San Diego County Archaeological Society Inc.
Kuumeyaay Cultural Heritage Preservation
Kuumeyaay Cultural Repatriation Committee
Native American Distribution
- Barona Group of Capitan Grande Band of Mission Indians
- Campo Band of Mission Indians
- Ewiiaapaayp Band of Mission Indians
- Inaja Band of Mission Indians
- Jamul Indian Village
- La Posta Band of Mission Indians
- Manzanita Band of Mission Indians
- Sycuan Band of Mission Indians
- Viejas Group of Capitan Grande Band of Mission Indians
- Mesa Grande Band of Mission Indians
- San Pasqual Band of Mission Indians
- Ipai Nation of Santa Ysabel
- La Jolla Band of Mission Indians
- Pala Band of Mission Indians
- Pauma Band of Mission Indians
- Pechanga Band of Mission Indians
- Rincon Band of Luiseno Indians
- San Luis Rey Band of Luiseno Indians
- Los Coyotes Band of Mission Indians

Otay Valley Regional Park CAC – John Willett
Tijuana River National Estuarine Reserve
Chuck Tanner – County San Diego OVRP Rep
Downtown San Diego Partnership
Deron Bear – Marion Bear Natural Park Recreation Council
Tecolote Canyon Citizens Advisory Committee
Friends of Tecolote Canyon
Tecolote Canyon Rim Owner's Protection Association
Friends of Switzer Canyon
Marion Bear Natural Park Recreation Council

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John Stump
Chollas Lake Park Recreation Council
Friends of Los Peñasquitos Canyon Preserve, Inc.
Surfer's Tired of Pollution
Debbie Knight
League of Conservation Voters
Mission Bay Lessees
San Diego River Conservancy
Friends of the Mission Valley Preserve
River Valley Preservation Project
Mission Trails Regional Park Citizens Advisory Committee
Carmel Valley Trail Riders Coalition
Carmel Mountain Conservancy
Los Peñasquitos Canyon Preserve Citizens Advisory Committee
Ocean Beach Merchant's Association
Friends of Rose Canyon
San Dieguito Lagoon Committee
San Dieguito River Park CAC
Friends of San Dieguito River Valley
San Dieguito River Valley Conservancy
RVR PARC
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Raymond Paulson
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Save Everyone's Access
Water Reliability Coalition
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Metropolitan Water District of Southern California
Murphy Development Company
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North American Development (NADB) / Border Environment Cooperation Commission (BECC)
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Aramark Uniform Services
Tayman Industries Inc.
Valley Power Systems
Penhall Company
Cocco Construction
Trench Plate Rental Co.
Old Dominion Freight Line
FedEx Ground
Storage West
Dogtopia
Textile 2000
WiLine Networks
Access Custom Garage Doors
Master Sports
Saber Tradeshow Services / Limitless Design
Airsoft Extreme
Parallax Tactical
RCI Asset Management
California Quivers
Pacific American Life Science Learning Center
Monumental Workx

Human Bio Molecular Research Institute
Intelligent Blends
Bioserv Corp
Perfect Bar & Company
Kaiser & Associates
RoadOne Towing
Thermo King
Sentry Storage Solutions
Torrey Pines Landscape Company
FedEx Freight
Sunstate Equipment
Online Auto Group Inc.
Tri-County Drilling Inc.
Mira Mesa First Assembly
McHenry's Auto Repair
August European
Care Medical Transportation
D&H Truck Equipment
Scripps Mesa Storage
Stanley Steemer San Diego
ECP Asset Care Property Management
Anthony Robbins Foundation
Commworld
Farmers Insurance
JW Floor Covering
Columbia Pacific Telesystems
Premier Financial Alliance
Chinese Church
R.L. Mays Construction
The San Diego Music and Art Cooperative
Tri-Signal Integration, Inc.
Scripps Park West LLC / Coffman Specialties
The Governance Institute
Earth Support Systems
Condon-Johnson & Associates Inc.
Glassey | Smith
Coffman Specialties, Inc.

Salford Systems
St. Demiana Coptic Church
JW Flooring
Aetna Health Insurance
Anchor General Insurance Agency - Texas
CUSO Financial Services, L.P. and Sorento Pacific
Paychex
Double Black Diamond Properties, LLC
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Ingenu
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CoreLogic Credco
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Western Outdoor News
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San Diego Bassmasters
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San Diego Council of Bass Clubs
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Dan Hernandez Sports
American Bass Association West
East County Bait and Tackle
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Boy Scouts of America
Lake Murray Kiwanis
Anglers Marine
San Diego Strokers
The Sporting Life

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Gordon Hess
Christopher Dull
Irene Stallard-Rodriguez
Jack Kubota
Tiffany Mittal
Jim Peugh
Gail Welch
Ken Williams
Jerry Jones
Jim Peasley
Yen Tu

County Water Authority and Member Agencies

County Water Authority
Carlsbad MWD
City of Del Mar
City of Escondido Utilities Department
Fallbrook Public Utility District
Helix Water District
Lakeside Water District
City of National City
City of Oceanside
Olivenhain MWD
Otay Water District
Padre Dam MWD
Pendleton Military Preservation
City of Poway
Rainbow MWD
Ramona MWD
Rincon Del Diablo MWD
San Dieguito Water District
Santa Fe Irrigation District
South Bay Irrigation District
Sweetwater Authority
Vallecitos Water District
Valley Center MWD
Vista Irrigation District

Yuima MWD

Metro Wastewater Joint Powers Authority

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Paula de Sousa Mills
Steve Padilla
Roberto Yano
Jerry Jones, Chair
Mike James
Richard Bailey
Ed Walton
Sherryl Parks
Joe Bride
Ben Kalasho
Eric Minicilli
Dennis Davies
Ed Spriggs
Chris Helmer
Bill Baber
Greg Humora
Albert Mendivil
Kuna Muthusamy
Bob Kennedy
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Al Lau
John Mullin
Mike Obermiller
Dianne Jacob
Dan Brogadir

Pure Water Working Group

Council District 3
Water Reliability Coalition
San Diego Regional Chamber of Commerce

NAIOP/BOMA
Asian Business Association
Hospital Association of San Diego and Imperial Counties
League of Women Voters of San Diego
Building Industry Association of San Diego
Navy Region Southwest
Qualcomm
SDG&E
CONNECT San Diego
Industrial Environmental Association
San Diego County Medical Society
Asian Pacific American Coalition
San Diego Audubon Society
Community Planners Committee
Surfrider San Diego
Urban League of San Diego County
City 10
San Diego Unified Council of PTAs
Council District 8
Coastal Environmental Rights Foundation
San Diego Coastkeeper
University Community Planning Group
Council District 6
BIOCOM
Council District 4
Council District 7
San Diego County Apartment Association
San Diego State University
Sharp HealthCare
Metro Wastewater JPA
San Diego Regional Economic Development Corporation
Greater San Diego Association of Realtors
Food & Beverage Association of San Diego
San Diego County Taxpayers Association
Council District 9
Council District 1
BIA

Cox Communications

* Notification and CD

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LIST OF ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
µg/L	micrograms per Liter
µg/m^3	micrograms per cubic meter
1,2,3-TCP	1,2,3-trichloropropane
AADF	annual average daily flow
AB	Assembly Bill
ACOE	U.S. Army Corps of Engineers
ADC	alternative daily cover
ADD	Assistant Deputy Director
ADMRT	Air Dispersion Modeling and Risk Tool
ADRP	Archaeological Data Recovery Program
ADT	Average Daily Traffic
AF	acre-feet
AFY	acre-feet per year
AIA	Airport Influence Area
AICUZ	Air Installations Compatible Use Zone
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AME	Archaeological Monitoring Exhibit
AMSL	above mean sea level
APE	area of potential effect
APN	Assessor's Parcel Number
APZ	Accident Potential Zone
ASMD	area-specific management directive
Assembly	City of San Diego Assembly on Water Reuse
AST	aboveground storage tank
AWPF	advanced water purification facility
BAC	biological activated carbon filtration
BAU	Business-as-Usual
BCEM	Biological Construction Mitigation/Monitoring Exhibit
BEP	business emergency plan
BI	Building Inspector
BLM	Bureau of Land Management
BMP	best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Program
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards
Cal/OSHA	California Occupational Health and Safety Administration
CalRecycle	California Department of Resources Recycling and Recovery

Acronym/Abbreviation	Definition
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCA	California Coastal Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	coastal development permit
CDPH	California Department of Public Health
CEC	California Energy Commission
CECs	contaminants of emerging concern
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CH_4	methane
CHSP	Community Health and Safety Plan
CIP	clean-in-place
City	City of San Diego
CLTL	controlled left-turn lane
CM	Construction Manager
CMP	Congestion Management Program
CMU	concrete masonry unit
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CO_2E	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CREC	Controlled Recognized Environmental Condition
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CRMTP	Cultural Resources Monitoring and Treatment Plan
CWA	Clean Water Act
CWSRF	Clean Water State Revolving Fund
dB	decibel
dBA	A-weighted decibel
DCS	Distributed Control System
DDW	Division of Drinking Water

Acronym/Abbreviation	Definition
Dechlorination Facility	Pure Water Dechlorination Facility
DEH	Department of Environmental Health
DIT	direct integrity testing
DO	dissolved oxygen
DPM	diesel particulate matter
DSOD	Division of Safety of Dams
DTSC	Department of Toxic Substances Control
EB	eastbound
ECAWPP	East County Advanced Water Purification Program
EFM	enhanced flux maintenance
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act of 2007
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EQ	equalization
ESA	Environmental Site Assessment
ESL	Environmentally Sensitive Lands
FAA	Federal Aviation Administration
$FeCl_2$	ferrous chloride
FESA	federal Endangered Species Act
FHWA	Federal Highway Administration
GAC	granular activated carbon
GC	Grading Contractor
GHG	greenhouse gas
GIS	geographic information system
gpm	gallons per minute
GPS	Global Positioning System
GWP	global warming potential
HAPs	hazardous air pollutants
HCFC	hydrochlorofluorocarbon
HCM	Highway Capacity Manual
HDPE	high-density polyethylene
HFC	hydrofluorocarbon
HP	horsepower
HRA	Health Risk Assessment
HREC	Historic Recognized Environmental Condition
HRG	Historical Resources Guidelines
I-	Interstate
IAP	Independent Advisory Panel
IBC	International Building Code
ICE	internal combustion engine

Acronym/Abbreviation	Definition
INRMP	Integrated Natural Resources Management Plan
IPCC	Intergovernmental Panel on Climate Change
IRAT	In-Reservoir Alternative Terminus
IR	Installation Restoration
IRP	Integrated Water Resources Plan
ISTEA	International Surface Transportation Efficiency Act of 1991
kWh	kilowatt hour
LAS	Landscape Architecture Section
lb/d	pounds per day
LCD	Landscape Construction Documents
LCP	Local Coastal Program
LDC	Land Development Code
L_{eq}	equivalent sound level
LF	linear feet
LFG	landfill gas
LFG Pipeline	Landfill Gas Pipeline
LID	low-impact development
L_{max}	maximum sound level
LOS	Level of Service
LOX	liquid oxygen
LRWRP	Long-Range Water Resources Plan
LUST	leaking underground storage tank
MA	Management Area
MAT	Marina Alternative Terminus
MBC	Metro Biosolids Center
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MCCTP	Mid-Coast Corridor Transit Project
MCL	maximum contaminant level
MEC	munitions and explosives of concern
MEIR	Maximally Exposed Individual Resident
MEIW	Maximally Exposed Individual Worker
Metropolitan	Metropolitan Water District of Southern California
Metro System	Metropolitan Sewerage System
MF	membrane filtration
mg/L	milligrams per liter
MG	million gallons
MGD	million gallons per day
MHPA	Multi-Habitat Planning Area
ml	milliliter
MLD	Most Likely Descendant
MM	mitigation measure

Acronym/Abbreviation	Definition
MMC	Mitigation Monitoring Coordination
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
Morena Pipelines	Morena Wastewater Forcemain and Brine/Centrate Line
mpg	miles per gallon
mph	miles per hour
MR	Miramar Reservoir
MRP	Munitions Response Program
MRZ	Mineral Resource Zone
MS4	municipal separate storm sewer system
MSCP	Multiple Species Conservation Program
MT	metric ton
MT CO_2E	metric tons carbon dioxide equivalent
MTBE	methyl tertiary butyl ether
MTBS	Mission Trails Booster Station
MTS	Metropolitan Transit System
MT/yr	metric tons per year
MW	megawatts
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NB	northbound
NCPWF	North City Pure Water Facility
NCPWF-MR	North City Pure Water Facility-Miramar Reservoir
NCPWF-SVR	North City Pure Water Facility-San Vicente Reservoir
NCTD	North County Transit District
NCWRP	North City Water Reclamation Plant
NDMA	N-Nitrosodimethylamine
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOP	Notice of Preparation
North City Pipeline	North City Pure Water Pipeline
North City Pump Station	North City Pure Water Pump Station
NPDES	National Pollutant Discharge Elimination System
NPR	non-potable reuse
NRHP	National Register of Historic Places
O&M	operations and maintenance
O_3	ozone
OPLA–PRP	Omnibus Public Lands Act–Paleontological Resources Preservation
OSHA	Occupational Health and Safety Administration

Acronym/Abbreviation	Definition
OSPF	other seasonally ponded feature
Pb	lead
ppb	parts per billion
PDP	priority development project
PEA	anionic polymer
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric
PI	Principal Investigator
PLOO	Point Loma Ocean Outfall
PLRCP	Point Loma Reinforced Concrete Pipe
$PM_{2.5}$	particulate matter less than 2.5 microns
PM_{10}	particulate matter less than 10 microns
Point Loma WWTP	Point Loma Wastewater Treatment Plant
ppb	parts per billion
PPV	peak particle velocity
PQB	Principal Qualified Biologist
Project	North City Project
psi	pounds per square inch
PWS	public water system
RAQS	Regional Air Quality Strategy
RCP	reinforced concrete pipe
RE	Resident Engineer
Reclamation	Bureau of Reclamation
REL	reference exposure level
RIC	Revegetation Installation Contractor
RMC	Revegetation Maintenance Contractor
RO	reverse osmosis
ROP	reverse osmosis permeate
ROW	right-of-way
RPS	Renewables Portfolio Standard
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RW	recycled water
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SanGIS	San Diego Geographic Information Source
San Vicente Pipeline	San Vicente Pure Water Pipeline
San Vicente Pipeline - Repurposed 36-inch Recycled Water Line	36-inch recycled water pipeline
San Vicente Pipeline – TAT	San Vicente Pipeline – Tunnel Alternative Terminus
San Vicente Pipeline – IRAT	San Vicente Pipeline – In-Reservoir Alternative Terminus
San Vicente Pipeline – MAT	San Vicente Pipeline – Marina Alternative Terminus

Acronym/Abbreviation	Definition
SB	Senate Bill
SB	southbound
SBOO	South Bay Ocean Outfall
SBWRP	South Bay Water Reclamation Plant
SDAB	San Diego Air Basin
SDCWA	San Diego County Water Authority
SDFD	San Diego Fire-Rescue Department
SDG&E	San Diego Gas & Electric
SDIA	San Diego International Airport
SDNHM	San Diego Natural History Museum
SDPD	San Diego Police Department
SDRHR	San Diego Register of Historic Resources
SDWA	Safe Drinking Water Act
sf	square feet
SHC	sodium hypochlorite
SIP	State Implementation Policy
SO_2	sulfur dioxide
SoCalGas	Southern California Gas
SR-	State Route
SRTP	Scripps Ranch Technology Park
SSC	Species of Special Concern
STP	shovel test pit
STU	shovel test unit
SVR	San Vicente Reservoir
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TAT	Tunnel Alternative Terminus
TCP	traffic control plan
TDS	total dissolved solids
TEA-21	Transportation Equity Act for the 21st Century
TMDL	total maximum daily load
TOC	total organic carbon
TP	total phosphorus
TSS	total suspended solids
TT	treatment technique
UCPG	University Community Planning Group
UCSD	University of California – San Diego
UF	ultrafiltration
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank

Acronym/Abbreviation	Definition
UV/AOP	ultraviolet/advanced oxidation process
UWMP	Urban Water Management Plan
UXO	unexploded ordnance
VA	Veteran's Administration
V/C	Volume to Capacity Ratio
VdB	velocity decibel
VMT	vehicle miles traveled
VOC	volatile organic compound
VPHCP	Vernal Pool Habitat Conservation Plan
WB	westbound
WDR	waste discharge requirement
WL	California Watch List
WQIP	water quality improvement plan
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

LETTERS OF COMMENT AND RESPONSES

This section of the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) presents copies of comments on the Draft EIR/EIS received in written form during the public review period and provides the City of San Diego's (City's) and U.S. Bureau of Reclamation's (Reclamation's) responses to those comments. Each comment letter is lettered, and the issues within each comment letter are bracketed and numbered. Comment letters are numbered to correspond with the bracketed comment letters.

The City's and Reclamation's responses to comments on the Draft EIR/EIS represent a good-faith, reasoned effort to address the environmental issues identified by the comments.

LIST OF AGENCIES AND INDIVIDUALS THAT COMMENTED ON THE DRAFT EIR/EIS

This section contains all written comments received during the public comment period as well as responses to these comments. Table 1 provides an index to commenters and comment letters.

Table 1
Commenters and Comment Letters

Comment Letter	Date Received	Commenter
B1	11/8/2017	State Clearinghouse, Scott Morgan
B2	9/27/2017	California Department of Transportation (Caltrans), Keri Robinson
B3	11/8/2017	State Clearinghouse, Scott Morgan
B4	11/7/2017	Department of Toxic Substances Control, Johnson P. Abraham
B5	11/21/2017	State Clearinghouse, Scott Morgan
B6	11/20/2017	California Department of Fish and Wildlife, Scott Cantrell
B7	11/22/2017	State Clearinghouse, Scott Morgan
B8	11/21/2017	State Water Resources Control Board, Carina Grove
B9	9/14/2017	California Department of Conservation, Crina Chan
C1	11/2/2017	San Diego Association of Governments, Katie Hentrich
C2	11/7/2017	County of San Diego, Eric Lardy
C3	11/8/2017	Scripps Ranch Planning Group
C4	11/14/2017	University Community Planning Group, Janay Kruger
C5	11/15/2017	University City Community Association, Barry Bernstein
C6	11/21/2017	SDG&E, Richard Quasarano
C7	11/21/2017	Padre Dam Municipal Water District, Albert C. Lau
C8	11/21/2017	City of Santee, Melanie Kush

Table 1
Commenters and Comment Letters

Comment Letter	Date Received	Commenter
C9	11/21/2017	Metro Wastewater Joint Powers Authority, Paula C.P. de Sousa Mills
D1	12/12/2017	San Diego County Archaeological Society Inc., James W. Royle, Jr.
D2	11/21/2017	California Native Plant Society San Diego, Letter 1, Frank Landis
D3	11/21/2017	Adams Broadwell Joseph & Cardozo, Linda Sobczynski
D4	11/22/2017	California Native Plant Society San Diego, Letter 2, Frank Landis
E1	9/12/2017	Viejas Band of Kumeyaay Indians, Ray Teran
F1	10/11/2017	Chris O'Connell
F2	10/11/2017	Joyce Holbrook
F3	10/24/2017	Kathy Frederick Louv
F4	11/7/2017	Louis Rodolico, Letter 1
F5	11/9/2017	Megan Hanson
F6	11/9/2017	Jessica Saffell-Bowlin
F7	11/10/2017	Diane Ahern
F8	11/10/2017	Bruce McArthur
F9	11/11/2017	Bruce and Marlene Miller
F10	11/13/2017	Maria T
F11	11/19/2017	Janay Kruger
F12	11/19/2017	Briggs Law Corporation, Cory J. Briggs
F13	11/19/2017	Tom Donnelly
F14	11/20/2017	Louis Rodolico, Letter 1
F15	11/20/2017	Rey Yturralde Jr.
F16	11/20/2017	Shepard Mullin, Christopher B. Neils
F17	11/20/2017	Carol Pietras
F18	11/21/2017	Katie Rodolico, Letter 1
F19	11/21/2017	Katie Rodolico, Letter 2
F20	11/21/2017	Pat Cramer, Letter 1
F21	11/21/2017	Pat Cramer, Letter 2
F22	11/21/2017	Steve W
F23	11/21/2017	Jean Hammerl
F24	11/21/2017	Deanna Ratnikova
F25	11/21/2017	David Hogan
F26	11/22/2017	Catherine Spangler
F27	11/22/2017	Joseph Satriano
F28	11/27/2017	Deke Clinger
EIS-A	1/8/2018	U.S. Fish and Wildlife Service, David Zoutendyk
EIS-B	1/8/2018	U.S. Environmental Protection Agency, Kathleen Martyn Goldforth
EIS-C	12/12/2017	Adams Broadwell Joseph & Cardozo, Linda Sobczynski
EIS-D	12/13/2017	National Landmarks Program, Laurie Lee Jenkins

Table 1
Commenters and Comment Letters

Comment Letter	Date Received	Commenter
EIS-E	12/22/2017	Louis Rodolico
EIS-F	1/3/2018	Katie Rodolico

SUMMARY OF CHANGES AND MODIFICATIONS

In response to the comments received during public review and to City staff input subsequent to distribution of the Draft EIR/EIS, minor revisions, clarifications, and/or additions have been made to the document which do not change the conclusions of the Final EIR/EIS regarding the North City Project's potential environmental impacts and required mitigation and do not represent significant new information. Therefore, recirculation of the Draft EIR/EIS is not warranted. No new significant environmental impacts would occur from these modifications, and similarly, no substantial increase in the severity of environmental impacts would occur. Table 2 summarizes the locations of clarifications and modifications to the Final EIR/EIS. However, minor text changes, such as fixes for typographical errors, that were made to the Final EIR/EIS are not included in Table 2.

Table 2
Summary of Changes in Final EIR/EIS

Location in Final EIR/EIS	Type of Clarification or Modification
Executive Summary	
Page ES-2	Minor text addition
Table ES-1	Mitigation numbering revision
Chapter 1 - Introduction	
Page 1-2	Minor text addition and deletion
Chapter 2 - Environmental Setting	
Page 2-9	Minor text addition
Pages 2-19 through 2-20	Minor text addition and deletion
Figure 2-2	Addition and correction related to Padre Dam Municipal Water District
Chapter 3 – Project Description/Alternatives	
Pages 3-3 through 3-8	Minor text addition, project description clarification, and reference revision
Page 3-10	Reference revision
Pages 3-18 through 3-19	Project description clarification

Table 2
Summary of Changes in Final EIR/EIS

Location in Final EIR/EIS	Type of Clarification or Modification
Page 3-54	Minor text revision
Figures 3-1 and 3-2	Minor alignment revision
Figures 3-4 through 3-7	Minor alignment revision
Figures 3-14A through 3-16	Minor alignment revision
Figures 3-18	Minor alignment revision
Figures 3-21	Minor alignment revision
Chapter 4 – History of Project Changes	
Page 4-2	Project history text addition
Section 5.1 – Land Use	
Pages 5.1-16 through 5.1-18	Regulatory setting addition
Figures 5.1-1A and 5.1-1B	Minor alignment revision
Figures 5.1-2A and 5.1-2B	Minor alignment revision
Figures 5.1-5B and 5.1-5C	Minor alignment revision
Section 5.2 – Aesthetics/Visual Effects	
Page 5.2-2	Minor alignment text revision
Page 5.2-18	Regulatory setting addition
Section 5.3 – Air Quality and Odor	
Pages 5.3-1 through 5.3-3	Appendix reference revision and existing climate conditions addition/deletion
Page 5.3-8	Valley fever text addition
Page 5.3-2	Reference revision
Section 5.4 – Biological Resources	
Pages 5.4-1 through 5.4-5	Appendix reference revision, reference revision, and survey description text revision
Table 5.4-2	Acreage revision
Page 5.4-7	Plant species text revision
Table 5.4-4	Acreage revision
Page 5.4-11	Plant species text revision
Table 5.4-6	Acreage revision
Page 5.4-14	Plant species text revision
Table 5.4-8	Table title revision
Pages 5.4-17 through 5.4-18	Plant and wildlife specific text revision
Table 5.4-10	Acreage revision
Pages 5.4-21 through 5.4-22	Reference and plant species text revision
Table 5.4-12	Acreage revision
Page 5.4-25	Plant species text revision
Pages 5.4-27 through 5.4-28	Reference and plant species text revision
Table 5.4-17	Acreage revision
Table 5.4-18	Acreage revision

Table 2
Summary of Changes in Final EIR/EIS

Location in Final EIR/EIS	Type of Clarification or Modification
Page 5.4-44	Plant species text revision
Table 5.4-27	Acreage revision
Pages 5.4-49 through 5.4-50	Reference and plant species text revision
Table 5.4-29	Acreage revision
Pages 5.4-57 through 5.4-58	Reference and plant species text revision
Page 5.4-66	Regulatory setting deletion
Page 5.4-68	Regulatory setting deletion
Page 5.4-72	Reference revision
Pages 5.4-75 through 5.4-77	Reference and regulatory setting revision
Figures 5.4-1A through 5.4-1P	Minor alignment revision
Section 5.7 – Geology and Soils	
Page 5.7-1	Appendix reference revision
Figures 5.7-1A and 5.7-1B	Minor alignment revision
Section 5.8 – Greenhouse Gas Emissions	
Page 5.8-1	Appendix reference revision
Pages 5.8-12 through 5.8-14	Regulatory setting revision
Section 5.10 – Historical Resources	
Page 5.10-1	Appendix reference revision
Page 5.10-3	Reference revision
Page 5.10-19	Minor text revision
Page 5.10-26	Minor text revision
Pages 5.10-33 through 5.10-34	Minor text revision
Pages 5.10-55 through 5.10-57	Minor text revision
Section 5.12 – Noise	
Figures 5.12-2A and 5.12-2B	Minor alignment revision
Section 5.16 – Transportation, Circulation, and Parking	
Page 5.16-1	Appendix reference revision
Pages 5.16-3 through 5.16-6	Minor alignment revision
Table 5.16-1	Minor alignment revision
Section 5.18 – Recreation	
Page 5.18-14	Reference revision
Figures 5.18-1A and 5.18-1B	Minor alignment revision
Section 6.1 – Land Use	
Page 6.1-4	Minor text deletion
Pages 6.1-10 through 6.1-12	Reference revision and code compliance text revision
Page 6.1-17	Reference and minor text revision

Table 2
Summary of Changes in Final EIR/EIS

Location in Final EIR/EIS	Type of Clarification or Modification
Section 6.2 – Aesthetics/Visual Effects and Neighborhood Character	
Page 6.2-4	Reference and minor text revision
Page 6.2-23	Reference and minor text revision
Figure 6.2-7	Minor alignment revision
Section 6.3 – Air Quality and Odor	
Page 6.3-1	Appendix reference revision
Table 6.3-6	Emissions calculations revision
Page 6.3-18	Pollutant emissions text revision
Table 6.3-7	Emissions calculations revision
Pages 6.3-20 through 6.3-21	Pollutant emissions text revision
Table 6.3-9	Emissions calculations revision
Table 6.3-10	Emissions calculations revision
Page 6.3-2	Minor text addition
Table 6.3-11	Emissions calculations revision
Table 6.3-12	Emissions calculations revision
Table 6.3-13	Emissions calculations revision
Table 6.3-14	Emissions calculations revision
Pages 6.3-37 through 6.3-41	Health risk assessment addition
Section 6.4 – Biological Resources	
Pages 6.4-1 through 6.4-2	Appendix, reference, and mitigation text revision
Page 6.4-4	Reference revision
Pages 6.4-6 through 6.4-9	Acreage revision
Tables 6.4-1 and 6.4-2	Acreage revision
Page 6.4-14	Acreage revision
Tables 6.4-3 and 6.4-4	Acreage revision
Pages 6.4-18 through 6.4-19	Reference, acreage, and mitigation discussion revision
Table 6.4-5	Acreage revision
Pages 6.4-21 through 6.4-22	Acreage and mitigation discussion revision
Table 6.4-6	Acreage revision
Pages 6.4-24 through 6.4-33	Reference, acreage, and mitigation revision
Table 6.4-7	Acreage revision
Page 6.4-36	Acreage revision
Table 6.4-8	Acreage revision
Page 6.4-39	Acreage revision
Page 6.4-42	Impact discussion revision
Pages 6.4-45 through 6.4-47	Impact and vernal pool discussion revision
Pages 6.4-53 through 6.4-61	Impact discussion and mitigation revision

Table 2
Summary of Changes in Final EIR/EIS

Location in Final EIR/EIS	Type of Clarification or Modification
Table 6.4-11	Plant species revision
Pages 6.4-64 through 6.4-67	Impact discussion deletion and revision
Table 6.4-12	Plant species revision
Pages 6.4-73 through 6.4-74	Pond turtle and limnology revision
Page 6.4-76	Impact discussion revision
Page 6.4-81	Mitigation revision
Pages 6.4-87 through 88	Mitigation revision
Table 6.4-13	Impact discussion revision
Pages 6.4-93 through 6.4-94	Mitigation discussion revision
Table 6.4-14	Impact discussion revision
Pages 6.4-98 through 6.4-100	Mitigation and impact discussion revision
Tables 6.4-15 through 6.4-17	Mitigation discussion revision
Pages 6.4-114 through 6.4-117	Mitigation discussion and plan compliance revision
Table 6.4-18	Mitigation applicability revision
Figures 6.4-1A through 6.4-1P	Minor alignment revision
Section 6.6 – Energy	
Page 6.6-1	Appendix reference revision
Page 6.6-3	Minor text revision
Page 6.6-13	Construction revision
Table 6.6-11	Construction revision
Table 6.6-12	Energy use calculation revision
Page 6.6-17	Energy use calculation revision
Section 6.7 – Geology and Soils	
Page 6.7-4	Minor text revision and deletion
Page 6.7-14	Reference revision
Section 6.8 – Greenhouse Gas Emissions	
Page 6.8-1	Appendix reference revision
Table 6.8-3	Emissions calculation revision
Page 6.8-10	Emissions calculation revision
Page 6.8-12	Minor text revision
Pages 6.8-16 through 6.8-17	Minor text and emissions calculation revision
Table 6.8-7	Emissions calculation revision
Table 6.8-8	Emissions calculation revision
Pages 6.8-20 through 6.8-21	Minor text and emissions calculation revision
Table 6.8-12	Emissions calculation revision
Table 6.8-13	Emissions calculation revision
Page 6.8-22	Minor text revision
Page 6.8-27	Minor text revision

Table 2
Summary of Changes in Final EIR/EIS

Location in Final EIR/EIS	Type of Clarification or Modification
Section 6.9 – Health and Safety Hazards	
Page 6.9-9	Reference and minor text revision
Table 6.9-1	Applicability revision
Section 6.10 – Historical Resources	
Page 6.10-4	Minor text revision
Section 6.11 – Hydrology and Water Quality	
Page 6.11-14	Minor text deletion
Page 6.11-21	Minor text deletion
Page 6.11-26	Reference revision
Pages 6.11-28 through 6.11-29	Minor text deletion and temperature text addition
Section 6.12 – Noise	
Table 6.12-3	Minor text revision
Page 6.12-14	Reference revision and minor text deletion
Page 6.12-24	Minor text revision
Figures 6.12-1A through 6.12-2A	Minor alignment revision
Section 6.14 – Public Services	
Page 6.14-2	Minor text revision
Page 6.14-4	Minor text revision
Pages 6.14-9 through 6.14-10	Minor text revision
Section 6.16 – Transportation, Circulation, and Parking	
Page 6.16-10	Minor alignment revision
Table 6.16-6	Minor alignment revision and ADT update
Page 6.16-20	Minor alignment revision
Table 6.16-7	Minor alignment revision
Pages 6.16-45 through 6.16-46	Access discussion addition
Section 6.17 – Water Supply	
Page 6.17-1	Minor text addition
Page 6.17-3	Minor text revision
Section 6.18 – Recreation	
Page 6.18-4	Minor text deletion
Chapter 7 – Cumulative Impacts	
Table 7-1	Cumulative project revision
Pages 7-5 through 7-12	Cumulative project revision
Page 7-15	Cumulative analysis revision
Page 7-18	Cumulative analysis revision
Pages 7-22 through 7-24	Cumulative analysis revision
Pages 7-26 through 7-27	Cumulative analysis revision

Table 2
Summary of Changes in Final EIR/EIS

Location in Final EIR/EIS	Type of Clarification or Modification
Chapter 9 – Mandatory Discussion Areas	
Table 9-1	Applicable regulation revision
Chapter 10 – Mitigation Monitoring and Reporting Program	
Page 10-11	Mitigation revision
Pages 10-17 through 10-18	Mitigation revision
Pages 10-21 through 10-25	Mitigation revision
Tables 10-1 through 10-15	Mitigation revision
Chapter 11 – References Cited	
Throughout	Reference revision

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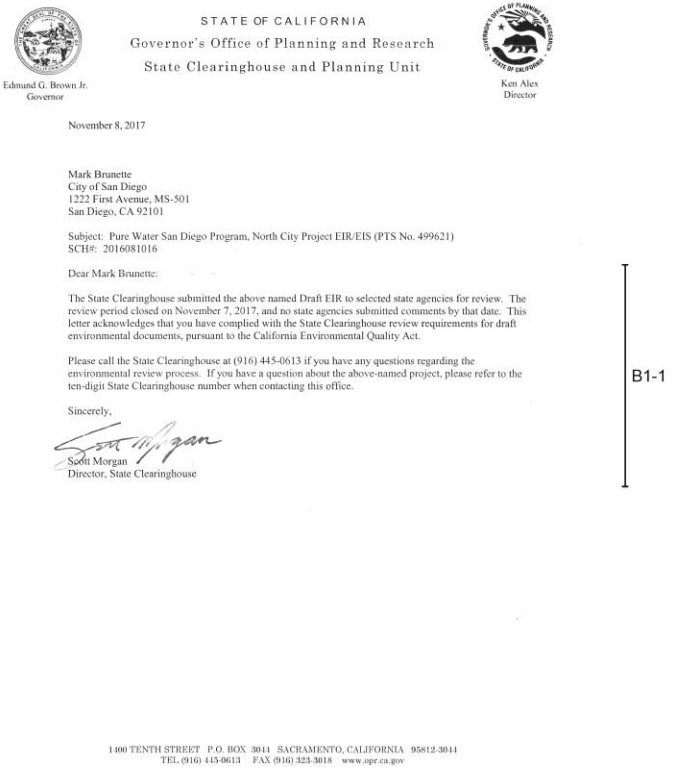
Comment Letter B1



STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

November 8, 2017

Mark Brunette
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Subject: Pure Water San Diego Program, North City Project EIR/EIS (PTS No. 499621)
SCH#: 2016081016

Dear Mark Brunette:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on November 7, 2017, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

B1-1

Response to Comment Letter B1

State Clearinghouse
Scott Morgan
November 8, 2017

B1-1 This comment lists the state agencies to whom the Draft EIR/EIS was submitted for review and indicates that no state agencies submitted comments to the State Clearinghouse by the close of public review. The comment also acknowledges that the City has complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. No further response is required.

Document Details Report
State Clearinghouse Data Base

SCH#	2016081016
Project Title	Pure Water San Diego Program, North City Project EIR/EIS (PTS No. 499621)
Lead Agency	San Diego, City of
Type	**EIR** Draft EIR
Description	Note: Review Per Lead A site development permit and EIR/EIS for the project. Overall, the pure water program will ultimately produce 83 MGD of locally-controlled water, recycling a valuable and limited resource that is currently discharged to the Pacific Ocean. The program will be implemented in phases over a 20 year period, grouped by geographical area: North City, Central Area, and South Bay. The North City project, which is the subject of this NOC and EIR/EIS NOP, will produce 30 MGD of purified water and is scheduled to be later operational in 2021.

Lead Agency Contact

Name	Mark Brunette		
Agency	City of San Diego		
Phone	619-446-5379	***Fax***	
email			
Address	1222 First Avenue, MS-501		
City	San Diego	***State*** CA	***Zip*** 92101

Project Location

County	San Diego			
City	San Diego			
Region				
Lat / Long				
Cross Streets	various			
Parcel No.	various			
Township		***Range***	***Section***	***Base***

Proximity to:

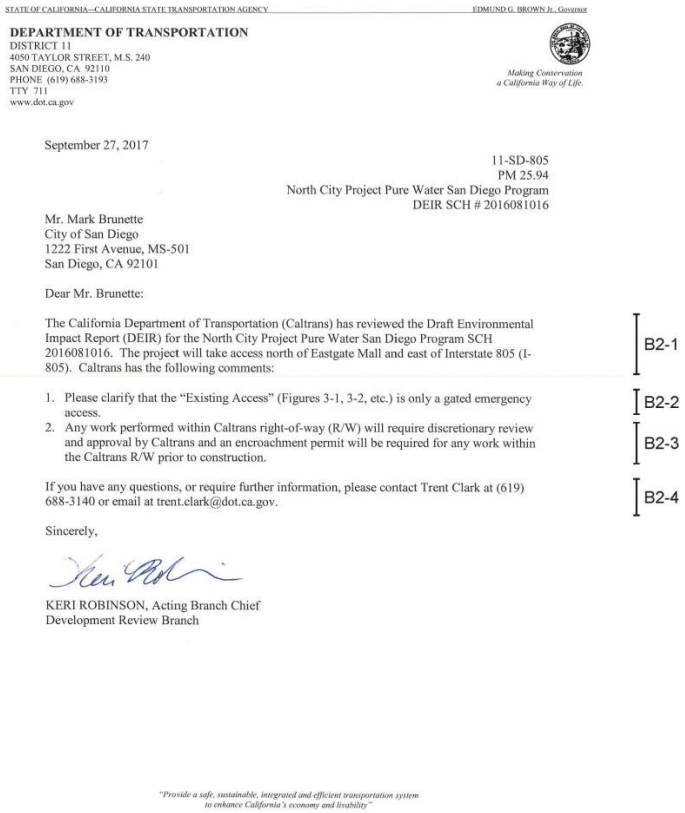
Highways	I-8, I-15, I-805, SR 52, I-5
Airports	MCAS Miramar
Railways	SDMTS
Waterways	Pacific Ocean, San Diego River, Miramar Reservoir
Schools	Miramar College
Land Use	Various. Occur within Public ROW and public easements.

Project Issues	Air Quality; Archaeologic-Historic; Biological Resources; Geologic/Seismic; Noise; Public Services; Soil Erosion/Compaction/Grading; Traffic/Circulation; Water Quality; Water Supply; Landuse; Cumulative Effects; Other Issues; Aesthetic/Visual
Reviewing Agencies	Resources Agency; California Coastal Commission; Department of Fish and Wildlife, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 11; State Water Resources Control Board, Division of Drinking Water; State Water Resources Control Board, Division of Drinking Water, District 14; Regional Water Quality Control Board, Region 9; Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission; San Diego River Conservancy

Date Received 09/07/2017 ***Start of Review*** 09/07/2017 ***End of Review*** 11/07/2017

Note: Blanks in data fields result from insufficient information provided by lead agency.

Comment Letter B2



STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 11
4050 TAYLOR STREET, M.S. 240
SAN DIEGO, CA 92110
PHONE (619) 688-3193
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

September 27, 2017

11-SD-805
PM 25.94
North City Project Pure Water San Diego Program
DEIR SCH # 2016081016

Mr. Mark Brunette
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Dear Mr. Brunette:

The California Department of Transportation (Caltrans) has reviewed the Draft Environmental Impact Report (DEIR) for the North City Project Pure Water San Diego Program SCH 2016081016. The project will take access north of Eastgate Mall and east of Interstate 805 (I-805). Caltrans has the following comments: B2-1

1. Please clarify that the "Existing Access" (Figures 3-1, 3-2, etc.) is only a gated emergency access. B2-2
2. Any work performed within Caltrans right-of-way (R/W) will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans R/W prior to construction. B2-3

If you have any questions, or require further information, please contact Trent Clark at (619) 688-3140 or email at trent.clark@dot.ca.gov. B2-4

Sincerely,

KERI ROBINSON, Acting Branch Chief
Development Review Branch

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Response to Comment Letter B2

California Department of Transportation (Caltrans)
Keri Robinson
September 27, 2017

B2-1 The City appreciates Caltrans' review of the Draft EIR/EIS.

B2-2 This comment is unclear as to the "Existing Access" that is being referenced. Figures 3-1 and 3-2 of the Draft EIR/EIS show a general overview of the Project area and Project components. No "Existing Access" is noted on these figures. Figure 5.16-1 shows proposed "Project Access" from Eastgate Mall Road to the North City Pure Water Facility and the North City Water Reclamation Plant.

B2-3 The City will seek discretionary review and approval by Caltrans for any work performed within Caltrans right-of-way and pursue an encroachment permit from Caltrans as necessary.

B2-4 As requested, any further questions will be directed to Trent Clark at the contact provided.

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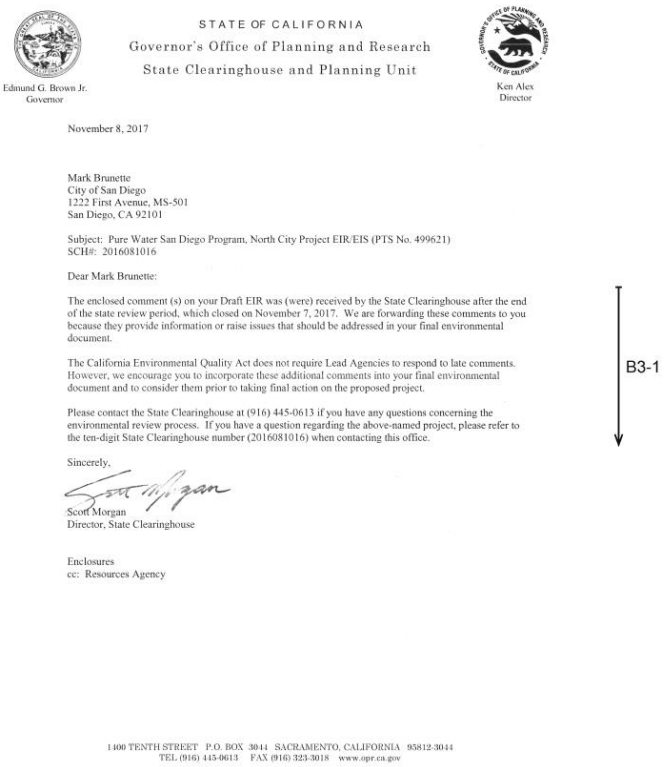
Comment Letter B3



STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

November 8, 2017

Mark Brunette
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Subject: Pure Water San Diego Program, North City Project EIR/EIS (PTS No. 499621)
SCH#: 2016081016

Dear Mark Brunette:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on November 7, 2017. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2016081016) when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

B3-1

Response to Comment Letter B3

State Clearinghouse
Scott Morgan
November 8, 2017

B3-1 This comment acknowledges receipt of the comment letter by the Department of Toxic Substances Control. Please refer to comment letter B4 for responses to the enclosed letter.

Department of Toxic Substances Control

Barbara A. Lee, Director
5796 Corporate Avenue
Cypress, California 90630

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

November 7, 2017

Governor's Office of Planning & Research
NOV 08 2017
STATE CLEARINGHOUSE

Mr. Mark Brunette
Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, California 92101
DSDEAS@sandiego.gov

DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR PURE WATER SAN DIEGO PROGRAM, NORTH CITY PROJECT (SCH# 2016081016)

Dear Mr. Brunette:

The Department of Toxic Substances Control (DTSC) has received your Notice of Completion of the draft EIR for the subject project. The following project description is stated in your document: "The North City Project would use advanced water purification technology to produce purified water from recycled water and provide a safe, reliable, and cost-effective drinking water supply for San Diego. The North City Project consists of the design and construction of a new NCPWF, upgrades to an existing water reclamation facility, and design and construction of new pump stations and pipelines."

Based on the review of the submitted document DTSC has the following comments:

1. The EIR should identify and determine whether current or historic uses at the project site may have resulted in any release of hazardous wastes/substances. If there are any recognized environmental conditions in the project area, then proper investigation, sampling and remedial actions overseen by the appropriate regulatory agencies should be conducted prior to the new development or any construction.

2. If the project plans include discharging wastewater to a storm drain, you may be required to obtain an NPDES permit from the overseeing Regional Water Quality Control Board (RWQCB).

3. If planned activities include building modifications/demolitions, lead-based paints or products, mercury, and asbestos containing materials (ACMs) should be addressed in accordance with all applicable and relevant laws and regulations.

B3-1
Cont.

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4. If the site was used for agricultural or related activities, residual pesticides may be present in onsite soil. DTSC recommends investigation and mitigation, as necessary, to address potential impact to human health and environment from residual pesticides.

5. The proposed project is located within or proximity to the Formerly Used Defense Site (FUDS) based, in part, on the United States Department of Defense ordnance maps. This FUDS site may contain abandoned munitions and explosives (collectively, ordnance) or other hazardous substances, which are considered hazardous materials as defined in section 25260 of the California Health and Safety Code. DTSC recommends assessment and/or investigation be conducted in the project area to assess potential impacts from the nearby FUDS.

6. DTSC recommends evaluation, proper investigation and mitigation, if necessary, on onsite areas with current or historic PCB-containing transformers.

7. The EIR states, "All these sites/cases previously or currently have UST and/or AST, and documented LUST leaks/releases. Some of these sites/cases also have documented major spills, environmental site investigations, mitigations, and cleanups." The EIR further states several other areas of the project site or nearby areas contain closed or active underground storage tanks (USTs) or contaminated areas.

   a. Identify the regulatory agency(ies) overseeing the investigation of areas of documented leaks/releases within or in close proximity to the project area

   b. If soil/groundwater within the project area is impacted, then DTSC recommends evaluation of potential vapor intrusion onsite associated with such contamination.

   c. DTSC is unable to evaluate whether vapor sampling and/or potential vapor intrusion risk was adequately addressed due to lack of relevant detailed information in the EIR.

8. The EIR states, "Pipelines constructed as part of the North City Project would primarily be located within roadway rights-of-way. Until the mid-1980s, gasoline and other fuels contained lead as an additive. Tiny particles of lead were emitted from car exhaust and settled on the soils adjacent to freeways and roads, which has resulted in a buildup of lead alongside roads." DTSC recommends assessment/investigation and/or cleanup as necessary to confirm that no lead contamination is present in soil adjacent to major roads.

B3-1
Cont.

9. Railroad easements and rail yards are commonly impacted due to spillage of chemicals, fuels, and lubricants, and use of pesticides and herbicides along the tracks for weed control. If the project site is at or nearby railroads, DTSC recommends assessment/investigation and/or cleanup as necessary to confirm that no residual contamination associated with rail operation is present onsite.

10. If soil contamination is suspected or observed in the project area, then excavated soil should be sampled prior to export/disposal. If the soil is contaminated, it should be disposed of properly in accordance with all applicable and relevant laws and regulations. In addition, if the project proposes to import soil to backfill the excavated areas, proper evaluation and/or sampling should be conducted to make sure that the imported soil is free of contamination.

11. If during construction/demolition of the project, soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exist, the ND should identify how any required investigation and/or remediation will be conducted, and the appropriate government agency to provide regulatory oversight.

B3-1
Cont.

If you have any questions regarding this letter, please contact me at (714) 484-5380 or email at Johnson.Abraham@dtsc.ca.gov.

Sincerely,

Johnson P. Abraham
Project Manager
Brownfields Restoration and School Evaluation Branch
Brownfields and Environmental Restoration Program

kl/ja/sh

cc: See next page.

Mr. Mark Brunette
November 7, 2017
Page 4

cc: Governor's Office of Planning and Research (via e-mail)
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
State.clearinghouse@opr.ca.gov

Mr. Dave Kereazis (via e-mail)
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

Mr. Shahir Haddad, Chief (via e-mail)
Schools Evaluation and Brownfields Cleanup
Brownfields and Environmental Restoration Program - Cypress
Shahir.Haddad@dtsc.ca.gov

CEQA# 2016081016

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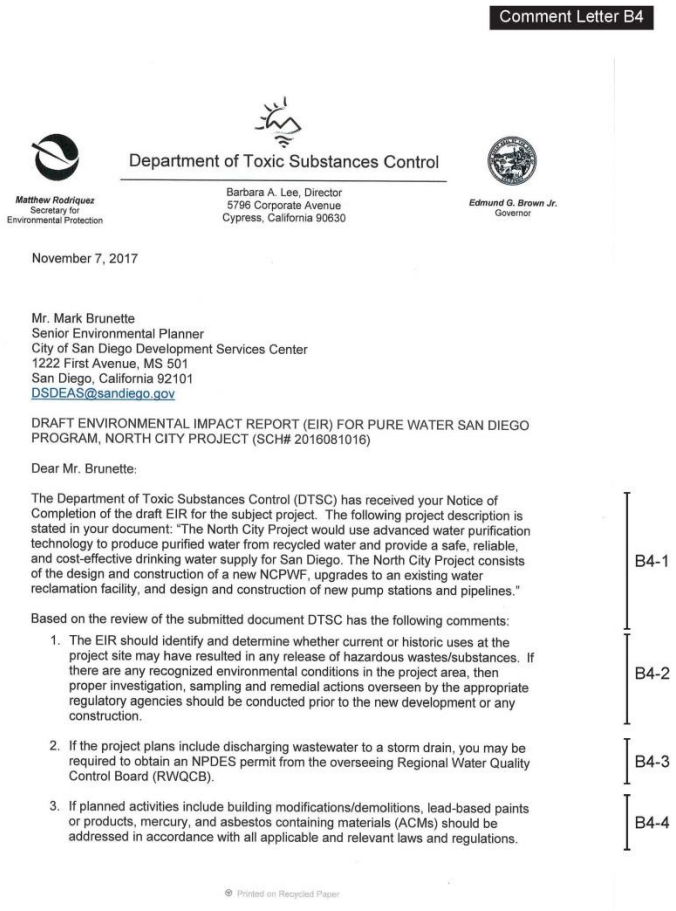

Comment Letter B4

Department of Toxic Substances Control

Barbara A. Lee, Director
5796 Corporate Avenue
Cypress, California 90630

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

November 7, 2017

Mr. Mark Brunette
Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, California 92101
DSDEAS@sandiego.gov

DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR PURE WATER SAN DIEGO PROGRAM, NORTH CITY PROJECT (SCH# 2016081016)

Dear Mr. Brunette:

The Department of Toxic Substances Control (DTSC) has received your Notice of Completion of the draft EIR for the subject project. The following project description is stated in your document: "The North City Project would use advanced water purification technology to produce purified water from recycled water and provide a safe, reliable, and cost-effective drinking water supply for San Diego. The North City Project consists of the design and construction of a new NCPWF, upgrades to an existing water reclamation facility, and design and construction of new pump stations and pipelines." B4-1

Based on the review of the submitted document DTSC has the following comments:

1. The EIR should identify and determine whether current or historic uses at the project site may have resulted in any release of hazardous wastes/substances. If there are any recognized environmental conditions in the project area, then proper investigation, sampling and remedial actions overseen by the appropriate regulatory agencies should be conducted prior to the new development or any construction. B4-2
2. If the project plans include discharging wastewater to a storm drain, you may be required to obtain an NPDES permit from the overseeing Regional Water Quality Control Board (RWQCB). B4-3
3. If planned activities include building modifications/demolitions, lead-based paints or products, mercury, and asbestos containing materials (ACMs) should be addressed in accordance with all applicable and relevant laws and regulations. B4-4

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Response to Comment Letter B4

Department of Toxic Substances Control
Johnson P. Abraham
November 7, 2017

B4-1 Comment noted. This comment accurately summarizes the project description as presented in the Draft EIR/EIS.

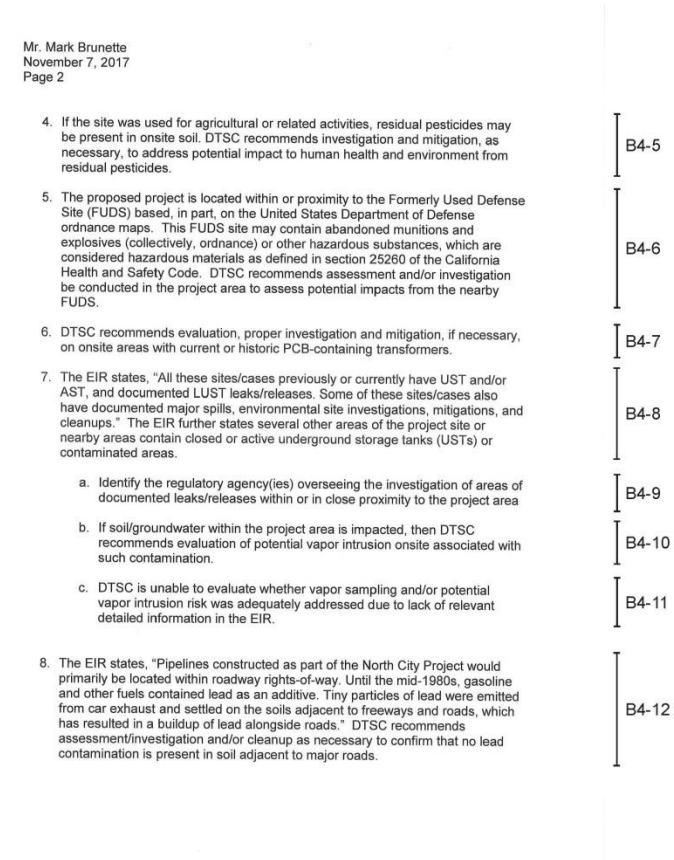
B4-2 As described in Section 5.9.2.3 of the Draft EIR/EIS, Phase I Environmental Site Assessments (ESAs) were prepared by Allied Geotechnical Engineers Inc. for each of the following components of the Project Alternatives: Morena Pump Station, Wastewater Forcemain, and Brine/Centrate Line (Morena Pipelines); North City Pure Water Pipeline and North City Pure Water Pump Station; and the San Vicente Pure Water Pipeline. Although Phase I ESAs were not completed for other North City Project components, the study areas of the components for which Phase I ESAs were completed cover all of the North City Project components. Section 5.9.2.3 of the Draft EIR/EIS identifies reported hazardous materials sites that exist within the Project Alternatives study area. A summary of the environmental records reviewed and the

		results of the Phase I ESA for each component are provided in the section. As outlined in mitigation measure MM-HAZ-4 in Section 6.9.5 of the Draft EIR/EIS, all applicable procedures outlined in the City of San Diego's "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances, will be followed (City of San Diego 2015b) to ensure that appropriate investigation, sampling and remedial actions are taken where the potential to encounter hazardous substances or recognized environmental conditions.
	B4-3	Comment noted. Applicable permits, including any National Pollutant Discharge Elimination System (NPDES) discharge permits, would be obtained as required for implementation of the Project. As discussed in Section 6.11.4 of the Draft EIR/EIS, if groundwater dewatering were required at sites with evidence of groundwater contamination, such dewatering discharges would be either treated prior to discharge or disposed of at an appropriate permitted facility. In cases where the conditional waiver is not applicable, the City and/or its contractor would be required to obtain Regional

	Water Quality Control Board approval through a general or individual Waste Discharge Requirement/NPDES permit. The City would also conduct dewatering activities in accordance with mitigation measure MM-HAZ-4, which would further ensure that no substantial adverse effect would occur due to groundwater dewatering by implementing the City's standard provisions for encountering or releasing hazardous substances, which includes implementation of proper dewatering and disposal methods. Additionally, in the event that off-specification water is produced at the advanced water purification facility and cannot be discharged to the reservoir, the off-specification water would be diverted from the pipeline for disposal or reuse. A least preferred or likely option would be discharging to the storm drain system (an existing 18-inch storm drain located in Meanley Drive). Should this option be used, it will require an NPDES permit to demonstrate compliance with applicable surface water quality standards, and will include water quality compliance monitoring. **B4-4** As discussed in Section 6.15.3 of the Draft EIR/EIS, demolition of existing buildings would

	occur at the Morena Pump Station site and the North City Water Reclamation Plant (NCWRP) site. At the Morena Pump Station, all existing structures and buildings would be demolished. At the NCWRP site, the existing guard shack and portions of the existing secondary clarifiers building would be demolished. In addition, 14 existing clarifiers located within the structure to be partially demolished would also be demolished. Portions of roadways within the site would demolished as well, specifically, portions of Road A, Road B, Road F, and smaller access roads. In accordance with Section 306-3.3.4 of the City of San Diego's "Whitebook" (City of San Diego 2015b), if asbestos-containing materials are identified at the work site, work shall be immediately stopped in the affected area and the engineer shall be notified unless the contract documents show the presence of such materials. Section 306-3.3.4 identifies asbestos, or soil that is contaminated with asbestos, as regulated hazardous waste. Any lead-based paints or products, mercury, or asbestos-containing materials identified during demolition would be treated as a hazardous waste, and

	applicable procedures of Section 7-22 would be followed per mitigation measure MM-HAZ-4, as disclosed in Section 6.9.5.3 of the Draft EIR/EIS.



Mr. Mark Brunette
November 7, 2017
Page 2

4. If the site was used for agricultural or related activities, residual pesticides may be present in onsite soil. DTSC recommends investigation and mitigation, as necessary, to address potential impact to human health and environment from residual pesticides. B4-5

5. The proposed project is located within or proximity to the Formerly Used Defense Site (FUDS) based, in part, on the United States Department of Defense ordnance maps. This FUDS site may contain abandoned munitions and explosives (collectively, ordnance) or other hazardous substances, which are considered hazardous materials as defined in section 25260 of the California Health and Safety Code. DTSC recommends assessment and/or investigation be conducted in the project area to assess potential impacts from the nearby FUDS. B4-6

6. DTSC recommends evaluation, proper investigation and mitigation, if necessary, on onsite areas with current or historic PCB-containing transformers. B4-7

7. The EIR states, "All these sites/cases previously or currently have UST and/or AST, and documented LUST leaks/releases. Some of these sites/cases also have documented major spills, environmental site investigations, mitigations, and cleanups." The EIR further states several other areas of the project site or nearby areas contain closed or active underground storage tanks (USTs) or contaminated areas. B4-8

   a. Identify the regulatory agency(ies) overseeing the investigation of areas of documented leaks/releases within or in close proximity to the project area B4-9

   b. If soil/groundwater within the project area is impacted, then DTSC recommends evaluation of potential vapor intrusion onsite associated with such contamination. B4-10

   c. DTSC is unable to evaluate whether vapor sampling and/or potential vapor intrusion risk was adequately addressed due to lack of relevant detailed information in the EIR. B4-11

8. The EIR states, "Pipelines constructed as part of the North City Project would primarily be located within roadway rights-of-way. Until the mid-1980s, gasoline and other fuels contained lead as an additive. Tiny particles of lead were emitted from car exhaust and settled on the soils adjacent to freeways and roads, which has resulted in a buildup of lead alongside roads." DTSC recommends assessment/investigation and/or cleanup as necessary to confirm that no lead contamination is present in soil adjacent to major roads. B4-12

B4-5 The majority of the Project area is located in urban and developed areas that have not been historically used for agricultural purposes. As discussed in Section 8.1 of the Draft EIR/EIS, portions of the Landfill Gas (LFG) Pipeline and the repurposed recycled water pipeline would be located adjacent to the existing Village Nurseries wholesale plant nursery property (Department of Conservation 2016). Any contaminated soils (such as those containing residual pesticides) encountered during trenching or excavation of tunnels for the LFG Pipeline would be evaluated and remediated in accordance with the procedures outlined in the City of San Diego "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances (City of San Diego 2015b).

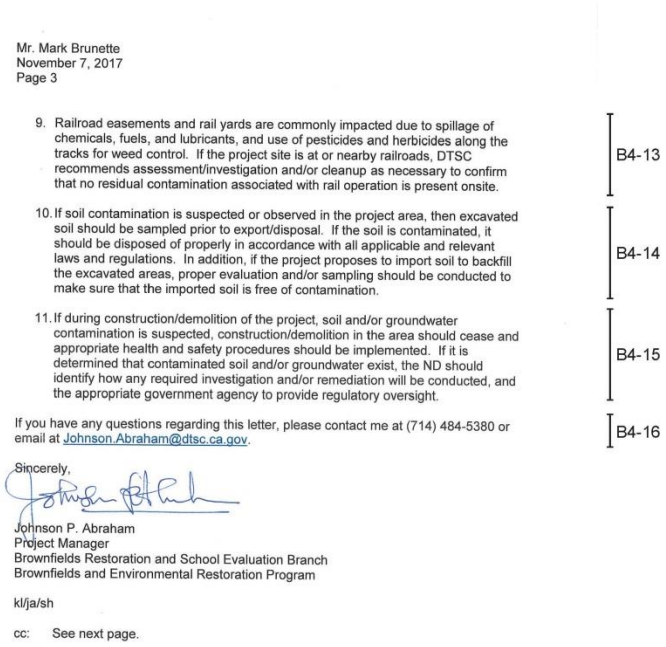
B4-6 The Morena Pipelines traverse the Formerly Used Defense Site, Camp Matthews, Range Complex No. 1, where weapons testing and training was previously conducted, and as such may contain unexploded ordnances (UXO), abandoned or buried munitions, and impacted soil that could be reactive/ignitable. Mitigation measure MM-HAZ-5 requires the City to conduct

	a survey prior to construction to identify potential munitions impacts. If the survey results indicate a potential risk for encountering munitions during excavation, a UXO identification, training, and reporting plan will be prepared and implemented during construction.
	B4-7 No current or historic polychlorinated biphenyls (PCB)-containing transformers were identified in the site investigations performed as part of the Phase I ESAs for the Project. However, if a PCB-containing transformer is encountered during construction, evaluation, investigation, and mitigation would occur in accordance with applicable procedures outlined in the City of San Diego's "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances (City of San Diego 2015b) as required by mitigation measure MM-HAZ-4 in Section 6.9 of the Draft EIR/EIS.
	B4-8 This comment correctly summarizes information presented in Section 6.9.5 of the Draft EIR/EIS.

	B4-9	The City's Environmental Services Department, Hazardous Materials Management Program would be primarily responsible for the investigation of areas with documented leaks/releases near or intersecting the Project area. Certain chemical releases or threatened releases involving a gas, liquid, or solid hazardous material or hazardous waste may require regulatory reporting to the Governor's Office of Emergency Services, the County Department of Environmental Health, Hazardous Materials Division, the National Response Center, or other pertinent agencies in accordance with Section 7-22.15 of the City's "Whitebook."
	B4-10	Please refer to response B4-2. The City has adequately disclosed potential impacts resulting from vapor intrusion in the Draft EIR/EIS in Section 6.9.5. As cited in the Draft EIR/EIS, Phase I ESAs were prepared for the Morena Pump Station, Wastewater Force Main and Brine Conveyance (Allied Geotechnical Engineers Inc. 2015a); Miramar Pipeline/Pump Station (Allied Geotechnical Engineers Inc. 2015b); and the North City to San Vicente Reservoir Pipeline Project (Allied Geotechnical Engineers Inc. 2016). The conclusions of the

		Phase I ESAs are consistent with those found in the Draft EIR/EIS as they related to potential vapor intrusion. The City's "Whitebook" requires that a Community Health and Safety Plan (CHSP) is prepared to address the potential of encountering hazardous substances at the work site. One of the elements of the CHSP is a description of "potential public health hazards and exposure pathways resulting from Work Site activities, including vapors." Furthermore, Section 7-22.2.24.6 of the Whitebook requires the CHSP to "describe the methods that shall be used to minimize public exposure to potential vapor, mist emission, and odors resulting from the proposed activities" (City of San Diego 2015b).
	B4-11	Refer to response B4-10.
	B4-12	Please refer to response B4-2 and B4-10. The majority of construction would occur within roadway right-of-way that has been previously disturbed for installation or maintenance of other utilities. As part of the CHSP to be prepared for the Project (in accordance with Section 7-22 of the City's Whitebook), the potential for aerially deposited lead would be

	identified as a potential health hazard and would identified, remediated, and monitored consistent with other contaminated soils encountered during Project construction.



Mr. Mark Brunette
November 7, 2017
Page 3

9. Railroad easements and rail yards are commonly impacted due to spillage of chemicals, fuels, and lubricants, and use of pesticides and herbicides along the tracks for weed control. If the project site is at or nearby railroads, DTSC recommends assessment/investigation and/or cleanup as necessary to confirm that no residual contamination associated with rail operation is present onsite.

10. If soil contamination is suspected or observed in the project area, then excavated soil should be sampled prior to export/disposal. If the soil is contaminated, it should be disposed of properly in accordance with all applicable and relevant laws and regulations. In addition, if the project proposes to import soil to backfill the excavated areas, proper evaluation and/or sampling should be conducted to make sure that the imported soil is free of contamination.

11. If during construction/demolition of the project, soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exist, the ND should identify how any required investigation and/or remediation will be conducted, and the appropriate government agency to provide regulatory oversight.

If you have any questions regarding this letter, please contact me at (714) 484-5380 or email at Johnson.Abraham@dtsc.ca.gov.

Sincerely,

Johnson P. Abraham
Project Manager
Brownfields Restoration and School Evaluation Branch
Brownfields and Environmental Restoration Program

kl/ja/sh

cc: See next page.

B4-13

B4-14

B4-15

B4-16

B4-13 In all instances where proposed pipelines would cross railroad rights-of-way, pipelines will be constructed using trenchless methods. Any contaminated soils encountered during excavation of the tunnels or tunnel entry/exit pits would be evaluated and remediated in accordance with the procedures outlined in the City of San Diego "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances shall be followed (City of San Diego 2015b).

B4-14 Comment noted. All applicable procedures outlined in the City of San Diego "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances, shall be followed (City of San Diego 2015b). Specific procedures for contaminated soils, which are in accordance with this comment, are outlined in mitigation measure MM-HAZ-4, in Section 6.9, Health and Safety Hazards, of the Draft EIR/EIS.

B4-15 Comment noted. As specified in mitigation measure MM-HAZ-4, in Section 6.9, Health and Safety Hazards of the Draft EIR/EIS, in the case that hazardous materials are encountered, all

	"construction activities in the area shall immediately cease" and applicable procedures outlined in the City of San Diego "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances, shall be followed (City of San Diego 2015b). The Whitebook procedures, as summarized in MM-HAZ-4, outline specific investigation and remediation activities to be followed, which are in accordance with those recommended by this comment.
	B4-16 Comment noted.

cc: Governor's Office of Planning and Research (via e-mail)
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
State.clearinghouse@opr.ca.gov

Mr. Dave Kereazis (via e-mail)
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

Mr. Shahir Haddad, Chief (via e-mail)
Schools Evaluation and Brownfields Cleanup
Brownfields and Environmental Restoration Program - Cypress
Shahir.Haddad@dtsc.ca.gov

CEQA# 2016081016

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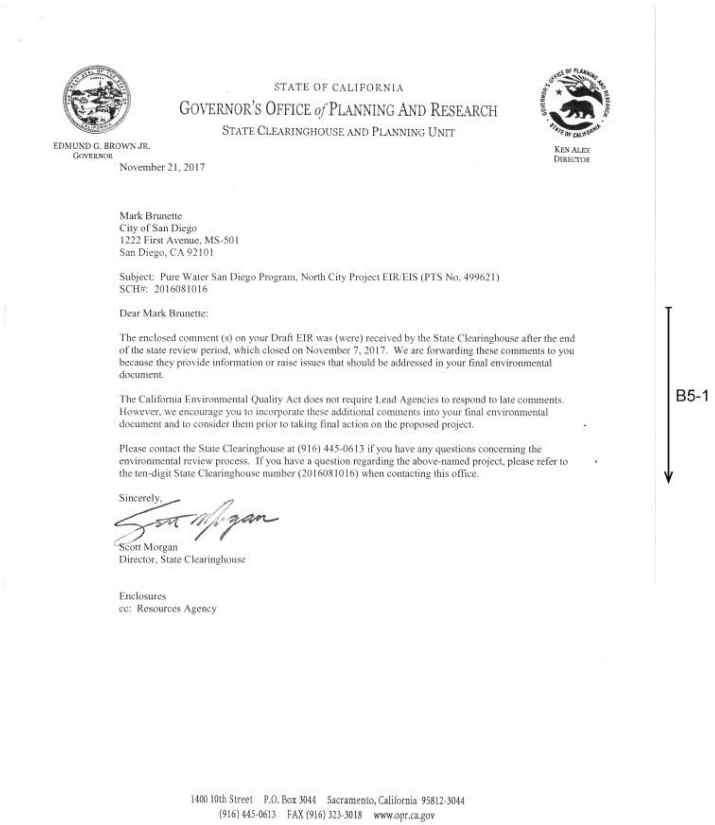
Comment Letter B5



STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

November 21, 2017

Mark Brunette
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Subject: Pure Water San Diego Program, North City Project EIR/EIS (PTS No. 499621)
SCH#: 2016081016

Dear Mark Brunette:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on November 7, 2017. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2016081016) when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

B5-1

Response to Comment Letter B5

State Clearinghouse
Scott Morgan
November 21, 2017

B5-1 This comment acknowledges receipt of the comment letter by the California Department of Fish and Wildlife. Please refer to comment letter B6 for responses to the enclosed letter.

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

Governor's Office of Planning & Research
NOV 21 2017
STATE CLEARINGHOUSE

November 20, 2017

Mark Brunette, Senior Environmental Planner
City of San Diego Development Services Department
1222 First Avenue, MS 501
San Diego, CA 92101
DSDEAS@sandiego.gov

Subject: Comments on the Draft Environmental Impact Report for the Pure Water San Diego Program, North City Project EIR/EIS Project Number 499621; SCH# 2016081016

Dear Mr. Brunette:

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Draft Environmental Impact Report (DEIR) for the North City Pure Water Project (Pure Project). Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that the Department, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

The Department is California's Trustee Agency for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) The Department, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) It is also a policy of the State to preserve and enhance black bass population (Fish and G. Code, Chapter 7.3, §1740 et seq.). Similarly, for purposes of CEQA, the Department is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

The Department is also a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) The Department may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to the Department's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

The Department also administers the Natural Community Conservation Planning (NCCP) program. The City of San Diego (City) participates in the NCCP program by implementing its approved Multiple Species Conservation Program (MSCP) Subarea Plan (SAP).

The purpose of the Pure Project is to plan, design, construct, and operate the treatment and conveyance facilities necessary to produce 30 million gallons per day (MGD) of purified water, reduce dependence on imported water sources, increase the use of recycled water, reduce

Conserving California's Wildlife Since 1870

B5-1 Cont.

flows to the Point Loma Wastewater Treatment Plant, and exceed the target online dates for the first phase of the Pure Water Program Cooperative Agreement.

The Pure Project includes a variety of facilities located throughout the central coastal areas of San Diego County. Pure Project facilities are proposed in the North City geographic area. A new pure water facility and three pump stations would be located within the corporate boundaries of the City of San Diego. Proposed pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee, the community of Lakeside and other areas of unincorporated San Diego County, and federal lands within Marine Corps Air Station (MCAS) Miramar. Portions of the North City Project area fall within the City's MSCP and Multi-Habitat Planning Area (MHPA).

The new North City Pure Water Facility (NCPWF) would be located adjacent to the existing North City Water Reclamation Plant (NCWRP) site located at Eastgate Mall and Interstate 805. The NCPWF is proposed to be located on an undeveloped site north of Eastgate Mall. The North City Pure Water Pump Station (North City Pump Station) would also be located on this currently undeveloped site. Carroll Canyon is located immediately north of the NCPWF site. Upgrades would occur at the existing NCWRP in order to provide sufficient tertiary influent for the NCPWF as well as to connect the existing centrate line with the proposed brine line. Pump station and pipeline facilities would convey different types of flows to and from the treatment facilities. Tertiary treated water would be treated at the NCPWF; from there, purified water would be piped to the Miramar Reservoir or San Vicente Reservoir, where it would blend with impounded water and imported supplies. The water would then receive further treatment at a potable water treatment plant before being distributed as potable water.

B5-1
Cont.

The following components are included under the Pure Project:

Morena Pump Station and Pipelines
The Morena Pump Station and Wastewater Forcemain are proposed to deliver a maximum flow of 37.7 MGD of raw wastewater to the NCWRP, expanding the NCWRP's production capacity from 30 MGD to 52 MGD in dry weather conditions.

North City Water Reclamation Plant Expansion
Two North City Project Alternatives (Project Alternatives) are proposed. The Miramar Reservoir Alternative (Locally Preferred Alternative) would construct the NCPWF and would convey purified water to Miramar Reservoir. The San Vicente Reservoir Alternative would also construct the proposed NCPWF.

North City Pure Water Facility Influent Pump Station and Conveyance
The NCPWF Influent Pump Station would be constructed at the NCWRP and would convey tertiary effluent from the NCWRP to the NCPWF. The NCPWF Influent Pump Station would have a maximum capacity of 42.5 MGD to enable the NCPWF to produce a maximum of 34 MGD of purified water after accounting for recycle and other streams.

North City Pure Water Facility – Miramar Reservoir Alternative
The new NCPWF under the Miramar Reservoir Alternative (NCPWF-MR) would be located on the vacant 10-acre City-owned lot across Eastgate Mall to the north of the NCWRP. The NCPWF-MR would produce 34 MGD annual average daily flow (AADF) of purified water. A portion of the purified water would be returned to the NCWRP to reduce the total suspended solids concentration of the disinfected tertiary treated effluent to 1,000 milligrams per liter

(mg/L), a level suitable for irrigation. Approximately 30 MGD AADF of purified water would be pumped to Miramar Reservoir.

North City Pure Water Conveyance System The North City Pure Water Conveyance System would transmit product water from the NCPWF-MR to Miramar Reservoir where it would be blended with the imported raw water in the Miramar Reservoir and receive additional treatment at the Miramar Wastewater Treatment Plant. The North City Pure Water Conveyance System consists of the North City Pure Water Pump Station (North City Pump Station), North City Pipeline, and the Pure Water Dechlorination Facility.

North City Renewable Energy Facility A new North City Renewable Energy Facility would be constructed in order to provide power to the expanded NCWRP as well as the new NCPWF and North City Pump Station. The new facility includes approximately 15.4 megawatts (MW) of new generation capacity. The 5 MW of existing power generation capacity already at NCWRP would remain.

Landfill Gas Pipeline The new North City Renewable Energy Facility would receive landfill gas from the City's Miramar Landfill gas collection system via a new 12-inch diameter pipeline. The approximately 15,885 linear feet alignment runs from the existing Miramar Landfill north along the western end of the MCAS Miramar property to the NCWRP site.

Metro Biosolids Center (MBC) Improvements The MBC site is currently developed with biosolids treatment facilities. MBC is located adjacent to the Miramar Landfill, north of State Route 52 and south of MCAS Miramar. MBC would be updated to accept increased biosolids thereby reducing the quantity of biosolids sent to the Point Loma Wastewater Treatment Plant.

Miramar Water Treatment Plant Improvements Under the Miramar Reservoir Alternative, purified water discharged into the Miramar Reservoir would be pumped via the existing Miramar Reservoir Pump Station to the Miramar Wastewater Treatment Plant for treatment and eventual distribution. Miramar Reservoir would receive approximately 30 MGD AADF of purified water on a more or less continuous basis. The Miramar Reservoir Pump Station would have to operate at roughly 30 MGD AADF to maintain the inflow/outflow balance in the reservoir.

North City Pure Water Facility – San Vicente Reservoir Alternative The new NCPWF under the San Vicente Reservoir Alternative (NCPWF-SVR) would be located on the vacant 10-acre City-owned lot across Eastgate Mall to the north of the NCWRP. The NCPWF-SVR would produce 31.4 MGD AADF of purified water. A portion of the purified water would be returned to the NCWRP to reduce the total dissolved solids concentration.

San Vicente Pipeline and Pump Stations Two pump stations would be required to convey purified water via the approximately 29-mile (154,775-linear-foot) San Vicente Pipeline to the San Vicente Reservoir. The North City Pump Station would be located on the southeast corner of the NCPWF site and would be the same as discussed above under the Miramar Reservoir Alternative. The San Vicente Pipeline would be designed for an average daily flow of 30 MGD with a minimum daily flow of 27 MGD and a maximum daily flow of 35 MGD.

The San Vicente Reservoir Alternative proposes three alternative pipeline terminus options: (1) San Vicente Pipeline - Tunnel Alternative Terminus; (2) San Vicente Pipeline - In-Reservoir Alternative Terminus; and (3) San Vicente Pipeline - Marina Alternative Terminus.

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The Department offers the following comments and recommendations to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

PURE Project Benefits

The Department believes that the Pure Project could add great value to water conservation efforts, which if implemented appropriately, would directly and indirectly benefit the fish and wildlife resources the Department is trusted with managing. There are clear benefits to increasing the use of recycled water, and reducing the dependency on surface water production including maintaining surface water flows for habitat and wildlife resources. However, we are also compelled to identify potential impacts and collateral effects to fish and wildlife resources. The Department has raised concern and made recommendations where reasonable actions could mitigate impacts to fish and wildlife resources. We continue to recommend a monitoring and adaptive management strategy where uncertainty exists and data gaps have been identified.

San Vicente Reservoir Alternative

The Department concurs with the DEIR's analysis that the San Vicente Reservoir Alternative has the potential to conflict with an applicable conservation plan (DEIR, p. 6.1-24)–specifically, this alternative would conflict with the City SAP, including the Environmentally Sensitive Lands (ESL) regulations and Biology Guidelines, and would impact MHPA lands, wetlands, and City SAP Cornerstone Lands. Of the alternatives identified by the DEIR, the San Vicente Reservoir Alternative would result in the greatest (18.60 acres of temporary and 0.02 acre of permanent) impacts to MHPA, introduce impacts to undisturbed habitat, impact a greater number of vegetation communities, and would require the construction of a new access road (DEIR, p. 6.4-1). Therefore, pursuant to the City SAP section 1.4.2 and CEQA Guidelines (§15002), the San Vicente Reservoir Alternative is not representative of a design that maximizes avoidance and minimization measures to protect the environment (or MHPA) and should not be certified in lieu of alternatives with fewer impacts to biological resources and City MHPA.

Avoidance of Impacts

Impacts to City MHPA, including southern willow scrub habitat supporting CESA- and federal Endangered Species Act (ESA) listed endangered least Bell's vireo (*Vireo bellii pusillus*), and California species of special concern yellow warbler (*Setophaga petechia*), have not been fully minimized under the San Vicente Alternative. Figure 5.4-1R illustrates impacts to City MHPA and southern willow scrub supporting least Bell's vireo and California yellow warbler, where the San Vicente pipeline alignment crosses Interstate 15, south of Clairemont Mesa Boulevard. This alignment includes trenchless tunneling that daylights (e.g., pit locations) within southern willow scrub habitat. The DEIR does not discuss avoiding those impacts by shifting the trenchless construction alignment north within the area mapped as non-vegetated channel. An alternative alignment could reduce impacts to MHPA, City wetlands, and CESA/ESA endangered species. Absent the DEIR demonstrating how these impacts are unavoidable, all reasonable steps to conform with the City's SAP and adopted local habitat conservation plans have not been taken for the San Vicente Reservoir Alternative.

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Pure Project Consistency with City of San Diego MSCP SAP

Impacts to MHPA

In addition to identifying the number of MHPA acres impacted by each alternative, Table ES-1 (DEIR, p. ES-9) should also identify how many linear feet would be adjacent to MHPA for each Project alternative. Habitat disturbance can introduce and encourage populations of non-native invasive species. Edge effects and fragmentation are detrimental to overall ecosystem health. Our rough approximation (unrefined, and inclusive of trenchless construction areas) indicates that the Miramar Reservoir Alternative is adjacent to approximately 2,152 linear feet (approximately 0.4 mile) of MHPA, whereas the San Vicente Reservoir Alternative is adjacent to approximately 31,723 linear feet (approximately 6 miles) of MHPA. The DEIR should analyze the linear feet of each Project alternative adjacent to MHPA. Edge effects, including non-native species introduction, control, and management should be analyzed by the DEIR. A mitigation measure with appropriate, Project-specific funding should be identified within the Mitigation Monitoring and Reporting Program (MMRP) and quantify the increased weed control management necessary to combat edge effects. Table ES-1 (DEIR, p. ES-9) should differentiate each Project alternative's risk for introducing non-native species and risks listed below within areas of undisturbed habitat. Linear feet adjacent to native habitats is one metric that could be used to compare the Project alternatives.

Fire Hazard Exposure
Although the DEIR identifies the Pure Project's potential to introduce wildfire hazards directly related to the Project, it does not identify the Project's potential to indirectly introduce wildfire hazards or discuss how those hazards could result in habitat loss. When evaluating the Pure Project's potential to expose people or property to health hazards, including fire, Table ES-1 (DEIR, p. ES-10) identifies that both the Miramar and San Vicente Reservoir Alternatives could result in the following impact: "Engine-powered equipment and vehicles could increase wildfire hazards by introducing new ignition sources to areas adjacent to or within currently undeveloped areas." However, Table ES-10 does not identify indirect fire sources that the Pure Project's construction and operation could introduce within the landscape. The Pure Project would construct linear features (e.g., pipelines, rights-of-way) that would extend from developed areas into previously undisturbed habitat and could indirectly establish unauthorized access. Unauthorized access would introduce anthropogenic uses, and consequently, fire hazards within areas of established habitat. Wildfire frequency and duration could increase due to climate change (Westerling et al. 2006) rendering habitat loss due to wildfires. This is a potentially significant impact associated with the Pure Project absent mitigation. Proximity to firefighting crews and linear feet within or adjacent to native habitat should be quantified and analyzed between Pure Project alternatives.

Trenching and Side Cast
The DEIR should identify all laydown areas and trenching widths (including material side cast) that impact native habitat. The DEIR should include figures illustrating the limits of work, existing rights-of-way, and where applicable, the limits of previously disturbed/developed lands and/or native vegetation. According to the DEIR "[w]ork areas for open-cut construction, including required lay-down area for supplies and equipment, would range from 30 to 60 feet wide, depending on depth of the trench and would typically occupy half the roadway width." (DEIR, p. 3-21) To avoid impacts to sensitive habitats, trench widths should be minimized and, when feasible, trenchless construction methods

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should be utilized. The DEIR should include a figure overlaid with the biological resources depicting the locations of lay-down areas, construction yards, and trenchless tunneling entry and exit (e.g. launching and receiving) pits.

Maintenance Right-of-Way Access
The DEIR should indicate how impacts to habitat along the right-of-way (ROW) would be mitigated or restored. Where habitat impacts occur within the ROW, they should be mitigated as a permanent impact given that "[r]egular maintenance of conveyance facilities would be required to ensure that adequate flow is maintained. Permanent access along pipeline alignments would allow for inspection and maintenance." (DEIR, p. 3-29).

Impacts to Cornerstone Lands

The San Vicente Reservoir Alternative would result in impacts to City SAP Cornerstone Lands. Under that alternative the loss of City SAP Cornerstone Lands should be deducted from the net acreage of preserve and available public mitigation bank credits. The City MSCP Annual Report should reflect the debits and credits of publically available Cornerstone mitigation credits. Cornerstone Lands "…contain valuable biological resources and have each been identified as a core biological resource area. These lands total 10,400 acres and are commonly referred to as the Cornerstone Lands because they are considered essential building blocks for creating a viable habitat preserve system." (DEIR, p. 5.4-75) Additionally, the DEIR should evaluate the Pure Project for consistency with Reserved Rights, section 10 of the Cornerstone Banking Agreement limiting all temporary and permanent impacts "…necessarily associated with reclaimed water pipeline from the North City Wastewater Treatment Plant into the reservoir." (City 1997b).

MSCP Biological Core Areas

The DEIR should base its analysis of the Pure Project's potential to impede a County MSCP biological core area on a wildlife movement study. The proposed Project is located within County of San Diego (County) Multiple Species Conservation Plan (County MSCP) Biological Core Area 15. Biological Core areas are defined as "…generally supporting a high concentration of sensitive biological resources which, if lost or fragmented, could not be replaced or mitigated elsewhere." (County 1998) The City's SAP tiers from the County MSCP, fulfilling its portion of the larger, regional MSCP. The DEIR should address the Project's role within the City SAP [see section 1.4.2(4)] and County MSCP given the tiered relationship between the two. In consideration of this relationship, the DEIR should also evaluate how the location of the North City Pure Water Facility is consistent with section 1.4.2 (4) of the City's SAP. In part, City SAP section 1.4.2 (4) states, "[c]onstruction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field."

CEQA Thresholds of Significance—Land Use

Essential Public Project

As currently proposed, the DEIR has not documented how the Pure Project is consistent with the ESL Essential Public Project (EPP) deviation process. According to City Municipal Code section 143.0101 "[i]mpacts to biological resources are assessed by City staff through the

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CEQA review process, and through review of the project's consistency with the ESL regulations, the Biology Guidelines (July 2002) and with the City's MSCP Subarea Plan." (City 2016) Conformance with the City ESL and Biology Guidelines is integral to implementing the City Municipal Code and City SAP and "…will be applied to all new private and public land development projects within the Subarea which are subject to THE CITY OF SAN DIEGO's jurisdiction." (City 1997a, section 9.12) The Pure Project would impact ESL-defined wetland resources, therefore the City is pursuing a deviation from the City's ESL regulations via an EPP.

In accordance with the 2012 City Biology Guidelines (p. 22) when an EPP exemption to the City ESL regulations is utilized "[t]he proposed project and all biological alternatives, both practicable and impracticable shall be fully described and analyzed in an appropriate CEQA document. Alternatives to the proposed project shall be comprehensively included in the CEQA document (e.g., Mitigated Negative Declaration) and/or the biological technical report for the CEQA document. Alternatives must include the following: 1) a no project alternative; 2) a wetlands avoidance alternative, including an analysis of alternative sites irrespective of ownership; and 3) an appropriate range of substantive wetland impact minimization alternatives." (City Biology Guidelines, p. 22) Although the DEIR states that "…the North City Project is consistent with the requirements of the City of San Diego MSCP Subarea Plan and San Diego Municipal Code, Land Development Code—Biology Guidelines…" (DEIR, p. 6.1-24) the DEIR only analyzes a wetlands minimization alternative (Miramar Reservoir Alternative), the San Vicente Reservoir Alternative, and a No Project Alternative. The DEIR does not analyze a wetlands avoidance alternative. According to the DEIR, "[a] Wetlands Avoidance Alternative has been thoroughly vetted by the Project team; however, due to the inherent nature of the Project, impacts to wetlands would be unavoidable. Therefore, this alternative is not carried forward for detailed analysis in this EIR/EIS." (DEIR, p. 3-50) When utilizing the EPP ESL deviation, City Biology Guidelines require that "[p]rojects proposing to utilize this deviation section [essential public project] of the ESL after initial CEQA public review must include the new information and recirculate the CEQA document." (City Biology Guidelines, p. 22).

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The DEIR should include the wetlands avoidance alternative, and the analysis that the DEIR used to determine its infeasibility. The DEIR infers that a wetlands avoidance alternative was analyzed: "[t]he other criteria for the deviation [EPP] is a wetlands avoidance alternative. This has been accomplished, to the extent possible, within the Miramar Reservoir Alternative. Impacts to wetlands are minimal under this alternative and only occur in one place: vernal pools at NCPWF." (DEIR, p. 5.4-78) Absent the inclusion of the above-referenced analysis in the EIR/EIS, the Pure Project is not consistent with the City SAP. Pursuant to the City SAP, the City and the Department have an established process for addressing impacts to City wetlands, including vernal pools. The City, U.S. Fish and Wildlife Service (USFWS), and the Department have been developing a Draft Vernal Pool Habitat Conservation Plan (VPHCP) and the Department is supportive of adopting a final VPHCP. Although the DEIR justly indicates that "[t]he North City Project study area is covered under the Draft VPHCP," since the draft VPHCP has not been adopted, the City SAP is the guiding document for City Wetlands/vernal pools.

The Department wishes to be consulted regarding the siting and formulation of avoidance measures in support of the City's identification and approval of an EPP design fulfilling the criteria cited above. The EPP ESL deviation process requires the project applicant, in this case the City, to "…solicit input from the U.S. Fish and Wildlife Service and the California Department of Fish and Game (e.g., Wildlife Agencies) prior to the first public hearing." (City Biology Guidelines, p. 22) Depending on the alternative and relevant species, the Department wishes to

discuss vernal pool avoidance, least Bell's vireo (*Vireo bellii pusillus*), western pond turtle (*Actinemys marmorata*), Cornerstone Lands, and MHPA avoidance strategies.

Species-specific Comments

Sensitive Plant Species

Both the Miramar Reservoir and San Vicente Reservoir Alternatives would temporarily affect sensitive plant species, that, depending on the alternative, include but are not limited to: decumbent goldenbush (*Isocoma menziesii* var. *decumbens*, California Rare Plant Rank [CRPR] 1B.2); Orcutt's brodiaea (*Brodiaea orcuttii*, CRPR 1B.1); long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*, CRPR 1B.2); white rabbit-tobacco (*Pseudognaphalium leucocephalum*, CRPR 2B.2); and Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*, CRPR 4.3). The DEIR should include a mitigation measure requiring on-site seed collection of CRPR list 4 through 1 species (at least one blooming season prior to site disturbance), subsequent seed bulking, and seeding of all temporary disturbance areas. Additionally, a mitigation measure requiring topsoil salvage, suitable storage/stockpiling (in accordance with the Office of Surface Mining Reclamation and Enforcement, Handbook of Western Reclamation Techniques), and redistribution following temporary disturbances impacting native vegetation. The MMRP should also include a multi-year weed abatement strategy. The weed abatement strategy should follow the methods identified in the South County Grassland Project recommended Best Management Practices (2017). Some of the recommendations include: 1) deliberate timing of herbicide/treatment applications to target the fruiting stage of invasive species but prior to setting seed; 2) multiple years of herbicide/ treatments to keep the invasive species seed bank low; and 3) supplemental seeding with locally sourced seed. While a portion of the sensitive plant species to be impacted are covered species pursuant to the City SAP, section 1.4.2(3) requires restoration of temporary impacts. City Biology Guidelines (p. 45) specify that "[a]ll restoration will be required to have a restoration plan that outlines specific species for planting/hydroseeding, timing, irrigation and grading requirements, if any, a long-term maintenance, monitoring and reporting program, and criteria for success, as well as contingency measures in case of failure…." City Biology Guidelines, Attachment B provides a general outline of revegetation/restoration plans.

Vernal Pools

The DEIR states that no San Diego fairy shrimp were detected during 2015, 2016, and 2017 surveys: "Although there are vernal pools on the NCPWF, San Diego fairy shrimp protocol-level surveys in 2015/2016 and 2017 were negative." (DEIR, p. 5.4-17) However, Department GIS records indicate positive detection for *Branchinecta sandiegonensis* in 2010 and 2006 in association with the Eastgate Mall Road Project and Interstate 805 right-of-way, respectively. Although reliant on seasonal aquatic habitat, fairy shrimp are highly adapted for survival through extended periods of drought. Fairy shrimp reproduce embryos that develop into hard-walled cysts. Cysts allow the embryos to persist in extreme (e.g., hot, cold, and dry) conditions via a process of suspended development known as diapause (Ericksen and Belk 1999). As reported by Ericksen and Belk, cysts remain viable in excess of 25 years and perhaps much longer. Given this ability to persist and the prior detections of San Diego fairy shrimp, we are not confident that the vernal pools associated with the NCPWF do not continue to support the species. We recommend that the DEIR analyze and mitigate the vernal pools as if they are occupied by the species. In addition, the DEIR states that "[n]o USFWS Critical Habitat occurs within or immediately adjacent to the NCPWF study area." (*Id.)* The DEIR should reflect that

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USFWS Critical Habitat for San Diego fairy shrimp exists on MCAS Miramar property to the southeast of the proposed NCPWF.

Copies of the 2016/2017 Wet Season Fairy Shrimp Survey Report or the 2017 Dry Season Fairy Shrimp Sampling Results (Appendix G and H respectively of the Biological Technical Report) were not circulated with the DEIR. If versatile fairy shrimp (*Branchinecta lindahli)* were found within the NCPWTF, the DEIR should include a mitigation measure to prevent the transport of *B. lindahli* cysts from the NCPWTF to areas (e.g., MCAS Miramar) that have vernal pools containing *B. sandiegonensis* as the two species are known to hybridize (Bohonak and Simovich 2017). For San Diego fairy shrimp (known at the Sanders mitigation site, within the alignment of the Landfill Gas Pipeline, and MCAS Miramar), "…the most critical current management issues involve maintaining adaptive potential, as well as the integrity of the species itself. Previous research has demonstrated that human-induced homogenization of the vernal landscape has negative consequences for recovery, including 1) artificially increasing intraspecific gene flow, and 2) hybridization of *B. sandiegonensis* with the more common versatile fairy shrimp…." (Bohonak and Simovich 2017) The City SAP Species Evaluation Table 3-5 includes requirements for area-specific management directives (ASMDs) to include "…specific management measures to protect against detrimental edge effects…" to *B. sandiegonensis* and *Streptocephalus wootoni.* City Biology Guidelines provide guidance for processing development projects. The Mitigation Program (Page 48 of the Biology Guidelines) for such projects "…should identify how the objectives of the City's MSCP Preserve Management recommendations will be met for the area, as well as provide any additional management recommendations resulting from site-specific information (area specific management directives)." Accordingly, it is appropriate for the DEIR to include mitigation measures and ASMDs to prevent the introduction of *B. lindahli* to vernal pools where they do not already occur.

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Least Bell's Vireo

The DEIR's Environmental Analysis Section 6.4.5.1 (Impacts to Sensitive Species) should be revised to reflect the nature and duration of impacts to least Bell's vireo occurrences within the impact limits of the San Vicente Reservoir Alternative. In addition, the MSCP discussion for section 6.4.5.1 should clarify that the City does not have coverage for take (Fish and G. Code § 86) of listed wetland species (e.g., least Bell's vireo) within federal jurisdictional waters (City Biology Guidelines, p. 9). The DEIR states that "[t]here are two sensitive wildlife species occurring within the impact limits of the San Vicente Pipeline: least Bell's vireo and California gnatcatcher. The least Bell's vireo was observed within southern willow scrub east of I-15 and south of Clairemont Mesa Boulevard. This species occurs in the MHPA. Impacts to suitable habitat for this species total approximately 0.5 acre." (DEIR, p. 6.4-65) Habitat loss is considered one of the "…most serious threats to the recovery of the least Bell's vireo" (USFWS, 1998) and "…a major determinant of vireo productivity and abundance…." (Lynn and Kus 2011) Although the DEIR, under the San Vicente Reservoir Alternative, identifies a potentially significant impact to suitable least Bell's vireo habitat, it does not document why trenchless construction pit locations were not shifted north to avoid affecting least Bell's vireo occupied southern willow scrub habitat (see DEIR Figure 5.4-1R). In addition, the DEIR should describe why impacts to designated least Bell's vireo habitat is not avoided: "[t]he San Vicente Pipeline would temporarily impact 6.15 acres of Critical Habitat for least Bell's vireo. The majority of impacts would occur within 5.35 acres of developed land due to the Critical Habitat overlapping a residential area." (DEIR, p. 6.4-65).

Given the known occurrence of least Bell's vireo detected near the trenchless construction pit location near Interstate 15 and Clairemont Mesa Boulevard (see DEIR figure 5.4-1R) no clearing, grubbing, or grading of southern willow scrub habitat should occur during the nesting season pursuant to mitigation measure MM-BIO-6(a). The DEIR should specifically prohibit habitat disturbance at the Interstate 15/Clairemont Mesa Boulevard location, and any other locations located within USFWS designated critical habitat for least Bell's vireo. This information should be clearly delineated on a map and referenced in mitigation measure MM-BIO-6(1)(a).

Building Design

In consideration of the MHPA to the north (Carroll Canyon) and west (west of Interstate 805) of the North City Pure Water Facility, the Department recommends that the Pure Project include the most current building design standards that demonstrate measures taken to minimize impacts associated with avian bird strikes and buildings. "[T]he Eastgate Mall-fronting NCPWF-MR Operations and Maintenance (O&M) Building would incorporate modern building materials including translucent light and dark blue glass windows (representative of water entering and flowing through the facility), a central, clear glass atrium..." (DEIR, p. 6.1-11) Within the United States alone, avian mortality numbers reach hundreds of millions per years due to collisions with glass (American Bird Conservancy 2015). The Department recommends that the DEIR incorporate design elements from the American Bird Conservancy (ABC) Bird-Friendly Design Guide (http://collisions.abcbirds.org/) in an effort to minimize avian collisions in proximity to preserve areas in the City. These measures include retrofitting existing buildings, as well as incorporating measures specific to new construction. The ABC Building Guide offers multiple solutions for reducing impacts to avian species, including recommendations that also qualify for Leadership in Energy and Environmental Design credits (ABC, 2015). ABC provides project design measures with the goal of reducing avian collisions with buildings while also being specific and enforceable (see Public Resource Code §21081.6 (c)).

Mitigation Measures

Mitigation Measure MM-BIO-1b

The DEIR does not include a copy of *The Sander Vernal Pool and Upland Mitigation Plan* (Appendix R of Appendix C of the Biological Technical Report). The DEIR proposes to mitigate impacts to vernal pools (MM-BIO-1b) by relying on The Sander Vernal Pool and Upland Mitigation Plan, which presumably conforms to City Biology Guidelines Section III. The DEIR should circulate the Sander Vernal Pool Mitigation Plan for review and comment prior to certifying the final EIR to ensure that mitigation measures are consistent with the City's SAP, and that the measures are specific and enforceable per CEQA Guidelines § 15126.4(a)(2).

Mitigation Measure MM-BIO-2

MM-BIO-2 relies on a Conceptual Revegetation Plan–Appendix P of the Biological Technical Report prepared by Dudek. However, Appendix A through Appendix V are missing from the Biological Technical Report (Dudek 2017), including the Appendix P–Conceptual Revegetation Plan. To allow for public review and to ensure that mitigation measures are both specific and enforceable (CEQA Guidelines § 15126.4(a)(2) the DEIR should include all supporting documentation supporting any DEIR mitigation measure or CEQA Findings of Significance. Though it was not provided for review at the time of the DEIR, the Conceptual Revegetation Plan should require native seed collection and topsoil salvage from impact sites associated with the Pure Project. The DEIR should be updated to include each of the Biological Technical

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Report's Appendices. According to City Biology Guidelines, success criteria is established through a required "…restoration plan that outlines specific species for planting/hydroseeding, timing, irrigation and grading requirements, if any, a long-term maintenance, monitoring and reporting program, and criteria for success, as well as contingency measures in the case of failure…." (City Biology Guidelines, p.45) Absent the DEIR including a copy of the draft Conceptual Vegetation Plan for public review and comment, the full extent of the revegetation efforts cannot be known at the time of the DEIR. The DEIR should include the Conceptual Revegetation Plan.

The DEIR states that "[h]abitat revegetation and erosion control treatments will be installed within temporary disturbance areas in native habitat, in accordance with the San Diego Municipal Code, Land Development Code–Biology Guidelines (City of San Diego 2012) and the San Diego Municipal Code…" (DEIR, p. 6.4-25) City Biology Guidelines (p. 45, see also appendix B) state that "…monitoring of the restoration would be no less than five years…." However, the mitigation measure MM-BIO-2 only requires revegetation areas to be monitored for 25 months (DEIR, p. 6.4-25). Common practice and climactic variables prescribe maintenance and monitoring intervals greater than the 25 months identified by MM-BIO-2. Countywide efforts demonstrate that within certain habitats, site preparation alone often requires multiple annual applications of herbicide or mechanical treatments (e.g. grow and kill cycles) for a minimum of 2 years (South County Grassland Project 2017). Only after adequate site preparation should revegetation (e.g. seeding) and site maintenance (e.g. weeding) actions be implemented. The first year of treatment targets non-native grass species, while the second year of treatment targets broad-leaf non-natives. Greater success is achieved through the appropriate timing of the non-native treatments based on plant phenology and weather (e.g., timing actions to control invasive species prior to the target species setting seed), site preparation (e.g. reducing the invasive species population prior to seeding), supplemental native seeding, and weeding maintenance. The Department recommends that MM-BIO-2 be revised to require a minimum of 5 years of revegetation monitoring and maintenance or until success criteria (established by a publically circulated Conceptual Revegetation Plan) is met.

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Mitigation Measure MM-BIO-5

Mitigation Measure MM-BIO-5 should be revised as follows (recommended deletions shown in ~~strikeout~~ and additions shown in ***bold italicized text***): "24 hours prior to commencement of ground disturbing activities, the Qualified Biologist shall verify ***update and report*** the results of preconstruction/take avoidance surveys." (DEIR p. 6.4-88) The intent of performing preconstruction surveys is to update the status of prior reports based on the most current site conditions. By incorporating the recommended edits, mitigation measure MM-BIO-5 would be clear in requiring additional site survey efforts to reflect site conditions immediately prior to ground disturbance.

Impacts to Aquatic Resources

Many of San Diego's reservoirs are stocked with cold water species (e.g., rainbow trout) that, even at present nutrient levels, are not a self-sustaining population. However, San Diego's reservoirs also support self-sustaining populations of warm-water fish populations including trophy-sized largemouth bass. The Department is concerned with impacts to the sustainability of warm-water fish species.

The Pure Project would treat wastewater and recycle it for discharge and storage within a drinking water reservoir. Under the Pure Project, the water would be treated using a combination of reverse osmosis, ultraviolet light, and subsequent advanced oxidation processes to remove known and unknown constituents of concern from treated wastewater to protect human health. This advance treatment is predicted to remove nutrient inputs necessary for a healthy aquatic ecosystem. The reduction of nutrients in oligotrophic reservoirs like Miramar Reservoir will likely reduce primary productivity, and subsequently, affect the food web and fishery and increase the risk of bioaccumulative toxicants to fish and human and wildlife consumers of fish.

Nutrient Availability

Preliminary modeling for the proposed Miramar Reservoir Alternative (surface water augmentation) anticipates the Project to potentially change the aquatic community in the reservoir. (DEIR, p. 6.4-4) All appreciable nutrient levels will be limited given the Pure Project's advanced water treatment (e.g. reverse osmosis treated water). The existing reservoir water will be replaced by ultra-low nutrient water within approximately 2 years. Miramar Reservoir is currently an oligotrophic reservoir and it is anticipated that the low level nutrient inputs will further reduce the primary productivity in the reservoir and result in a highly altered water chemistry. Alterations to nutrient stoichiometry can alter processes that regulate nutrient cycling, thereby changing nutrient availability for primary productivity, resulting in shifts in food web structure, or constraining zooplankton growth (Glibert 2012; Hassett et al. 2001). Karimi et al. (2007) found that zooplankton fed phytoplankton grown in high nitrogen to phosphorus (N:P) (e.g., 110:1) conditions had growth rates 3.5-fold lower than zooplankton fed phytoplankton grown in low N:P (e.g., 15:1) conditions. The researchers attributed the decrease in zooplankton growth rates to a reduction of nutritional value of phytoplankton grown in high N:P conditions. Previously, the Department has provided comments to the State Water Resources Control Board concerning the effects of Surface Water Augmentation regulations on Department-held trust resources (see attached).

Historically low chlorophyll-a (Chl-a) levels, compounded by the ability of invasive quagga mussels (*Dreissena rostriformis bugensis*) to filter nutrients from large quantities of water, currently affect trophic levels in Miramar Reservoir. The addition of water from the Pure Project will further decrease nutrients within Miramar Reservoir and should be considered an impact that will alter trophic levels through decreased primary productivity, especially as phosphorus is likely to decrease to very low levels based on information provided in Appendix G of the DEIR.

The DEIR concludes that this decrease in primary productivity will result in a decrease in juvenile and planktivorous fish. These populations will decrease until a new carrying capacity is established. These anticipated decreased population densities are directly related to the decreased nutrients associated with the Pure Project. A decrease in planktivorous organisms will have an indirect effect on the adult, piscivorous fish population as prey opportunities become less available. The Department does not believe that the largemouth bass population levels are currently being or will in the future be maintained through stocking of rainbow trout. It is important to note that the Department does not stock rainbow trout as a forage species for largemouth bass, but rather as a recreational fishery, and rainbow trout stocking should not be relied on to offset decreased nutrient levels. In Miramar Reservoir, rainbow trout do not survive summer conditions, such as increased temperature. The DEIR concludes that in the absence of rainbow trout, the largemouth bass would eat all other available prey species and these prey

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species would have difficulty rebounding due to the low primary productivity levels, resulting in a top-down trophic cascade. The warm water fishery in Miramar Reservoir has always been self-sustaining. The Department implemented rainbow trout stocking efforts at Miramar Reservoir in 2013 only so that people could fish for them, at the request of the City and constituents.

As natural water conditions and nutrient levels do not exist in Miramar Reservoir, to maintain environmental baseline conditions, the DEIR should include an adaptive management strategy to maintain aquatic resources through mechanical control measures and management actions. Based on meetings with the City, the nutrient levels of the reverse osmosis output (and ultimate discharge into the reservoir) depend upon, and are influenced by, the water input (as determined by the treatment level from the North City Reclamation Plant). Ratios of N:P are expected to decline to 200:1, further decreasing primary productivity. This decrease is expected to reduce the biomass of the aquatic community, thus decreasing predator prey interactions and limiting food forage opportunities. Last, "[d]ue to the complexity of species interactions within the reservoir and their responses to reduced nutrient concentrations, as well as the influence of external contributing factors, effects on the aquatic community cannot be precisely quantified. Additionally, potential changes to the aquatic community will likely occur gradually over time." (DEIR, p. 4-4) For these reasons, the DEIR should require the preparation and public circulation of an adaptive management strategy that seeks to maintain the existing fishery through a balance of water nutrient inputs, outputs, habitat augmentation, or other strategies.

Phosphorus is the limiting factor needed to increase algal growth (primary productivity) within Miramar Reservoir. Water Quality Solutions, in their report prepared for the City (2017), determined that the newly identified phosphorus loadings do not provide a significant source of phosphorus to improve primary productivity within Miramar Reservoir, and that the total phosphorus will decrease over time. Furthermore, Water Quality Solutions identified that stocked fish, specifically rainbow trout, do not provide additional allochthonous inputs to improve phosphorus levels.

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Fishery Impacts

On-site mitigation should be included to avoid and/or minimize impacts to the important recreational fishery for largemouth bass and other warmwater fish species over time due to the change in trophic status as predicted by the models in the DEIR. Feasible mitigation should include an adaptive management plan to monitor the warmwater fishery and implement measures to prevent, reduce, or mitigate impacts. Potential measures may include increasing fish habitat structure, nutrient seeding, and stocking forage fish and warmwater gamefish like bass and bluegill.

The Department recommends the DEIR clarify how a determination of no significant impact on recreation was derived (DEIR, p. 6.18-12) when the nutrient modeling used in the document concludes that: "[f]uture years will see very low phosphorus concentration." Very low phosphorous will limit algae growth, which negatively affects forage fish necessary to sustain largemouth bass populations. Since the primary fishery in Miramar Reservoir is for largemouth bass, recreation will be significantly impacted as numbers and size of bass decline over time.

Chlorophyll a Concentrations

The DEIR states that "[b]ecause nutrient and chlorophyll-*a* concentrations are characterized by pronounced peaks during certain periods of the year, the median (rather than average values) is presented as a more appropriate metric of prevailing conditions."(DEIR, p. 6.11-23) While the use of the median is resistant to skewed distributions and pronounced peaks, the use of

average concentrations is more appropriate for characterizing the conditions relating to mass (Helsel and Hirsch 2002). This may be especially true in systems like Miramar Reservoir where seasonal spikes in productivity may be the ultimate driver in overall annual productivity rates and biomass production. For example, the winter turnover/spring bloom may be the most important period for fueling reservoir bioenergetics and fish spawning. The annual spring blooms that occur in baseline predicted Chl-a concentrations (e.g., Figure 4.11, Appendix G) suggest that the signal from these spring blooms are important to the Miramar Reservoir. The use of the median masks the loss of episodic peaks of total phosphorus and subsequent peaks in Chl-a predicted to occur because of the Project. In addition, the Department recommends that seasonal characteristics in reservoir biomass or bioenergetics be used to evaluate the Project impacts. For example, phytoplankton may not be able to utilize the nutrients from low continuous loading during periods of naturally low productivity (e.g., winter with low temperatures and lower solar radiation).

Although the DEIR posits that soluble reactive phosphorous concentrations will remain the controlling factor in algal growth, both particulate and dissolved fractions of phosphorus are important for understanding productivity in reservoirs because the dissociation of particulate phosphorus in the hypolimnion is the source of bioavailable phosphorus during winter/spring turnover. The fact that internal loading of phosphorus from the anoxic sediments is predicted to decrease because of the Project (Appendix G, Table 1.1) supports this assertion. The continued operation of the Project will result in long-term declines of available nutrients in the reservoir because dispersive flux will result in a net export of nutrients out of the reservoir. In addition, while the inclusion of the newly identified nutrient loadings helped to increase understanding of nutrient loading in the reservoir, the Project is still predicted to reduce phosphorus loading by 21% and 26% for the high and moderate loading estimates, respectively.

Mercury bioaccumulation

Surface water augmentation projects that result in a reduction of productivity (e.g., primary, secondary, tertiary, and growth rates) will increase risks from bioaccumulative toxicants. Although the DEIR states that "[t]he magnitude of the change in trophic structure on the biological community resulting from changes in nutrient loading (primarily SRP) would likely be greatest for consumers of phytoplankton and zooplankton, and of less importance for top predators...." (DEIR, p. 6.11-29), the State Board Statewide Mercury Control Program for Reservoirs has determined that reductions in primary productivity exacerbate mercury contamination in reservoirs (SWRCB 2017). Surrogates for both pelagic and benthic primary productivity were found to be statistically inversely correlated to fish mercury concentrations (i.e., reduced productivity corresponded to higher mercury concentrations). Reduced zooplankton growth has been shown to result in higher rates of mercury bioaccumulation in the zooplankton (Karimi et al. 2007). Surface water augmentation projects that exacerbate mercury contamination will result in greater risks to human and wildlife consumers of fish (e.g., WILD, COMM, and REC-1 beneficial uses), and these projects may increase the number of mercury

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impaired reservoirs in California. Mercury bioaccumulation increases at the bottom of the food web will transfer throughout the food web, including to piscivorous birds, wildlife, and humans. Furthermore, fish species will also likely be impacted by mercury toxicity because recent studies have suggested that fish species are as sensitive as or more sensitive to mercury toxicity than humans (Beckvar et al. 2005; Dillon et al. 2010; Depew et al. 2012; Gehringer et al. 2012).

Conformance with Basin Plan and Water Quality Objectives

The DEIR finds that the "...water discharges would not violate [Regional Water Quality Control Board, RWQCB] Basin Plan water quality objectives (i.e., result in the loss or impairment of identified beneficial uses), and because the warm water habitat of the reservoir would continue to be well supported, albeit likely at a reduced level, the impact would be less than significant." (DEIR, p. 6.11-30) The applicable Water Quality Objective (WQO) states:

> *Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1 , on a weight to weight basis shall be used.*

The City's monitoring has shown that the current ratios (approximately 100 N: 1 P) have been able to maintain the current fisheries conditions. This will likely be altered by the discharge of the Pure Project water. The predicted Project water ratio is expected to be 200 N: 1 P, which does not conform with the WQO.

Furthermore, the WQO for Biostimulatory Substances states: "Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses."

The promotion of growth causing nuisance or adversely affect beneficial uses is not limited to only "excessive" growth and eutrophication. As our letter notes above in the "Nutrient Availability" section, alterations to nutrient stoichiometry can alter processes that regulate nutrient cycling, thereby changing nutrient availability for primary productivity, resulting in shifts in food web structure, or constraining zooplankton growth (Glibert 2012; Hassett et al. 2001). Karimi et al. (2007) found that zooplankton fed phytoplankton grown in high N:P (110:1) conditions had growth rates 3.5-fold lower than zooplankton fed phytoplankton grown in low N:P (15:1) conditions. The researchers attributed the decrease in zooplankton growth rates to a reduction of nutritional value of phytoplankton grown in high N:P conditions. Shifts in nutrient ratios or availability may result in the proliferation of undesirable primary producers (e.g., smaller bodied or cyanobacteria). A reduction of nutrient levels or changes in ecological stoichiometry in oligotrophic reservoirs, like Miramar Reservoir, may reduce the ability for this reservoir to support aquatic-life beneficial uses and viable fisheries.

Shifts in Reservoir Water Temperature

The Department believes that evaluating predicted temperature increase in isolation of the other impacts to Miramar Reservoir may miss environmental impacts that should be identified in the DEIR. The DEIR points out that the RWQCB "...Basin Plan does not contain a numeric water quality objective for any beneficial use other than COLD (cold freshwater habitat)..." (DEIR p. 6.11-30) and therefore does not violate the narrative WQO. Increased reservoir temperatures

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will likely result in higher metabolisms of all organisms in the reservoir, and when combined with a 29-43% decrease in available food (i.e., annual average Chl-a concentrations) can result in a significant loss of energy to support the higher trophic level fishery. The Department suggests the comprehensive direct and indirect impacts of the Project be evaluated.

Summary of Water Quality Impacts on Wildlife Resources

The Department agrees that the resulting changes in primary productivity have the potential to affect organisms that rely on primary producers. As well, the Project may cause adverse impacts to human and wildlife consumers of fish by increasing rates of bioaccumulation of contaminants (see DEIR p. 6.11-33).

The Department disagrees that the impacts to primary productivity are sufficiently tempered by external nutrient inputs. While the inclusion of the additional nutrient inputs greatly increased the predicted annual average surface Chl-a estimates (Appendix G, Table 4.5), annual average Chl-a concentrations are still expected to decrease by 29-43% as a result of the Project (Appendix G, Table 4.8). A 29-43% reduction in available food source at the bottom of the food web will likely cause large impacts to the food web and fishery, especially since the reservoir is already food limited. Table 4.9 shows an estimated increase in nutrient loadings from the 0.004 to 0.10 mg/L scenarios (e.g., 1.12, 1.46, and 1.80 mg/L), and a decreasing impact of the Project in regards to total phosphorus loadings (e.g., baseline = 1.52 mg/L). The predicted phosphorus loadings for the moderate nutrient loadings and PW = 0.010 mg/L scenario is higher than baseline loading estimates. However, the Chl-a estimates in Table 4.8 show that the Project will still result in large decreases in productivity for all scenarios (29-43% Chl-a concentrations). This suggests that the phytoplankton production in the reservoir is somewhat decoupled from phosphorus loading alone, the modeling parameters do not represent the linkage between nutrients and biology well, or that the Project will cause decreases in primary productivity by other means not identified. This complexity and the large uncertainty around the controlling factors of Miramar Reservoir's primary and secondary productivity is echoed elsewhere in the environmental document. This supports the need for a very robust monitoring program to be able to adaptively manage the Project's discharges into the reservoir, the reservoir food web and fishery, and impacts to human and wildlife health to mitigate for any adverse impacts of the Project.

The predicted phosphorus reductions exceed 20% resulting in correlating reductions of 29-42% (annual average) in pelagic primary productivity does not appear to be "slightly lower." (DEIR, p. 6.18-4) These are large decreases in primary productivity, when considering that the reservoir is already oligotrophic. Even the presented reduction of 15-19% of the median concentrations of Chl-a may greatly impact ability of the fishery to support itself. Salmon population models have estimated that as little as a 16% reduction in growth and 6% reduction in length in juveniles would result in 50% reductions in spawner abundance in 20 years (Baldwin et al. 2009; Macneale et al. 2014). Resource limitations, including food limitations, have been demonstrated to adversely impact reservoir fish populations (e.g., stunted growth or altered reproduction) (Ylikarjula et al. 1999). Similar reduction in reservoir food web growth rates could possibly crash the fishery in Miramar Reservoir. The DEIR has not demonstrated that the predicted resource limitations in Miramar Reservoir will not cause impacts to the well-established fishery, nor has the DEIR included a monitoring or adaptive management program to mitigate any future impacts because of the Project.

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The Department appreciates the opportunity to comment on the DEIR to assist the City in identifying and mitigating Project impacts on biological resources. CDFW requests a written response to our comments 10 days prior to the City's certification of the final EIR (Pub. Resources Code, § 21092.5). Questions regarding this letter or further coordination should be directed to Eric Weiss, Senior Environmental Scientist at (858) 467-4289, Eric.Weiss@wildlife.ca.gov, or Russell Black, Environmental Scientist at (858) 467-4262, Russell.Black@wildlife.ca.gov.

B5-1 Cont.

Sincerely,

Edmund Pert
Regional Manager
South Coast Region

Attachment:

Department Comments to the State Water Resources Control Board regarding the Proposed Surface Water Augmentation Regulations on Department-held trust resources, September 12, 2017

ec: Office of Planning and Research, State Clearinghouse, Sacramento
Gail K. Sevrens, Department, San Diego
John O'Brien, Department, Los Alamitos
David Zoutendyk, USFWS, Carlsbad
Patrick Gower, USFWS, Carlsbad

References

American Bird Conservancy and the New York City Audubon. 2015. Bird-Friendly Building Design. https://abcbirds.org/program/glass-collisions/bird-friendly-design/
Baldwin, D., J. Spromberg, T. Collier, and N. Scholz. 2009. A fish of many scales: extrapolating sublethal pesticide exposures to the productivity of wild salmon populations. Ecological Applications 19(8):2004-2015.

Beckvar, N., T. Dillon, and L. Read. 2005. Approaches for linking whole-body fish tissue residues of mercury or DDT to biological effects thresholds. Environmental Toxicology and Chemistry 24: 2094-2105.

Bohonak, Andrew J., and Marie A. Simovich. Landscape Genetics and Hybridization in the San Diego Fairy Shrimp: Connectivity, Land Use, and Management Recommendations. Journal of Crustacean Biology, 33 (5): 730-740, 2013.

City of San Diego. 1997a. Implementing Agreement by and between United States Fish and Wildlife Service California Department of Fish and Game City of San Diego. To Establish a Multiple Species Conservation Program ("MSCP") for the Conservation of Threatened, Endangered and Other Species in the Vicinity of San Diego, California.

City of San Diego. 1997b. Cornerstone Conservation Bank Agreement by and Between The City of San Diego, The California Department of Fish and Game, The United States Fish and Wildlife Service. July 17, 1997.

City of San Diego. 2012. San Diego Municipal Code Land Development Code—Biology Guidelines. Amended April 23, 2012.

City of San Diego. July 2016. California Environmental Quality Act Significance Determination Thresholds.

County of San Diego, 1998. Final Multiple Species Conservation Program (MSCP) Subregional Plan. Document No. 110921000. Prepared by Ogden. August 1998.

Depew, D., N. Basu, N. Burgess, L. Campbell, E. Devlin, P. Drevnick, C. Hammerschmidt, C. Murphy, M. Sandeinrich, and J. Wiener. 2012. Toxicity of dietary methylmercury to fish: Derivation of ecologically meaningful threshold concentrations. Environmental Toxicology and Chemistry 1-12.

Dillon, T., N. Beckvar, and J. Kern. 2010. Residue-based mercury dose-response in fish: An analysis using lethality-equivalent test endpoints. Environmental Toxicology and Chemistry 11: 2559-2565.

Dudek. September 2017. Biological Resources Report for the North City Project, City of San Diego, California PTS #499621. Prepared for: City of San Diego – Public Utilities Department.
Ericksen, Cylde, and Denton Belk. Fairy Shrimps of California's Puddles, Pools, and Playas. 1999. Mad River Press, Inc. 141 Carter Lane. Eureka, CA 95503. ISBN 0-916422-83-6.
Gehringer D. B., M. E. Finkelstein, K. H. Coale, M. Stephenson, and J. B. Geller. 2012. Assessing mercury exposure and biomarkers in Largemouth Bass (Micropterus salmoides) from a contaminated river system in California. Arch Environ Contam Toxicol 64:484–493. doi: http://dx.doi.org/10.1007/s00244-012-9838-4.

Glibert, P. M. 2012. Ecological stoichiometry and its implications for aquatic ecosystem sustainability. Curr. Opin. Environ. Sustain. 4: 272–277. doi: 10.1016/j.cosust.2012.05.009.
Hassett, R. P., B. Cardinale, L. B. Stabler, and J. J. Elser. 1997. Ecological stoichiometry of N and P in pelagic ecosystems: Comparison of lakes and oceans with emphasis on the zooplankton-phytoplankton interaction. Limnol. Oceanogr. 42(4): 649-662.

Helsel, D. R. and R. M. Hirsch. 2002. Statistical Methods in Water Resources, Book 4, Chapter A3. U.S. Geological Survey. 522 pp.

Karimi, R., C. Chen, P. Pickhardt, N. Fisher, and C. Folt. 2007. Stoichiometric controls of mercury dilution by growth. Proceedings of the National Academy of Sciences. 104(18): 7477-7482.

Lynn, S., and B. E. Kus. 2011. Distribution, abundance, and breeding activities of the least Bell's vireo along the San Diego River, California. 2011 Annual Data Summary. Prepared for the San Diego River Conservancy, San Diego, California.

Macneale, Kate H., Julann A. Spromberg, David H. Baldwin, and Nathaniel L. Scholz. March 31, 2014. *A model Comparison of Direct and Food Web-Mediated Impacts of Common Pesticides on Pacific Salmon.* https://doi.org/10.1371/journal.pone.0092436.

Office of Surface Mining Reclamation and Enforcement. December 31, 1996. Handbook of Western Reclamation Techniques.

South County Grassland Project – Best Management Practices Workshop. September 19, 2017. Presented by Travis Brooks.

State Water Resources Control Board. 2017. Draft Staff Report for Scientific Peer Review for the Amendment to the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Mercury Reservoir Provisions — Mercury TMDL and Implementation Program for Reservoirs. Statewide Mercury Control Program for Reservoirs. State Water Resources Control Board. Sacramento, CA. April 2017.

U.S. Fish and Wildlife Service. 1998. Draft Recovery plan for the least Bell's vireo. U.S. Fish and Wildlife Service, Portland, Or. 139 pp.

Water Quality Solutions. 2017. *Limnology and Detention Study for Miramar Reservoir.* Prepared for the City of San Diego.

Westerling A. L., H. G. Hidalgo, D. R. Cayan, T. W. Swetnam. July 6, 2006. 10.1126/science.1128834. www.sciencemag.org 313: 940-943.

Ylikarjula, J., M. Heino, and U. Dieckmann. 1999. Ecology and adaption of stunted growth in fish. Evolutionary Ecology 13:433-453.

Comment Letter B6

State of California – Natural Resources Agency
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EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

November 20, 2017

Mark Brunette, Senior Environmental Planner
City of San Diego Development Services Department
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DSDEAS@sandiego.gov

Subject: Comments on the Draft Environmental Impact Report for the Pure Water San Diego Program, North City Project EIR/EIS Project Number 499621; SCH# 2016081016

Dear Mr. Brunette:

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Draft Environmental Impact Report (DEIR) for the North City Pure Water Project (Pure Project). Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that the Department, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

The Department is California's Trustee Agency for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) The Department, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) It is also a policy of the State to preserve and enhance black bass population (Fish and G. Code, Chapter 7.3, §1740 et seq.). Similarly, for purposes of CEQA, the Department is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

The Department is also a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) The Department may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to the Department's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

The Department also administers the Natural Community Conservation Planning (NCCP) program. The City of San Diego (City) participates in the NCCP program by implementing its approved Multiple Species Conservation Program (MSCP) Subarea Plan (SAP).

The purpose of the Pure Project is to plan, design, construct, and operate the treatment and conveyance facilities necessary to produce 30 million gallons per day (MGD) of purified water, reduce dependence on imported water sources, increase the use of recycled water, reduce

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Conserving California's Wildlife Since 1870

Response to Comment Letter B6

California Department of Fish and Wildlife (CDFW)
Scott Cantrell
November 20, 2017

B6-1 Comment noted. Content is correct.

flows to the Point Loma Wastewater Treatment Plant, and exceed the target online dates for the first phase of the Pure Water Program Cooperative Agreement.

The Pure Project includes a variety of facilities located throughout the central coastal areas of San Diego County. Pure Project facilities are proposed in the North City geographic area. A new pure water facility and three pump stations would be located within the corporate boundaries of the City of San Diego. Proposed pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee, the community of Lakeside and other areas of unincorporated San Diego County, and federal lands within Marine Corps Air Station (MCAS) Miramar. Portions of the North City Project area fall within the City's MSCP and Multi-Habitat Planning Area (MHPA).

The new North City Pure Water Facility (NCPWF) would be located adjacent to the existing North City Water Reclamation Plant (NCWRP) site located at Eastgate Mall and Interstate 805. The NCPWF is proposed to be located on an undeveloped site north of Eastgate Mall. The North City Pure Water Pump Station (North City Pump Station) would also be located on this currently undeveloped site. Carroll Canyon is located immediately north of the NCPWF site. Upgrades would occur at the existing NCWRP in order to provide sufficient tertiary influent for the NCPWF as well as to connect the existing centrate line with the proposed brine line. Pump station and pipeline facilities would convey different types of flows to and from the treatment facilities. Tertiary treated water would be treated at the NCPWF; from there, purified water would be piped to the Miramar Reservoir or San Vicente Reservoir, where it would blend with impounded water and imported supplies. The water would then receive further treatment at a potable water treatment plant before being distributed as potable water.

The following components are included under the Pure Project:

Morena Pump Station and Pipelines
The Morena Pump Station and Wastewater Forcemain are proposed to deliver a maximum flow of 37.7 MGD of raw wastewater to the NCWRP, expanding the NCWRP's production capacity from 30 MGD to 52 MGD in dry weather conditions.

North City Water Reclamation Plant Expansion
Two North City Project Alternatives (Project Alternatives) are proposed. The Miramar Reservoir Alternative (Locally Preferred Alternative) would construct the NCPWF and would convey purified water to Miramar Reservoir. The San Vicente Reservoir Alternative would also construct the proposed NCPWF.

North City Pure Water Facility Influent Pump Station and Conveyance
The NCPWF Influent Pump Station would be constructed at the NCWRP and would convey tertiary effluent from the NCWRP to the NCPWF. The NCPWF Influent Pump Station would have a maximum capacity of 42.5 MGD to enable the NCPWF to produce a maximum of 34 MGD of purified water after accounting for recycle and other streams.

North City Pure Water Facility – Miramar Reservoir Alternative
The new NCPWF under the Miramar Reservoir Alternative (NCPWF-MR) would be located on the vacant 10-acre City-owned lot across Eastgate Mall to the north of the NCWRP. The NCPWF-MR would produce 34 MGD annual average daily flow (AADF) of purified water. A portion of the purified water would be returned to the NCWRP to reduce the total suspended solids concentration of the disinfected tertiary treated effluent to 1,000 milligrams per liter

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(mg/L), a level suitable for irrigation. Approximately 30 MGD AADF of purified water would be pumped to Miramar Reservoir.

North City Pure Water Conveyance System The North City Pure Water Conveyance System would transmit product water from the NCPWF-MR to Miramar Reservoir where it would be blended with the imported raw water in the Miramar Reservoir and receive additional treatment at the Miramar Wastewater Treatment Plant. The North City Pure Water Conveyance System consists of the North City Pure Water Pump Station (North City Pump Station), North City Pipeline, and the Pure Water Dechlorination Facility.

North City Renewable Energy Facility A new North City Renewable Energy Facility would be constructed in order to provide power to the expanded NCWRP as well as the new NCPWF and North City Pump Station. The new facility includes approximately 15.4 megawatts (MW) of new generation capacity. The 5 MW of existing power generation capacity already at NCWRP would remain.

Landfill Gas Pipeline The new North City Renewable Energy Facility would receive landfill gas from the City's Miramar Landfill gas collection system via a new 12-inch diameter pipeline. The approximately 15,885 linear feet alignment runs from the existing Miramar Landfill north along the western end of the MCAS Miramar property to the NCWRP site.

Metro Biosolids Center (MBC) Improvements The MBC site is currently developed with biosolids treatment facilities. MBC is located adjacent to the Miramar Landfill, north of State Route 52 and south of MCAS Miramar. MBC would be updated to accept increased biosolids thereby reducing the quantity of biosolids sent to the Point Loma Wastewater Treatment Plant.

Miramar Water Treatment Plant Improvements Under the Miramar Reservoir Alternative, purified water discharged into the Miramar Reservoir would be pumped via the existing Miramar Reservoir Pump Station to the Miramar Wastewater Treatment Plant for treatment and eventual distribution. Miramar Reservoir would receive approximately 30 MGD AADF of purified water on a more or less continuous basis. The Miramar Reservoir Pump Station would have to operate at roughly 30 MGD AADF to maintain the inflow/outflow balance in the reservoir.

North City Pure Water Facility – San Vicente Reservoir Alternative The new NCPWF under the San Vicente Reservoir Alternative (NCPWF-SVR) would be located on the vacant 10-acre City-owned lot across Eastgate Mall to the north of the NCWRP. The NCPWF-SVR would produce 31.4 MGD AADF of purified water. A portion of the purified water would be returned to the NCWRP to reduce the total dissolved solids concentration.

San Vicente Pipeline and Pump Stations Two pump stations would be required to convey purified water via the approximately 29-mile (154,775-linear-foot) San Vicente Pipeline to the San Vicente Reservoir. The North City Pump Station would be located on the southeast corner of the NCPWF site and would be the same as discussed above under the Miramar Reservoir Alternative. The San Vicente Pipeline would be designed for an average daily flow of 30 MGD with a minimum daily flow of 27 MGD and a maximum daily flow of 35 MGD.

The San Vicente Reservoir Alternative proposes three alternative pipeline terminus options: (1) San Vicente Pipeline - Tunnel Alternative Terminus; (2) San Vicente Pipeline - In-Reservoir Alternative Terminus; and (3) San Vicente Pipeline - Marina Alternative Terminus.

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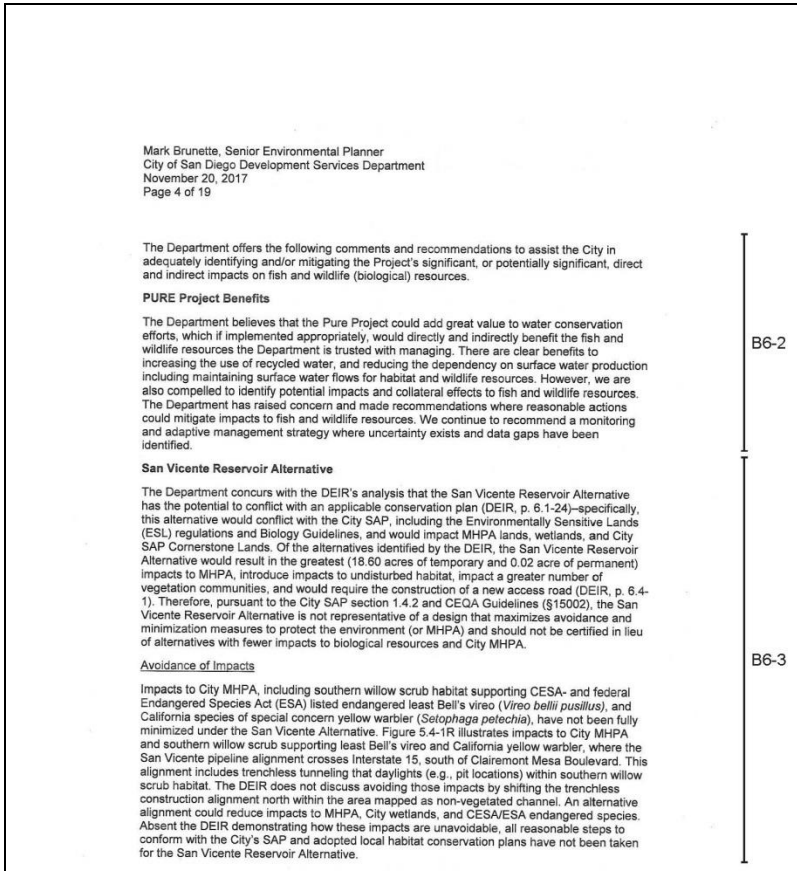

Mark Brunette, Senior Environmental Planner
City of San Diego Development Services Department
November 20, 2017
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The Department offers the following comments and recommendations to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

PURE Project Benefits

The Department believes that the Pure Project could add great value to water conservation efforts, which if implemented appropriately, would directly and indirectly benefit the fish and wildlife resources the Department is trusted with managing. There are clear benefits to increasing the use of recycled water, and reducing the dependency on surface water production including maintaining surface water flows for habitat and wildlife resources. However, we are also compelled to identify potential impacts and collateral effects to fish and wildlife resources. The Department has raised concern and made recommendations where reasonable actions could mitigate impacts to fish and wildlife resources. We continue to recommend a monitoring and adaptive management strategy where uncertainty exists and data gaps have been identified.

B6-2

San Vicente Reservoir Alternative

The Department concurs with the DEIR's analysis that the San Vicente Reservoir Alternative has the potential to conflict with an applicable conservation plan (DEIR, p. 6.1-24)–specifically, this alternative would conflict with the City SAP, including the Environmentally Sensitive Lands (ESL) regulations and Biology Guidelines, and would impact MHPA lands, wetlands, and City SAP Cornerstone Lands. Of the alternatives identified by the DEIR, the San Vicente Reservoir Alternative would result in the greatest (18.60 acres of temporary and 0.02 acre of permanent) impacts to MHPA, introduce impacts to undisturbed habitat, impact a greater number of vegetation communities, and would require the construction of a new access road (DEIR, p. 6.4-1). Therefore, pursuant to the City SAP section 1.4.2 and CEQA Guidelines (§15002), the San Vicente Reservoir Alternative is not representative of a design that maximizes avoidance and minimization measures to protect the environment (or MHPA) and should not be certified in lieu of alternatives with fewer impacts to biological resources and City MHPA.

Avoidance of Impacts

Impacts to City MHPA, including southern willow scrub habitat supporting CESA- and federal Endangered Species Act (ESA) listed endangered least Bell's vireo (*Vireo bellii pusillus)*, and California species of special concern yellow warbler (*Setophaga petechia*), have not been fully minimized under the San Vicente Alternative. Figure 5.4-1R illustrates impacts to City MHPA and southern willow scrub supporting least Bell's vireo and California yellow warbler, where the San Vicente pipeline alignment crosses Interstate 15, south of Clairemont Mesa Boulevard. This alignment includes trenchless tunneling that daylights (e.g., pit locations) within southern willow scrub habitat. The DEIR does not discuss avoiding those impacts by shifting the trenchless construction alignment north within the area mapped as non-vegetated channel. An alternative alignment could reduce impacts to MHPA, City wetlands, and CESA/ESA endangered species. Absent the DEIR demonstrating how these impacts are unavoidable, all reasonable steps to conform with the City's SAP and adopted local habitat conservation plans have not been taken for the San Vicente Reservoir Alternative.

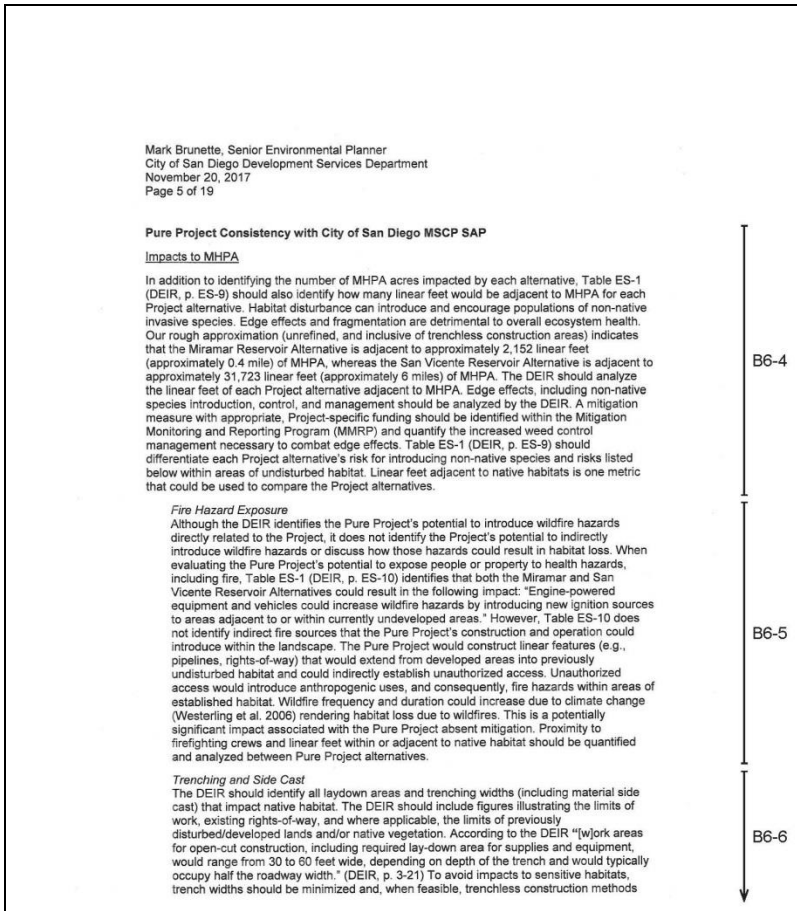
B6-3

B6-2 The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

B6-3 The comment is noted that CDFW concurs with the Draft EIR/EIS land use analysis for the San Vicente Reservoir Alternative. The San Vicente Reservoir Alternative has avoided impacts to the extent feasible but would still have greater impacts to biological resources than the Miramar Reservoir Alternative. CDFW's preference for the San Vicente Reservoir Alternative to not be selected by the City is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. Trenchless technology has been included in the San Vicente Reservoir Alternative's design to reduce impacts where feasible; however, there exist several engineering constraints limiting additional avoidance. These include:

- the infeasibility of trenchless technology—there are limitations on the length of tunneling and change in direction, which

	requires an intermediate pit and hence results in environmental impacts. • known utility conflicts. • the nature of this Project alternative (it must discharge water at San Vicente Reservoir). In addition, there are constraints from the California Department of Transportation (Caltrans), which restricts parallel encroachments, and Caltrans encroachment requirements for perpendicular utilities requiring that utilities cross at right angles to their facilities, rather than diagonally. Further, the City is limited to areas of public access, and private property must be avoided. Therefore, given the constraints listed above, it is infeasible for the San Vicente Reservoir Alternative to completely avoid all impacts to the Multi-Habitat Planning Area (MHPA) and City wetlands.



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Pure Project Consistency with City of San Diego MSCP SAP

Impacts to MHPA

In addition to identifying the number of MHPA acres impacted by each alternative, Table ES-1 (DEIR, p. ES-9) should also identify how many linear feet would be adjacent to MHPA for each Project alternative. Habitat disturbance can introduce and encourage populations of non-native invasive species. Edge effects and fragmentation are detrimental to overall ecosystem health. Our rough approximation (unrefined, and inclusive of trenchless construction areas) indicates that the Miramar Reservoir Alternative is adjacent to approximately 2,152 linear feet (approximately 0.4 mile) of MHPA, whereas the San Vicente Reservoir Alternative is adjacent to approximately 31,723 linear feet (approximately 6 miles) of MHPA. The DEIR should analyze the linear feet of each Project alternative adjacent to MHPA. Edge effects, including non-native species introduction, control, and management should be analyzed by the DEIR. A mitigation measure with appropriate, Project-specific funding should be identified within the Mitigation Monitoring and Reporting Program (MMRP) and quantify the increased weed control management necessary to combat edge effects. Table ES-1 (DEIR, p. ES-9) should differentiate each Project alternative's risk for introducing non-native species and risks listed below within areas of undisturbed habitat. Linear feet adjacent to native habitats is one metric that could be used to compare the Project alternatives.

B6-4

Fire Hazard Exposure
Although the DEIR identifies the Pure Project's potential to introduce wildfire hazards directly related to the Project, it does not identify the Project's potential to indirectly introduce wildfire hazards or discuss how those hazards could result in habitat loss. When evaluating the Pure Project's potential to expose people or property to health hazards, including fire, Table ES-1 (DEIR, p. ES-10) identifies that both the Miramar and San Vicente Reservoir Alternatives could result in the following impact: "Engine-powered equipment and vehicles could increase wildfire hazards by introducing new ignition sources to areas adjacent to or within currently undeveloped areas." However, Table ES-10 does not identify indirect fire sources that the Pure Project's construction and operation could introduce within the landscape. The Pure Project would construct linear features (e.g., pipelines, rights-of-way) that would extend from developed areas into previously undisturbed habitat and could indirectly establish unauthorized access. Unauthorized access would introduce anthropogenic uses, and consequently, fire hazards within areas of established habitat. Wildfire frequency and duration could increase due to climate change (Westerling et al. 2006) rendering habitat loss due to wildfires. This is a potentially significant impact associated with the Pure Project absent mitigation. Proximity to firefighting crews and linear feet within or adjacent to native habitat should be quantified and analyzed between Pure Project alternatives.

B6-5

Trenching and Side Cast
The DEIR should identify all laydown areas and trenching widths (including material side cast) that impact native habitat. The DEIR should include figures illustrating the limits of work, existing rights-of-way, and where applicable, the limits of previously disturbed/developed lands and/or native vegetation. According to the DEIR "[w]ork areas for open-cut construction, including required lay-down area for supplies and equipment, would range from 30 to 60 feet wide, depending on depth of the trench and would typically occupy half the roadway width." (DEIR, p. 3-21) To avoid impacts to sensitive habitats, trench widths should be minimized and, when feasible, trenchless construction methods

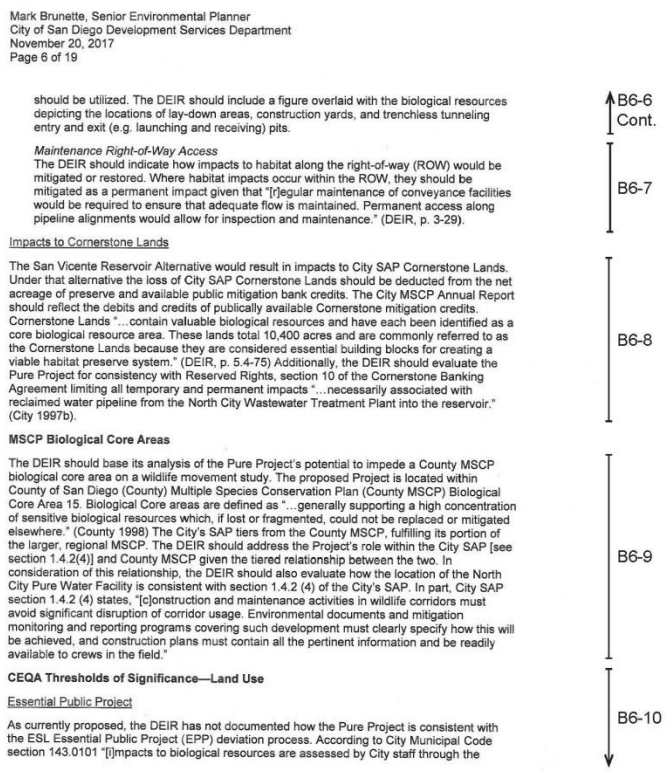
B6-6

B6-4 The only areas where the Miramar Reservoir Alternative has impacts adjacent to the MHPA are within existing developed roads or within an existing development (Miramar Water Treatment Plant). The majority of the impacts to the MHPA from the San Vicente Reservoir Alternative are also within existing developed roads (15.67 acres of a total of 18.62 acres). Only temporary impacts under the San Vicente Reservoir Alternative occur within sensitive habitat areas (see Table 4-21 in Appendix C of the Draft EIR/EIS), and those will be restored to preexisting conditions as stated in MM-BIO-2 in Section 5.1 of Appendix C. Additionally, mitigation measure MM-BIO-10 in Section 5.5 of Appendix C of the Draft EIR/EIS outlines the avoidance and minimization measures that will be applied to areas adjacent to the MHPA. Therefore, edge effects are not anticipated from either Project alternative. See Section 4.1.1 MSCP Consistency Analysis in Appendix C, for details regarding the North City Project compliance with the MSCP Land Use Adjacency Guidelines.

B6-5 As stated in Section 6.9.3 of the Draft EIR/EIS, brush management would occur at all facilities in accordance with Section 142.0412 of the San

	Diego Municipal Code, where feasible and required (i.e., where sufficient space between the structure and property boundary exist). Implementation of brush management would ensure no adverse impacts related to wildlife hazards from operation of either Project alternative. In addition, as stated in MM-HAZ-1 in Section 6.9.3.3 of the Draft EIR/EIS, a Construction Fire Prevention/Protection Plan shall be prepared prior to the construction of the North City Project. Construction within or immediately adjacent to areas of dense foliage during periods of low humidity and/or high winds (Red Flag Warning periods) shall be prohibited. During all other non-Red Flag Warning periods, necessary brush fire prevention and management practices shall be incorporated and shall address common construction-related ignition prevention and hot-works (any spark-, heat-, or flame-producing activity) policies, as well as necessary fire prevention equipment to be on site during all construction activities. Unauthorized access of pipelines or Project components is not anticipated. The majority of impacts will occur within existing roads and facilities, and the only impacts to open space is

		within Marine Corps Air Station (MCAS) Miramar from the Landfill Gas (LFG) Pipeline. Since impacts from the LFG Pipeline will parallel an existing City right-of-way through MCAS Miramar, which is not intended for public use, and due to the existing fencing and gated entry surrounding MCAS Miramar, the City believes that unauthorized access resulting in wildfires and hence impacts to sensitive species is a remote possibility and therefore speculative, and disagrees that a potentially significant impact could result.
	B6-6	As stated in Section 4 of Appendix C, the North City Project has been designed to occur primarily within developed or previously disturbed areas. Access to Project components would be through existing roads, and only one new access road would be constructed as a part of the San Vicente Reservoir Alternative. In order to avoid and/or minimize impacts to sensitive biological resources to the furthest extent possible, Project refinements were made where Project components overlapped those resources. In areas where the pipeline alignment crosses sensitive resources, the pipeline would be constructed using trenchless



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should be utilized. The DEIR should include a figure overlaid with the biological resources depicting the locations of lay-down areas, construction yards, and trenchless tunneling entry and exit (e.g. launching and receiving) pits.

Maintenance Right-of-Way Access
The DEIR should indicate how impacts to habitat along the right-of-way (ROW) would be mitigated or restored. Where habitat impacts occur within the ROW, they should be mitigated as a permanent impact given that "[r]egular maintenance of conveyance facilities would be required to ensure that adequate flow is maintained. Permanent access along pipeline alignments would allow for inspection and maintenance." (DEIR, p. 3-29).

Impacts to Cornerstone Lands

The San Vicente Reservoir Alternative would result in impacts to City SAP Cornerstone Lands. Under that alternative the loss of City SAP Cornerstone Lands should be deducted from the net acreage of preserve and available public mitigation bank credits. The City MSCP Annual Report should reflect the debits and credits of publically available Cornerstone mitigation credits. Cornerstone Lands "…contain valuable biological resources and have each been identified as a core biological resource area. These lands total 10,400 acres and are commonly referred to as the Cornerstone Lands because they are considered essential building blocks for creating a viable habitat preserve system." (DEIR, p. 5.4-75) Additionally, the DEIR should evaluate the Pure Project for consistency with Reserved Rights, section 10 of the Cornerstone Banking Agreement limiting all temporary and permanent impacts "…necessarily associated with reclaimed water pipeline from the North City Wastewater Treatment Plant into the reservoir." (City 1997b).

MSCP Biological Core Areas

The DEIR should base its analysis of the Pure Project's potential to impede a County MSCP biological core area on a wildlife movement study. The proposed Project is located within County of San Diego (County) Multiple Species Conservation Plan (County MSCP) Biological Core Area 15. Biological Core areas are defined as "…generally supporting a high concentration of sensitive biological resources which, if lost or fragmented, could not be replaced or mitigated elsewhere." (County 1998) The City's SAP tiers from the County MSCP, fulfilling its portion of the larger, regional MSCP. The DEIR should address the Project's role within the City SAP [see section 1.4.2(4)] and County MSCP given the tiered relationship between the two. In consideration of this relationship, the DEIR should also evaluate how the location of the North City Pure Water Facility is consistent with section 1.4.2 (4) of the City's SAP. In part, City SAP section 1.4.2 (4) states, "[c]onstruction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field."

CEQA Thresholds of Significance—Land Use

Essential Public Project

As currently proposed, the DEIR has not documented how the Pure Project is consistent with the ESL Essential Public Project (EPP) deviation process. According to City Municipal Code section 143.0101 "[i]mpacts to biological resources are assessed by City staff through the

B6-6 Cont.

B6-7

B6-8

B6-9

B6-10

construction methods such as auger boring/auger jack and bore, micro-tunneling, or horizontal directional drilling. These methods are applied to areas where sensitive biological resources occur, as well as to heavily congested areas or to cross-controlled access freeway and railroad crossings where open cut is not allowed. Figures 4-2A through 4-3R in Appendix C show the limits of work, trenchless construction areas, existing rights-of-way, and vegetation communities and land covers. The limits of work shown on Figures 4-2A through 4-3R includes all work areas associated with the open-cut construction and lay-down or staging areas used for supplies and equipment.

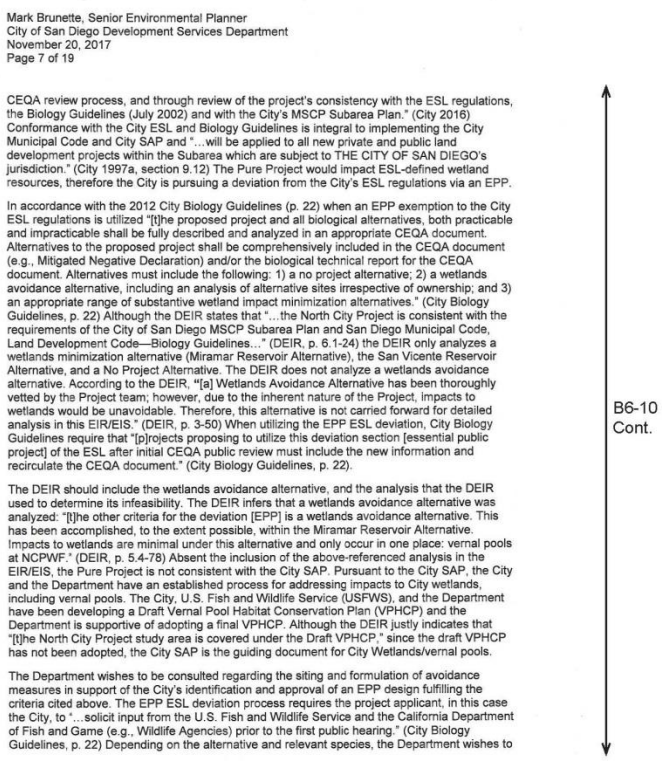
B6-7 Impacts to sensitive vegetation or jurisdictional resources from the construction of the North City Project would be minimal as the majority of the construction would occur existing developed lands, including along existing roads and facilities. Temporary construction impacts to sensitive vegetation or jurisdictional resources will be revegetated in accordance with the San Diego Municipal Code, Land Development Code—Biology Guidelines and the San Diego Municipal Code, Land

		Development Code—Landscape Standards as outlined in MM-BIO-2 in Section 6.4.3.3 of the Draft EIR/EIS. Also, as stated in Section 3.5.2 of the Draft EIR/EIS, regular maintenance of conveyance facilities would be required to ensure that adequate flow is maintained. Permanent access along pipeline alignments would allow for inspection and maintenance. Access would be attained through use of existing public streets or existing access roads; no impacts to sensitive vegetation or jurisdictional resources are anticipated from routine inspections and maintenance.
	B6-8	The comment is noted. As stated in Section 1.3.4 of Appendix C and the City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan, the San Diego City Charter restricts the use and disposition of Water Utility assets and thus the Water Fund must be compensated for any title restrictions placed on the Cornerstone Lands. To meet the policy objectives of the MSCP and comply with the City Charter, the City of San Diego entered into a Conservation Land Bank Agreement with the Wildlife Agencies for the Cornerstone Lands. The land surrounding and encompassing the

		San Vicente Dam is identified as Cornerstone Lands. However, areas that are excluded from the MHPA (and Cornerstone Lands designation) in order to provide for current and future requirements of the Public Utilities Department include the existing San Vicente Reservoir and dam, and all lands within 300 feet horizontally from the ultimate high water level (City of San Diego 1997). If the San Vicente Reservoir Alternative is implemented, impacts to the City's Cornerstone Lands from the San Vicente Pipeline would be temporary and belowground. The nature of this impact does not represent a "take" of Cornerstone Lands and therefore does not necessitate the deduction of acres or credits in the Cornerstone Bank. Furthermore, if the San Vicente Reservoir is selected, due to the comparatively small amount of purified water that would be added to the San Vicente Reservoir when compared to the entire San Vicente Reservoir itself, no limnological effects to the reservoir are anticipated.
	B6-9	As stated in Section 4.2.4 of Appendix C of the Draft EIR/EIS, the North City Pure Water Facility (NCPWF) and associated components, which

	are located just north of the expansion, would impact native habitat within Biological Core Area 15. This area is highly constrained by surrounding development such as Interstate (I-) 805, a small substation, commercial facilities, and the existing reclamation plant. The entire site is currently fenced, creating a barrier for wildlife movement (refer to Figure B6-1, Wildlife Movement Corridors for the Pure Water Project). The site itself supports limited movement and live-in habitat for smaller wildlife species. Habitat to the north of the proposed NCPWF would remain for such species to utilize. The area immediately south of the NCPWF site, within MCAS Miramar, would still be accessible after the development of the NCPWF through the use of the utility corridor to the east of the NCPWF. However, the Veteran's Administration (VA) Miramar National Cemetery currently contains an 8-foot-tall chain-link fence topped with barbed wire along Miramar Road, preventing connectivity to the NCPWF site. Therefore, construction of the NCPWF would not result in any changes to the existing corridor usage of Biological Core Area 15. Furthermore, the core and linkages map was established by the San

	Diego County MSCP and as stated in Section 2.2 of the County MSCP: > The core and linkages map was developed as an analytical tool to assist in testing preserve design criteria and levels of species conservation. It is not a regulatory map…While the entire acreage within a core area may not be important for preservation, the core and linkage configuration assists in visualizing a framework for a regional preserve network. Jurisdictions and other agencies prepared subarea plans with specific preserve boundaries by maximizing inclusion of unfragmented core resource areas and linkages in their preserve designs, given other parameters and objectives…Although this map was used to identify important biological areas and linkages, the habitat evaluation map is not intended to replace site-specific field survey data and evaluations.



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CEQA review process, and through review of the project's consistency with the ESL regulations, the Biology Guidelines (July 2002) and with the City's MSCP Subarea Plan." (City 2016) Conformance with the City ESL and Biology Guidelines is integral to implementing the City Municipal Code and City SAP and "…will be applied to all new private and public land development projects within the Subarea which are subject to THE CITY OF SAN DIEGO's jurisdiction." (City 1997a, section 9.12) The Pure Project would impact ESL-defined wetland resources, therefore the City is pursuing a deviation from the City's ESL regulations via an EPP.

In accordance with the 2012 City Biology Guidelines (p. 22) when an EPP exemption to the City ESL regulations is utilized "[t]he proposed project and all biological alternatives, both practicable and impracticable shall be fully described and analyzed in an appropriate CEQA document. Alternatives to the proposed project shall be comprehensively included in the CEQA document (e.g., Mitigated Negative Declaration) and/or the biological technical report for the CEQA document. Alternatives must include the following: 1) a no project alternative; 2) a wetlands avoidance alternative, including an analysis of alternative sites irrespective of ownership; and 3) an appropriate range of substantive wetland impact minimization alternatives." (City Biology Guidelines, p. 22) Although the DEIR states that "…the North City Project is consistent with the requirements of the City of San Diego MSCP Subarea Plan and San Diego Municipal Code, Land Development Code—Biology Guidelines…" (DEIR, p. 6.1-24) the DEIR only analyzes a wetlands minimization alternative (Miramar Reservoir Alternative), the San Vicente Reservoir Alternative, and a No Project Alternative. The DEIR does not analyze a wetlands avoidance alternative. According to the DEIR, "[a] Wetlands Avoidance Alternative has been thoroughly vetted by the Project team; however, due to the inherent nature of the Project, impacts to wetlands would be unavoidable. Therefore, this alternative is not carried forward for detailed analysis in this EIR/EIS." (DEIR, p. 3-50) When utilizing the EPP ESL deviation, City Biology Guidelines require that "[p]rojects proposing to utilize this deviation section [essential public project] of the ESL after initial CEQA public review must include the new information and recirculate the CEQA document." (City Biology Guidelines, p. 22).

The DEIR should include the wetlands avoidance alternative, and the analysis that the DEIR used to determine its infeasibility. The DEIR infers that a wetlands avoidance alternative was analyzed: "[t]he other criteria for the deviation [EPP] is a wetlands avoidance alternative. This has been accomplished, to the extent possible, within the Miramar Reservoir Alternative. Impacts to wetlands are minimal under this alternative and only occur in one place: vernal pools at NCPWF." (DEIR, p. 5.4-78) Absent the inclusion of the above-referenced analysis in the EIR/EIS, the Pure Project is not consistent with the City SAP. Pursuant to the City SAP, the City and the Department have an established process for addressing impacts to City wetlands, including vernal pools. The City, U.S. Fish and Wildlife Service (USFWS), and the Department have been developing a Draft Vernal Pool Habitat Conservation Plan (VPHCP) and the Department is supportive of adopting a final VPHCP. Although the DEIR justly indicates that "[t]he North City Project study area is covered under the Draft VPHCP," since the draft VPHCP has not been adopted, the City SAP is the guiding document for City Wetlands/vernal pools.

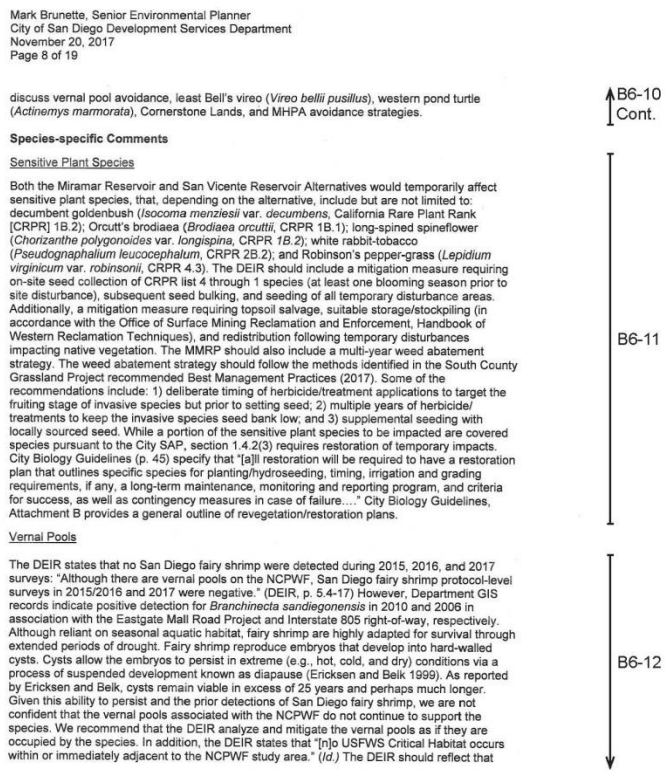
The Department wishes to be consulted regarding the siting and formulation of avoidance measures in support of the City's identification and approval of an EPP design fulfilling the criteria cited above. The EPP ESL deviation process requires the project applicant, in this case the City, to "…solicit input from the U.S. Fish and Wildlife Service and the California Department of Fish and Game (e.g., Wildlife Agencies) prior to the first public hearing." (City Biology Guidelines, p. 22) Depending on the alternative and relevant species, the Department wishes to

B6-10 Cont.

Therefore, since the City of San Diego has developed the City Subarea Plan with specific preserve boundaries and the NCPWF site is outside these preserve areas (MHPA), and construction of the NCPWF would not result in any changes to the existing corridor usage, no significant impacts to Biological Core Area 15 are expected from Project implementation. Mitigation measure MM-BIO-10 in the Draft EIR/EIS, which contains the measures that will be included in the design and construction documents for each Project component to reduce potential impacts to sensitive resources, will be implemented.

B6-10 As stated in Section 4.1.2 in Appendix C and Section 6.4.8.1 of the Draft EIR/EIS, the North City Project meets the definition of an Essential Public Project as identified in Section IV of the City's Biology Guidelines, in that it is a utility project which will serve the community at large and is not just a single development project or property. Because the North City Project is an Essential Public Project, deviations from the wetland requirements in the Environmentally Sensitive Lands Regulations will be considered only if all of the criteria listed within Section III

	(page 22) of the City's Biology Guidelines are met. However, as stated in Section 1.3.4 of Appendix C, the North City Project is a covered project under the City of San Diego Vernal Pool Habitat Conservation Plan (VPHCP), which was adopted in January 2018. Upon adoption of the VPHCP, a deviation from wetland requirements in environmentally sensitive lands is no longer required for impacts to vernal pools outside the MHPA provided that mitigation is consistent with the VPHCP. Since the vernal pools on the NCPWF are outside the MHPA and will be mitigated in accordance with the VPHCP requirements, the North City Project meets the requirements for impacts to vernal pools under the VPHCP. The City's Biology Guidelines (page 22) state that "the project applicant will solicit input from the U.S. Fish and Wildlife Service and the California Department of Fish and Game (e.g., Wildlife Agencies) prior to the first public hearing." The first public hearing has yet to occur. However, the City has met with CDFW and the U.S. Fish and Wildlife Service (USFWS) on numerous occasions to disclose and discuss all Project impacts; those dates include



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discuss vernal pool avoidance, least Bell's vireo (*Vireo bellii pusillus*), western pond turtle (*Actinemys marmorata*), Cornerstone Lands, and MHPA avoidance strategies.

B6-10 Cont.

Species-specific Comments

Sensitive Plant Species

Both the Miramar Reservoir and San Vicente Reservoir Alternatives would temporarily affect sensitive plant species, that, depending on the alternative, include but are not limited to: decumbent goldenbush (*Isocoma menziesii* var. *decumbens*, California Rare Plant Rank [CRPR] 1B.2); Orcutt's brodiaea (*Brodiaea orcuttii*, CRPR 1B.1); long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*, CRPR *1B.2*); white rabbit-tobacco (*Pseudognaphalium leucocephalum*, CRPR 2B.2); and Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*, CRPR 4.3). The DEIR should include a mitigation measure requiring on-site seed collection of CRPR list 4 through 1 species (at least one blooming season prior to site disturbance), subsequent seed bulking, and seeding of all temporary disturbance areas. Additionally, a mitigation measure requiring topsoil salvage, suitable storage/stockpiling (in accordance with the Office of Surface Mining Reclamation and Enforcement, Handbook of Western Reclamation Techniques), and redistribution following temporary disturbances impacting native vegetation. The MMRP should also include a multi-year weed abatement strategy. The weed abatement strategy should follow the methods identified in the South County Grassland Project recommended Best Management Practices (2017). Some of the recommendations include: 1) deliberate timing of herbicide/treatment applications to target the fruiting stage of invasive species but prior to setting seed; 2) multiple years of herbicide/ treatments to keep the invasive species seed bank low; and 3) supplemental seeding with locally sourced seed. While a portion of the sensitive plant species to be impacted are covered species pursuant to the City SAP, section 1.4.2(3) requires restoration of temporary impacts. City Biology Guidelines (p. 45) specify that "[a]ll restoration will be required to have a restoration plan that outlines specific species for planting/hydroseeding, timing, irrigation and grading requirements, if any, a long-term maintenance, monitoring and reporting program, and criteria for success, as well as contingency measures in case of failure…." City Biology Guidelines, Attachment B provides a general outline of revegetation/restoration plans.

B6-11

Vernal Pools

The DEIR states that no San Diego fairy shrimp were detected during 2015, 2016, and 2017 surveys: "Although there are vernal pools on the NCPWF, San Diego fairy shrimp protocol-level surveys in 2015/2016 and 2017 were negative." (DEIR, p. 5.4-17) However, Department GIS records indicate positive detection for *Branchinecta sandiegonensis* in 2010 and 2006 in association with the Eastgate Mall Road Project and Interstate 805 right-of-way, respectively. Although reliant on seasonal aquatic habitat, fairy shrimp are highly adapted for survival through extended periods of drought. Fairy shrimp reproduce embryos that develop into hard-walled cysts. Cysts allow the embryos to persist in extreme (e.g., hot, cold, and dry) conditions via a process of suspended development known as diapause (Ericksen and Belk 1999). As reported by Ericksen and Belk, cysts remain viable in excess of 25 years and perhaps much longer. Given this ability to persist and the prior detections of San Diego fairy shrimp, we are not confident that the vernal pools associated with the NCPWF do not continue to support the species. We recommend that the DEIR analyze and mitigate the vernal pools as if they are occupied by the species. In addition, the DEIR states that "[n]o USFWS Critical Habitat occurs within or immediately adjacent to the NCPWF study area." *(Id.)* The DEIR should reflect that

B6-12

the following: November 14, 2016, for the Pure Water Project Presentation with the Regional Water Quality Control Board (RWQCB), CDFW, and the City; February 14, 2017, for a pre-application meeting with RWQCB, CDFW, U.S. Army Corps of Engineers (ACOE), and the City; June 9, 2017, Miramar Reservoir and Pure Water with CDFW and the City; July 16, 2017, MHPA Boundary Line Adjustment with CDFW, USFWS, and the City; August 3, 2017, Pure Water Project Studies and Modeling with RWQCB, CDFW, and the City; and September 20, 2017, Summary of Pure Water Analysis Results specific to Miramar Reservoir with RWQCB, CDFW, and the City. The City has and will continue to coordinate with CDFW on this and all biology issues.

B6-11 Per the San Diego Municipal Code, Land Development Code—Biology Guidelines, securing comparable habitat at the required ratio would mitigate for the direct impacts to most sensitive species. No species with very limited geographic ranges (narrow endemic species) would be impacted by the Project. Therefore, significant direct impacts to sensitive plant species would be mitigated or restored to

		a less-than-significant level through implementation of habitat enhancement, restoration, and preservation, as described in the SANDER Mitigation Plan (Appendix R of Appendix C of the Draft EIR/EIS), the Conceptual Native Grassland Creation Mitigation Plan (Appendix S of Appendix C), and the Conceptual Revegetation Plan (Appendix P of Appendix C) (see Sections 6.4.3.3 and 6.4.5.3 of the Draft EIR/EIS for details on mitigation). The Conceptual Revegetation Plan (Appendix P of Appendix C) outlines the topsoil salvaging, weed control, and irrigation for all temporary impact areas as directed by the San Diego Municipal Code, Land Development Code—Landscape Standards.
	B6-12	Comment is correct; the Draft EIR/EIS states that surveys completed recently (2015/2016 and 2017) concluded that the NCPWF site is not occupied by San Diego fairy shrimp (*Branchinecta sandiegonensis*). In 2016, the City contacted the USFWS for any previous survey reports completed on the NCPWF; however, no known survey data for the NCPWF site was available at that time. At the preliminary consultation between the Bureau of Reclamation and USFWS regarding the Pure

	Water North City Project, on November 14, 2017, USFWS provided the City with survey reports for vernal pool branchiopods from 2001 and 2006. The comment incorrectly states that there were surveys conducted on the NCPWF site in 2010; it should state 2001 and 2006. Although neither the 2001 or the 2006 survey efforts meet the requirements for a complete survey according to USFWS survey protocol (i.e., sampling did not take place across an entire wet season, and surveys were not conducted within a 3-year period), the survey reports from 2001 and 2006 state that San Diego fairy shrimp occurred in two pools (V2 and 33) on the NCPWF site (Figure B6-2, North City Pure Water Facility – Vernal Pool Resources). Pool V2 was found to be occupied by San Diego fairy shrimp in 2001. Pool V2 was not surveyed during the 2015/2016 wet season because it did not inundate nor was it recorded as a potential pool in 2017 even though both 2015/2016 and 2017 were larger rainfall years than in 2000/2001. Dudek biologist Paul Lemons (TE-051248-5) conducted a site visit on December 7, 2017, to document the current conditions of pool V2. The pool is located within the northern part of the dirt

	road that runs through the site. It is not anticipated that this area will pond due to the slope of the road and existing cover of vegetation. It is likely that off-roading activity may have changed the site and damaged this pool so that it no longer exists. Pool 33, was considered occupied by San Diego fairy shrimp in 2006; occurs within PW56, which was surveyed during 2015/2016; and only versatile fairy shrimp was observed during both the wet and dry season surveys. Additionally, a collection effort for the genetic testing of versatile fairy shrimp (*Branchinecta lindahli)* (Bohonak 2004; Appendix H of the 2002/2003 Vernal Pool Inventory) was completed within Pueblo 2, which also overlaps PW56. According to Andrew Bohonak, author of the genetic testing report, San Diego fairy shrimp does not occur within this pool. Versatile fairy shrimp is known to occur in disturbed sites, and the continual disturbance of off-roading vehicles has increased the distribution of the species in San Diego County (USFWS 2008). Hybridization or competition between species, depletion of the San Diego fairy shrimp cyst bank, replacement by versatile fairy shrimp, sample contamination, or misidentification of one or

	more samples are all possible explanations for the apparent discrepancy or possible elimination of San Diego fairy shrimp within this pool (USFWS 2008). The City disagrees that the vernal pools in question should be analyzed and mitigated as if they are occupied by San Diego fairy shrimp. Based on the most current survey results (2015/2016 and 2017, Appendix B and Appendix H of Appendix C of the Draft EIR/EIS), which were the only complete protocol-level surveys conducted on the NCPWF site, there are no federally listed vernal pool branchiopod species occurring within the NCPWF site. Mitigation will occur at a 2:1 ratio as required by the San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012), since the results of the most recent surveys concluded that no listed species are present. This 2:1 mitigation ratio is also consistent with the VPHCP, which fixed the ratio at 2:1 for the vernal pools on the NCPWF site regardless of the presence of San Diego fairy shrimp (City of San Diego 2017d). Furthermore, although the exact acreage for the 2001 and 2006 vernal pool surveys is

	unknown, the survey reports only provide latitude/longitude and do not provide geometry; it can be assumed based on the number of pools and substantially less rainfall during those years that the current acreage (0.38 acre) is considerably higher. Additionally, of the 15 total 2001 and 2006 pools, 5 pools overlap the current mapping and are therefore accounted for in the current total, and the remaining 10 pools were not observed during 2017, which was a record rain year. Comment is incorrect in stating that UFSWS Critical Habitat Occurs within MCAS Miramar. As stated in Section 1.3.1 in Appendix C, MCAS Miramar is exempt from the Critical Habitat designations due to MCAS Miramar having a legally operative integrated natural resources management plan. The City provided a CD containing the 2015/2016 Wet Season Fairy Shrimp Survey Report (Appendix B of Appendix C) and 2017 Dry Season Fairy Shrimp Sampling Results (Appendix H of Appendix C) to CDFW on September 20, 2017. Additionally, all appendices were available upon request as

USFWS Critical Habitat for San Diego fairy shrimp exists on MCAS Miramar property to the southeast of the proposed NCPWF.

Copies of the 2016/2017 Wet Season Fairy Shrimp Survey Report or the 2017 Dry Season Fairy Shrimp Sampling Results (Appendix G and H respectively of the Biological Technical Report) were not circulated with the DEIR. If versatile fairy shrimp (*Branchinecta lindahli)* were found within the NCPWTF, the DEIR should include a mitigation measure to prevent the transport of *B. lindahli* cysts from the NCPWTF to areas (e.g., MCAS Miramar) that have vernal pools containing *B. sandiegonensis* as the two species are known to hybridize (Bohonak and Simovich 2017). For San Diego fairy shrimp (known at the Sanders mitigation site, within the alignment of the Landfill Gas Pipeline, and MCAS Miramar), "…the most critical current management issues involve maintaining adaptive potential, as well as the integrity of the species itself. Previous research has demonstrated that human-induced homogenization of the vernal landscape has negative consequences for recovery, including 1) artificially increasing intraspecific gene flow, and 2) hybridization of *B. sandiegonensis* with the more common versatile fairy shrimp…." (Bohonak and Simovich 2017) The City SAP Species Evaluation Table 3-5 includes requirements for area-specific management directives (ASMDs) to include "…specific management measures to protect against detrimental edge effects…" to *B. sandiegonensis* and *Streptocephalus woottoni.* City Biology Guidelines provide guidance for processing development projects. The Mitigation Program (Page 48 of the Biology Guidelines) for such projects "…should identify how the objectives of the City's MSCP Preserve Management recommendations will be met for the area, as well as provide any additional management recommendations resulting from site-specific information *(*area specific management directives)." Accordingly, it is appropriate for the DEIR to include mitigation measures and ASMDs to prevent the introduction of *B. lindahli* to vernal pools where they do not already occur.

B6-12 Cont.

Least Bell's Vireo

The DEIR's Environmental Analysis Section 6.4.5.1 (Impacts to Sensitive Species) should be revised to reflect the nature and duration of impacts to least Bell's vireo occurrences within the impact limits of the San Vicente Reservoir Alternative. In addition, the MSCP discussion for section 6.4.5.1 should clarify that the City does not have coverage for take (Fish and G. Code § 86) of listed wetland species (e.g., least Bell's vireo) within federal jurisdictional waters (City Biology Guidelines, p. 9). The DEIR states that "[t]here are two sensitive wildlife species occurring within the impact limits of the San Vicente Pipeline: least Bell's vireo and California gnatcatcher. The least Bell's vireo was observed within southern willow scrub east of I-15 and south of Clairemont Mesa Boulevard. This species occurs in the MHPA. Impacts to suitable habitat for this species total approximately 0.5 acre." (DEIR, p. 6.4-65) Habitat loss is considered one of the "…most serious threats to the recovery of the least Bell's vireo" (USFWS, 1998) and "…a major determinant of vireo productivity and abundance…." (Lynn and Kus 2011) Although the DEIR, under the San Vicente Reservoir Alternative, identifies a potentially significant impact to suitable least Bell's vireo habitat, it does not document why trenchless construction pit locations were not shifted north to avoid affecting least Bell's vireo occupied southern willow scrub habitat (see DEIR Figure 5.4-1R). In addition, the DEIR should describe why impacts to designated least Bell's vireo habitat is not avoided: "[t]he San Vicente Pipeline would temporarily impact 6.15 acres of Critical Habitat for least Bell's vireo. The majority of impacts would occur within 5.35 acres of developed land due to the Critical Habitat overlapping a residential area." (DEIR, p. 6.4-65).

B6-13

stated in the City's Notice of Availability of the Draft EIR.

The vernal pools with the NCPWF site would be permanently impacted; therefore, any unintended introduction of versatile fairy shrimp into areas containing San Diego fairy shrimp is not anticipated, and mitigation measures preventing transport would not be necessary.

B6-13 The North City Project mitigation measure MM-BIO-6 requires preconstruction surveys to determine presence of least Bell's vireo (*Vireo bellii pusillus*), and construction will occur outside the species breeding season in occupied areas. Therefore, impacts to least Bell's vireo are not expected.

Since no impacts or take would result, revisions to the MSCP discussion in Section 6.4.5.1 are not necessary.

All least Bell's vireos detected during the 2016 surveys were within the San Vicente Reservoir Alternative study area (none were observed within the Miramar Reservoir Alternative study area). All observations consisted of adult males, either singing or directly observed (Appendix F

	in Appendix C of the Draft EIR/EIS). As stated in Section 4.4.3 of Appendix C, no direct impacts to individuals are expected; however, impacts to suitable habitat for these species would occur with Project implementation. Direct impacts to least Bell's vireo would be reduced to less than significant through the biological mitigation measures provided in MM-BIO-1c, which would require agency permits for impacts within jurisdictional resources, and MM-BIO-6, which requires preconstruction surveys for least Bell's vireo (Sections 5.1 and 5.3 in Appendix C). Therefore, take coverage for this species would adhere to the San Diego Municipal Code, Land Development Code—Biology Guidelines (page 9). As stated in Section 6.4.1 of the Draft EIR/EIS, impacts to suitable habitat for this species total approximately 0.5 acre. However, less than 0.01 acre are permanent impacts from the San Vicente Pipeline – Repurposed 36-inch Recycled Water Line, and those permanent impacts would occur within an area that was deemed unoccupied by least Bell's vireo (Figure 4-3-C3 in Appendix C). All temporary impacts to suitable habitat for least Bell's vireo would be return to pre-impact

	conditions as directed by MM-BIO-2 (Appendix C). Permanent impacts would be mitigated either through allocation of credit at the San Diego River Mitigation Site subject to ACOE and RWQCB approval or at the SANDER site (subject to the satisfaction of ACOE and RWQCB). Therefore, no significant habitat loss is expected. Impacts to wetland areas (0.5 acre) and Critical Habitat for least Bell's vireo (0.15 acre of southern arroyo willow riparian forest and southern willow scrub) from the San Vicente Reservoir Alternative were deemed infeasible for trenchless construction from an engineering perspective. Additionally, the impacts are temporary and would not result in a permanent structure or change in habitat type within the Critical Habitat area. Trenchless technology has been included in the San Vicente Reservoir Alternative's design to reduce impacts where feasible; however, the engineering constraints outlined in response B6-3 make it infeasible for the San Vicente Reservoir Alternative to completely avoid all impacts to MHPA areas and City wetlands.

Given the known occurrence of least Bell's vireo detected near the trenchless construction pit location near Interstate 15 and Clairemont Mesa Boulevard (see DEIR figure 5.4-1R) no clearing, grubbing, or grading of southern willow scrub habitat should occur during the nesting season pursuant to mitigation measure MM-BIO-6(a). The DEIR should specifically prohibit habitat disturbance at the Interstate 15/Clairemont Mesa Boulevard location, and any other locations located within USFWS designated critical habitat for least Bell's vireo. This information should be clearly delineated on a map and referenced in mitigation measure MM-BIO-6(1)(a). B6-13 Cont.

Building Design

In consideration of the MHPA to the north (Carroll Canyon) and west (west of Interstate 805) of the North City Pure Water Facility, the Department recommends that the Pure Project include the most current building design standards that demonstrate measures taken to minimize impacts associated with avian bird strikes and buildings. "[T]he Eastgate Mall-fronting NCPWF-MR Operations and Maintenance (O&M) Building would incorporate modern building materials including translucent light and dark blue glass windows (representative of water entering and flowing through the facility), a central, clear glass atrium…" (DEIR, p. 6.1-11) Within the United States alone, avian mortality numbers reach hundreds of millions per years due to collisions with glass (American Bird Conservancy 2015). The Department recommends that the DEIR incorporate design elements from the American Bird Conservancy (ABC) Bird-Friendly Design Guide (http://collisions.abcbirds.org/) in an effort to minimize avian collisions in proximity to preserve areas in the City. These measures include retrofitting existing buildings, as well as incorporating measures specific to new construction. The ABC Building Guide offers multiple solutions for reducing impacts to avian species, including recommendations that also qualify for Leadership in Energy and Environmental Design credits (ABC, 2015). ABC provides project design measures with the goal of reducing avian collisions with buildings while also being specific and enforceable (see Public Resource Code §21081.6 (c)). B6-14

Mitigation Measures

Mitigation Measure MM-BIO-1b

The DEIR does not include a copy of *The Sander Vernal Pool and Upland Mitigation Plan* (Appendix R of Appendix C of the Biological Technical Report). The DEIR proposes to mitigate impacts to vernal pools (MM-BIO-1b) by relying on The Sander Vernal Pool and Upland Mitigation Plan, which presumably conforms to City Biology Guidelines Section III. The DEIR should circulate the Sander Vernal Pool Mitigation Plan for review and comment prior to certifying the final EIR to ensure that mitigation measures are consistent with the City's SAP, and that the measures are specific and enforceable per CEQA Guidelines § 15126.4(a)(2). B6-15

Mitigation Measure MM-BIO-2

MM-BIO-2 relies on a Conceptual Revegetation Plan–Appendix P of the Biological Technical Report prepared by Dudek. However, Appendix A through Appendix V are missing from the Biological Technical Report (Dudek 2017), including the Appendix P–Conceptual Revegetation Plan. To allow for public review and to ensure that mitigation measures are both specific and enforceable (CEQA Guidelines § 15126.4(a)(2) the DEIR should include all supporting documentation supporting any DEIR mitigation measure or CEQA Findings of Significance. Though it was not provided for review at the time of the DEIR, the Conceptual Revegetation Plan should require native seed collection and topsoil salvage from impact sites associated with the Pure Project. The DEIR should be updated to include each of the Biological Technical B6-16

Implementation of MM-BIO-10 (see Section 5.5 in Appendix C or Section 6.4.3.3 of the Draft EIR/EIS) will ensure that, if the San Vicente Reservoir Alternative is selected, Critical Habitat areas within the impact footprint are included in the design and construction documents for each Project component to reduce potential impacts to sensitive resources. If the San Vicente Reservoir Alternative is selected, construction would occur outside the species breeding season as directed by MM-BIO-6.

B6-14 The most current building design standards that demonstrate measures taken to minimize impacts associated with avian collisions will be implemented at the NCPWF. The facility would not exceed four stories in height. Avian collisions are not expected to occur.

B6-15 All appendices were available upon request as stated in the City's Notice of Availability of the Draft EIR/EIS. The City provided a CD with the entire Draft EIR/EIS and all technical appendices to CDFW on September 20, 2017.

Report's Appendices. According to City Biology Guidelines, success criteria is established through a required "…restoration plan that outlines specific species for planting/hydroseeding, timing, irrigation and grading requirements, if any, a long-term maintenance, monitoring and reporting program, and criteria for success, as well as contingency measures in the case of failure…." (City Biology Guidelines, p.45) Absent the DEIR including a copy of the draft Conceptual Vegetation Plan for public review and comment, the full extent of the revegetation efforts cannot be known at the time of the DEIR. The DEIR should include the Conceptual Revegetation Plan. B6-16 Cont.

The DEIR states that "[h]abitat revegetation and erosion control treatments will be installed within temporary disturbance areas in native habitat, in accordance with the San Diego Municipal Code, Land Development Code–Biology Guidelines (City of San Diego 2012) and the San Diego Municipal Code…" (DEIR, p. 6.4-25) City Biology Guidelines (p. 45, see also appendix B) state that "…monitoring of the restoration would be no less than five years…." However, the mitigation measure MM-BIO-2 only requires revegetation areas to be monitored for 25 months (DEIR, p. 6.4-25). Common practice and climactic variables prescribe maintenance and monitoring intervals greater than the 25 months identified by MM-BIO-2. Countywide efforts demonstrate that within certain habitats, site preparation alone often requires multiple annual applications of herbicide or mechanical treatments (e.g. grow and kill cycles) for a minimum of 2 years (South County Grassland Project 2017). Only after adequate site preparation should revegetation (e.g. seeding) and site maintenance (e.g. weeding) actions be implemented. The first year of treatment targets non-native grass species, while the second year of treatment targets broad-leaf non-natives. Greater success is achieved through the appropriate timing of the non-native treatments based on plant phenology and weather (e.g., timing actions to control invasive species prior to the target species setting seed), site preparation (e.g. reducing the invasive species population prior to seeding), supplemental native seeding, and weeding maintenance. The Department recommends that MM-BIO-2 be revised to require a minimum of 5 years of revegetation monitoring and maintenance or until success criteria (established by a publically circulated Conceptual Revegetation Plan) is met. B6-17

Mitigation Measure MM-BIO-5

Mitigation Measure MM-BIO-5 should be revised as follows (recommended deletions shown in ~~strikeout~~ and additions shown in ***bold italicized text***): "24 hours prior to commencement of ground disturbing activities, the Qualified Biologist shall ~~verify~~ ***update and report*** the results of preconstruction/take avoidance surveys." (DEIR p. 6.4-88) The intent of performing preconstruction surveys is to update the status of prior reports based on the most current site conditions. By incorporating the recommended edits, mitigation measure MM-BIO-5 would be clear in requiring additional site survey efforts to reflect site conditions immediately prior to ground disturbance. B6-18

Impacts to Aquatic Resources

Many of San Diego's reservoirs are stocked with cold water species (e.g., rainbow trout) that, even at present nutrient levels, are not a self-sustaining population. However, San Diego's reservoirs also support self-sustaining populations of warm-water fish populations including trophy-sized largemouth bass. The Department is concerned with impacts to the sustainability of warm-water fish species. B6-19

B6-16 Refer to response B6-15. The comment incorrectly states that appendices are missing. All appendices were available upon request as stated in the City's Notice of Availability of the Draft EIR/EIS. The Conceptual Revegetation Plan (Appendix P of Appendix C) outlines the topsoil salvaging, planting, irrigation, erosion control and the revegetation schedule as required by the San Diego Municipal Code, Land Development Code—Landscape Standards.

B6-17 The habitat restoration outlined in the San Diego Municipal Code, Land Development Code—Biology Guidelines is restoration of degraded habitat for mitigation, which would require 5 years of monitoring the restoration. The North City Project is not conducting restoration as mitigation; rather, mitigation will be conducted at the SANDER mitigation site. The revegetation of temporary impact areas for the North City Project will follow the requirements outlined in San Diego Municipal Code, Land Development Code—Landscape Standards, which requires that the revegetation be maintained for a minimum of 25 months, as stated in MM-BIO-2 of Appendix C.

	B6-18 Mitigation measure MM-BIO-5 has been revised in the Final EIR/EIS to incorporate the following change: 24 hours prior to commencement of ground-disturbing activities, the Qualified Biologist shall ~~verify~~ update and report results of preconstruction/take avoidance surveys. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Sections 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation. **B6-19** The City's Significance Determination Thresholds and CEQA Appendix G thresholds do not identify impacts to recreational fisheries or reduction of nutrients in reservoirs as a potential impacts under CEQA, and that biological resource thresholds of significance related to unique, rare, endangered, sensitive, or fully protected species, of which there are none in Miramar Reservoir. The Draft EIR/EIS acknowledges in numerous locations that there could be a reduction in primary productivity as a result of the Project (i.e., pages 6.4-60, 6.11-20 through 6.11-32,

	6.18-5, 6.18-8, and Section 4.6.6 of Appendix C). The Draft EIR/EIS concludes that despite this anticipated reduction, a productive warm water fishery will continue to exist at a new equilibrium level, and this change would not result in a significant impact under CEQA. The conclusion is well supported by water quality modeling data, review of existing literature, and the use of the best available information, as further explained in Responses B6-20 through B6-32. To summarize the Draft EIR/EIS and the responses below, the significance conclusion is supported by the following: • The Project has been designed to preserve the major physical factors that influence the nutrient cycle in Miramar Reservoir, such as the timing of seasonal turnover and the average depth of the hypolimnion (Draft EIR/EIS page 6.11-31). • Nutrient inputs from external sources (other than product water discharges) constitute an important part of the nutrient cycle and will remain unchanged compared to existing conditions (Draft EIR/EIS pages 6.11-26 and 6.11-27, and Appendix G).

	• Several other factors, in addition to nutrient availability and water column stoichiometry (e.g., temperature, species composition, and species interactions), play important roles in determining the overall composition and dynamics of the reservoir's aquatic ecosystem (see responses B6-20 through B6-27). • There are no known pools of toxicants existing within the reservoir, nor have any toxicants been identified in the preliminary water quality monitoring results at the advanced water purification demonstration facility, that would lead to the bioaccumulation of toxicants up the food chain (see response B6-26). • Though nutrient (primarily phosphorus (P)) levels will be reduced under future reservoir conditions, the available information suggests that sufficient resources will still be present to support self-sustaining fish populations (Draft EIR/EIS Appendix C). • Modeled average temperature increases in the warm water habitat (epilimnion) are minimal, with an increase of less than 1°

The Pure Project would treat wastewater and recycle it for discharge and storage within a drinking water reservoir. Under the Pure Project, the water would be treated using a combination of reverse osmosis, ultraviolet light, and subsequent advanced oxidation processes to remove known and unknown constituents of concern from treated wastewater to protect human health. This advance treatment is predicted to remove nutrient inputs necessary for a healthy aquatic ecosystem. The reduction of nutrients in oligotrophic reservoirs like Miramar Reservoir will likely reduce primary productivity, and subsequently, affect the food web and fishery and increase the risk of bioaccumulative toxicants to fish and human and wildlife consumers of fish.

B6-19 Cont.

Nutrient Availability

Preliminary modeling for the proposed Miramar Reservoir Alternative (surface water augmentation) anticipates the Project to potentially change the aquatic community in the reservoir. (DEIR, p. 6.4-4) All appreciable nutrient levels will be limited given the Pure Project's advanced water treatment (e.g. reverse osmosis treated water). The existing reservoir water will be replaced by ultra-low nutrient water within approximately 2 years. Miramar Reservoir is currently an oligotrophic reservoir and it is anticipated that the low level nutrient inputs will further reduce the primary productivity in the reservoir and result in a highly altered water chemistry. Alterations to nutrient stoichiometry can alter processes that regulate nutrient cycling, thereby changing nutrient availability for primary productivity, resulting in shifts in food web structure, or constraining zooplankton growth (Glibert 2012; Hassett et al. 2001). Karimi et al. (2007) found that zooplankton fed phytoplankton grown in high nitrogen to phosphorus (N:P) (e.g., 110:1) conditions had growth rates 3.5-fold lower than zooplankton fed phytoplankton grown in low N:P (e.g., 15:1) conditions. The researchers attributed the decrease in zooplankton growth rates to a reduction of nutritional value of phytoplankton grown in high N:P conditions. Previously, the Department has provided comments to the State Water Resources Control Board concerning the effects of Surface Water Augmentation regulations on Department-held trust resources (see attached).

B6-20

Historically low chlorophyll-a (Chl-a) levels, compounded by the ability of invasive quagga mussels (*Dreissena rostriformis bugensis*) to filter nutrients from large quantities of water, currently affect trophic levels in Miramar Reservoir. The addition of water from the Pure Project will further decrease nutrients within Miramar Reservoir and should be considered an impact that will alter trophic levels through decreased primary productivity, especially as phosphorus is likely to decrease to very low levels based on information provided in Appendix G of the DEIR.

B6-21

The DEIR concludes that this decrease in primary productivity will result in a decrease in juvenile and planktivorous fish. These populations will decrease until a new carrying capacity is established. These anticipated decreased population densities are directly related to the decreased nutrients associated with the Pure Project. A decrease in planktivorous organisms will have an indirect effect on the adult, piscivorous fish population as prey opportunities become less available. The Department does not believe that the largemouth bass population levels are currently being or will in the future be maintained through stocking of rainbow trout. It is important to note that the Department does not stock rainbow trout as a forage species for largemouth bass, but rather as a recreational fishery, and rainbow trout stocking should not be relied on to offset decreased nutrient levels. In Miramar Reservoir, rainbow trout do not survive summer conditions, such as increased temperature. The DEIR concludes that in the absence of rainbow trout, the largemouth bass would eat all other available prey species and these prey

B6-22

Celsius (°C) in the warm season (April through September), and less than 2°C during the cooler months (October–March). These minor increases on a warm water ecosystem are not expected to adjust nutritional demands beyond the aquatic ecosystem's ability to remain self-sustaining.

The analysis of limnology and water quality as it relates to fisheries was added to address CDFW and other stakeholders' concerns regarding the health of the fishery. Appendix G of the Final EIR/EIS has been amended to provide the references cited in the latest water quality modeling performed by Water Quality Solutions Inc. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

B6-20 The commenter provided only a few references pertaining to reduced nutrient availability and its effect on primary productivity and the nutritional value of phytoplankton and zooplankton. Given the

	variation in stoichiometric interactions described in the broader literature review below, and as discussed in detail in Section 4.6.5 of Appendix C of the Draft EIR/EIS, the complexity of interactions of aquatic species and food webs in Miramar Reservoir, especially when trying to factor in the effects of quagga mussels, poses challenges in determining the precise outcome of the reservoir water input and associated reduced nutrient concentrations and stoichiometric interactions. The Draft EIR/EIS and Section 4.6.5 of Appendix C provide extensive discussion of the potential outcomes that could occur and conclude that due to the complexity of species interactions within the reservoir and their responses to reduced nutrient concentrations, as well as the influence of external contributing factors, effects on the aquatic community cannot be precisely quantified. However, Section 6.6.4 of the Draft EIR/EIS and Section 4.6.5 of Appendix C did disclose the wide range of potential effects and ultimately determined that the aquatic ecosystem would still continue to function, at a new equilibrium that would develop over time. Based on the information provided above and in the Draft EIR/EIS and Section 4.6.5 of

	Appendix C, there is a lack of supporting data to suggest that the Miramar Reservoir fishery will be substantially affected. Since nitrogen to phosphorus (N:P) supply ratios in most water bodies typically deviate from optimal requirements of producers, algal species have developed a number of ways to overcome low P concentrations in water (Downing and McCauley 1992; Downing 1997). In lakes with low P concentrations, individual producer species often store nutrients in excess of their requirements (luxury consumption) during periods when nutrient levels are elevated for later use when P levels in the water are low (Hall et al. 2005; Walker et al. 2007; Li et al. 2012). While it is true that alterations to phytoplankton stoichiometry (the relative proportion of components [e.g., P, N, and carbon (C)] within living organisms) can alter processes that regulate nutrient cycling, potentially changing nutrient availability for primary productivity that can result in shifts in the structure of the food web or constrain zooplankton growth, water column

	stoichiometry alone does not translate directly to phytoplankton stoichiometry. As discussed in detail below, phytoplankton stoichiometry is a complex issue and is highly dependent on a number of variables and complex interactions within a water body that cannot be easily quantified. The following discussion presents additional clarification for the conclusions reached in the Draft EIR/EIS and thus does not constitute new significant information that would require recirculation. A current principle of ecological stoichiometry states that the N:P ratio of primary producers should mimic the N:P ratio of the nutrient supplies. In a study based on data collected from ponds in Michigan, Hall et al. (2005) found a broad gradient in N:P supply ratios but highly constrained primary producer stoichiometry. The N:P stoichiometry of edible algal seston (minute material present in water bodies that includes both living organisms and nonliving matter) in the ponds showed little relationship to the N:P supply ratio gradient. As in the ponds, N:P ratios of algal seston in experimental mesocosms (a biological system that contains

	the physical features and organisms of an ecosystem but is restricted in size or scope for use in conducting scientific experiments) also deviated strongly from the expected 1:1 relationship with the N:P supply ratio. Herbivores may also decouple algal stoichiometry from nutrient supply ratios, regardless of the producer's nutrient storage capacity. Grazers influence producer stoichiometry by physically reducing plant biomass, which increases turnover rates, and also by recycling nutrients (Hall et al. 2005). In all of the aquatic systems evaluated during this study, the N:P content of producers did not reflect elemental supply ratios at either high or low ratios. The cellular N:P content of diverse primary producers was consistently greater than expected at low N:P supply ratios and lower than expected at high N:P supply ratios (Hall et al. 2005). Overall, the data from this study provides strong evidence that the cellular stoichiometry of primary producers in nature behaves much less responsively to variations in N:P supply ratios than was previously proposed.

	The N:P stoichiometry of a water body is commonly used as an indicator of its nutrient status; however, in a dynamic aquatic ecosystem (like Miramar Reservoir) the N:P stoichiometry of phytoplankton is highly variable depending on a number of factors that influence their growth (Li et al. 2012). In a study conducted on Lake Kinneret, Israel, a 1D hydrodynamic-ecological model, which had been previously configured for Lake Kinneret and validated over a 5-year period, was used to evaluate how the internal nutrient ratios (IN:IP) of phytoplankton relate to nutrient ratios (N:P) within the lake's water column. Although the simulated inorganic nitrogen to inorganic phosphorus (IN:IP) ratio patterns of the combined phytoplankton community followed the dissolved inorganic nitrogen to total phosphorus (DIN:TP) ratio patterns of the water column, individual species did not necessarily relate to DIN:TP ratio patterns, since different species have different seasonal IN:IP ratio patterns relative to the DIN:TP ratios of the water column. IN:IP ratios obtained for phytoplankton species present in Lake Kinneret showed high variability among species, with ratios ranging from 107:1 to 4:1

	(Li et al. 2012). These data indicate that the water column nutrient ratio is not the only factor that can influence the internal nutrient limitation patterns of phytoplankton. Other factors such as temperature (Wohlers-Zollner et al. 2011), light (Sanches et al. 2011), food-web structure (Danger et al. 2008), and anthropogenic factors (Zohary 2004), can also mediate the internal nutrient limitation patterns of phytoplankton. While nutrients are a key driver, algal blooms are also known to be mediated by microbial interactions; although, very little is known about how the microbial interactions between zooplankton, phytoplankton, and bacteria influence the overall patterns of stoichiometry within different species and trophic levels. Consequently, in a dynamic ecosystem, the N:P stoichiometry of organisms is highly variable (Sterner and Elser 2002), and are influenced by a range of factors that influence growth. Therefore, the assumption that their internal N:P stoichiometry matches the bulk properties of water may not be true in many cases. Trophic interactions and physiological controls lead to organism-specific patterns of N:P

	stoichiometry that may be decoupled from the water column values (Li et al. 2012). The degree to which organisms are homeostatic (the stable condition of an organism and of its internal environment) is largely dependent on whether they are heterotrophs (organisms that cannot synthesize their own food and rely on other organisms, both plants and animals, for nutrition or autotrophs (organisms that can produce their own food from the substances available in their surroundings using light or chemical energy). Heterotrophs obtain the majority of their supply of carbon (C), nitrogen, and phosphorus from the same source of organic material. As a result, bacteria and zooplankton have a fairly constant N:P ratio (Makino et al. 2003) and contain more phosphorus than do algae (Hall et al. 2005). Autotrophs support a different mechanism for their source of carbon compared to their source of nitrogen and phosphorus, and phytoplankton stoichiometry therefore varies considerably in response to environmental conditions, community composition, as well as species-specific intrinsic physiological

	processes (Frost et al. 2005). Considering the differences relative to nutrient cycling within an aquatic ecosystem, it becomes clear that a nutrient deficiency in one group (or trophic level) will not only control the growth or decay of its own population, but also influence the composition of the entire ecosystem, and this may be independent of the stoichiometry of the available nutrients (Li et al. 2012). The light-nutrient hypothesis states that phytoplankton C:N:P ratios are driven by the ratio of available light and nutrients. However, there is considerable variation in the response of phytoplankton stoichiometry to light and nutrients. Some of this variation may reflect the differences in phytoplankton communities (i.e., species composition and diversity), and the ways in which light and nutrient effects have been investigated (Dickman et al. 2006). Recent studies and associated models suggest that the response of phytoplankton cell stoichiometry to changes in resource supply may be quite variable both within single species and at the assemblage level (Klausmeier et al. 2004; Hall et al. 2005). For

	example: the extent to which phytoplankton N:P reflects the N:P supplied may depend on phytoplankton growth rates, mortality rates, and nutrient storage capacity, as well as ambient light intensity (Hall et al. 2005), all of which vary among species. Phytoplankton species vary greatly in optimal stoichiometric ratios (Klausmeier et al. 2004) and in the flexibility they exhibit in stoichiometric ratios in response to changes in supply rates and ratios (Hall et al. 2005). In addition, zooplankton may have strong effects on the N:P recycled if zooplankton biomass is high. The study conducted by Dickman et al. (2006) was the first to compare the stoichiometric responses of whole plankton assemblages from several lakes to light and nutrient manipulations. The first goal was to determine if the stoichiometry of intact phytoplankton assemblages respond to manipulations of light and nutrients and whether the response additive or interactive. The existence of strongly interactive effects between light and nutrients implies that it will be difficult to predict stoichiometric ratios in nature. The second goal was to assess whether the

	intensity of stoichiometric responses is mediated by phytoplankton community composition, trophic state of the lake, or both. Phytoplankton in mesotrophic Burr Oak Lake, which has the lowest nutrient concentrations and inputs of all lakes studied (the other lakes were eutrophic and hypereutrophic), displayed a steeper slope in the C:P versus light to soluble reactive phosphorus relationship and lower y-intercept than the other lakes with higher nutrient loading. Higher slopes of the C:N and C:P versus irradiance (the amount of light or other radiant energy striking a given area of a surface) curves indicate greater flexibility in C:nutrient ratios, as the phytoplankton assemblage was able to exhibit a wider range of C:nutrient ratios across a gradient of irradiance (Li et al. 2012). In particular, Burr Oak Lake phytoplankton appeared better able to take up and store P when provided with a P pulse (especially at low irradiance). The primary findings of the scientific studies reviewed here show that the effects of light and nutrients on phytoplankton stoichiometry are strongly interactive; the light-nutrient

	hypothesis was supported, yet there was considerable variation among lakes in how light and nutrients regulated phytoplankton nutrient ratios; and the stoichiometric response of phytoplankton may be mediated by species diversity. In addition, light and nutrients may serve as complimentary resources for phytoplankton; under limitation by one resource, phytoplankton may use the other, more available resource to partially compensate for the lack of the limiting factor (Healey 1985). In addition to the issues discussed above, grazers can also indirectly effect periphyton (a complex mixture of algae, cyanobacteria, heterotrophic microbes, and detritus) stoichiometry. Based on a quantitative meta-analysis on the stoichiometry of grazer-periphyton interactions, Hillebrand et al. (2008) found that the presence of grazers significantly increased the N- and P-content of periphyton across all studies. Grazed periphyton was found to have a higher N- and P-content than ungrazed periphyton (algae that has not been consumed [grazed] by invertebrates) and that its N:P ratio tends to be higher. Additionally, the data indicated that the magnitude and sign of the

	grazer effects on periphyton nutrient content depended mainly on the stoichiometry of the grazers and their biomass, and grazing effect size. Overall, based on the comment provided and response provided above, no changes to the conclusions presented in the Draft EIR/EIS are required.
	B6-21 The City's Significance Determination Thresholds nor CEQA Appendix G thresholds identify impacts to recreational fisheries or reduction of nutrients in reservoirs as a potential impact under CEQA; biological resource thresholds of significance are related to unique, rare, endangered, sensitive, or fully protected species, and there are none in Miramar Reservoir. As discussed in B6-20**,** the presence of quagga mussels in Miramar Reservoir likely affects trophic levels in the reservoir to some degree. However, the magnitude of the potential reduction in phytoplankton associated with cropping rates by quagga mussels in the reservoir is unknown. The presence of quagga mussels and their potential effect on the trophic regime in the reservoir was evaluated

		in the Limnology section of the Biological Technical Report (Appendix C of the Draft EIR/EIS, page 48) and in Section 6.4 of the Draft EIR/EIS, Biological Resources, on page 6.4-60). Based on this analysis, the City determined that quagga mussels currently affect trophic levels in the reservoir and will likely have a greater effect in the future as the population expands. The Draft EIR/EIS used the information above to estimate the magnitude of the effect as less than significant when evaluated in combination with other factors affecting the aquatic ecosystem of the reservoir.
	B6-22	Neither the City's Significance Determination Thresholds nor CEQA Appendix G thresholds identify impacts to recreational fisheries or reduction of nutrients in reservoirs as a potential impacts under CEQA; biological resource thresholds of significance are related to unique, rare, endangered, sensitive, or fully protected species, and there are none in Miramar Reservoir. Although rainbow trout stocking is not intended to support the largemouth bass population within the reservoir, it is not

	practical to exclude this outside nutrient source that has been part of the reservoir's nutrient dynamics for some time, with over 19,000 fish totaling 9,900 pounds being introduced from January 2013 to November 2016. Based on available information, there is a strong correlation between trophy largemouth bass and rainbow trout stocking, since 19 of the 20 largest largemouth bass caught in California occur in water bodies stocked with rainbow trout (Fishing Network 2017). Based on the strong correlation between trophy largemouth bass and rainbow trout stocking, it is likely that larger largemouth bass feed preferentially on rainbow trout when they are present in Miramar Reservoir. Four of the 25 largest largemouth bass caught in the world came from Miramar Reservoir, which has been stocked with rainbow trout since the 1970s. During the 1970s and 1980s large numbers of rainbow trout were stocked annually in the reservoir. The Draft EIR/EIS is not implying that the largemouth bass population was being maintained through stocking of rainbow trout or that it will offset decreased nutrient levels; however, based on the correlation between trophy largemouth

bass and rainbow trout stocking, it appears that the population in Miramar Reservoir is already being supported by rainbow trout to some degree and that by default, may already offset the effects of lowered nutrient levels in the reservoir.

The Final EIR/EIS Section 6.11.4 has been modified as follows to remove the suggestion that the conclusion depends on continued fish stocking:

> With respect to primary productivity within the Miramar Reservoir, the magnitude of the change is expected to be minor, i.e., reduced to a level that still supports the reservoir's overall aquatic ecosystem and a relatively productive warm water fishery~~given the existing and continuing stocking of the reservoir with rainbow trout~~.

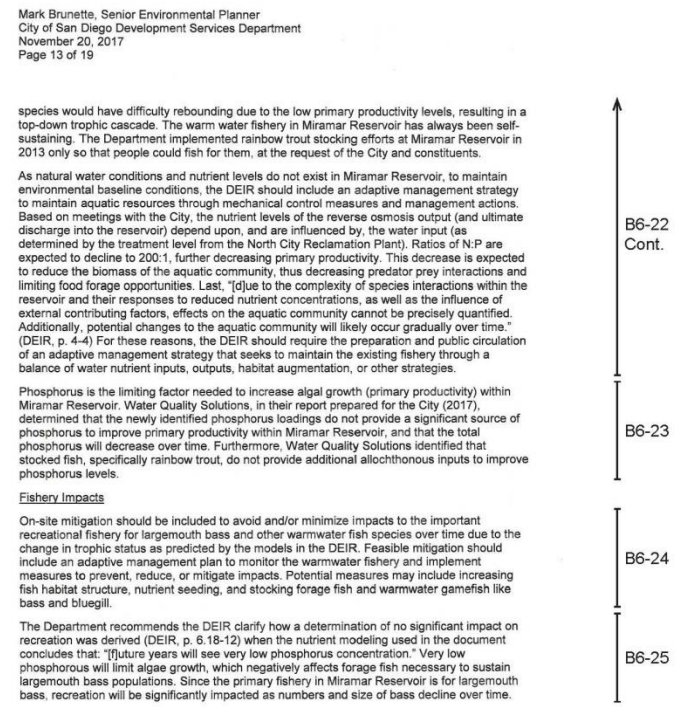
In addition, Final EIR/EIS Section 6.11.4 has been modified for the same reason:

> With regular deliveries of purified water, nutrient levels would still continue to support the reservoir's overall aquatic

ecosystem and a relatively productive warm water fishery~~given the California Department of Fish and Wildlife's (CDFW's) existing and continuing stocking of the reservoir with rainbow trout~~.

Since the existing fishery has been self-sustaining over time even under low-nutrient oligotrophic conditions, it is likely that some adaptation has already occurred that allows individual fish populations to flourish under low nutrient conditions. Consequently, even though nutrient (primarily P) levels will decline under future reservoir conditions, available information suggests that sufficient resources will still be present to support self-sustaining fish populations, although at a likely reduced level for some species. As stated in the Draft EIR/EIS (Appendix C, page 222), planktivorous fish species will likely show the greatest decline.

Regarding the need for an adaptive management plan, as discussed in Response to Comment B6-29, the issue of beneficial use is not explicitly included as any CEQA threshold of significance in the City's guidelines, but has been included in the Draft EIR/EIS to provide



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species would have difficulty rebounding due to the low primary productivity levels, resulting in a top-down trophic cascade. The warm water fishery in Miramar Reservoir has always been self-sustaining. The Department implemented rainbow trout stocking efforts at Miramar Reservoir in 2013 only so that people could fish for them, at the request of the City and constituents.

As natural water conditions and nutrient levels do not exist in Miramar Reservoir, to maintain environmental baseline conditions, the DEIR should include an adaptive management strategy to maintain aquatic resources through mechanical control measures and management actions. Based on meetings with the City, the nutrient levels of the reverse osmosis output (and ultimate discharge into the reservoir) depend upon, and are influenced by, the water input (as determined by the treatment level from the North City Reclamation Plant). Ratios of N:P are expected to decline to 200:1, further decreasing primary productivity. This decrease is expected to reduce the biomass of the aquatic community, thus decreasing predator prey interactions and limiting food forage opportunities. Last, "[d]ue to the complexity of species interactions within the reservoir and their responses to reduced nutrient concentrations, as well as the influence of external contributing factors, effects on the aquatic community cannot be precisely quantified. Additionally, potential changes to the aquatic community will likely occur gradually over time." (DEIR, p. 4-4) For these reasons, the DEIR should require the preparation and public circulation of an adaptive management strategy that seeks to maintain the existing fishery through a balance of water nutrient inputs, outputs, habitat augmentation, or other strategies.

Phosphorus is the limiting factor needed to increase algal growth (primary productivity) within Miramar Reservoir. Water Quality Solutions, in their report prepared for the City (2017), determined that the newly identified phosphorus loadings do not provide a significant source of phosphorus to improve primary productivity within Miramar Reservoir, and that the total phosphorus will decrease over time. Furthermore, Water Quality Solutions identified that stocked fish, specifically rainbow trout, do not provide additional allochthonous inputs to improve phosphorus levels.

Fishery Impacts

On-site mitigation should be included to avoid and/or minimize impacts to the important recreational fishery for largemouth bass and other warmwater fish species over time due to the change in trophic status as predicted by the models in the DEIR. Feasible mitigation should include an adaptive management plan to monitor the warmwater fishery and implement measures to prevent, reduce, or mitigate impacts. Potential measures may include increasing fish habitat structure, nutrient seeding, and stocking forage fish and warmwater gamefish like bass and bluegill.

The Department recommends the DEIR clarify how a determination of no significant impact on recreation was derived (DEIR, p. 6.18-12) when the nutrient modeling used in the document concludes that: "[f]uture years will see very low phosphorus concentration." Very low phosphorous will limit algae growth, which negatively affects forage fish necessary to sustain largemouth bass populations. Since the primary fishery in Miramar Reservoir is for largemouth bass, recreation will be significantly impacted as numbers and size of bass decline over time.

supporting analysis for the permitting process. Furthermore, the analysis in the Draft EIR/EIS does not support the conclusion that the impact would be significant. Therefore, implementation of a monitoring and adaptive management program as suggested by CDFW is not considered appropriate as a CEQA mitigation measure.

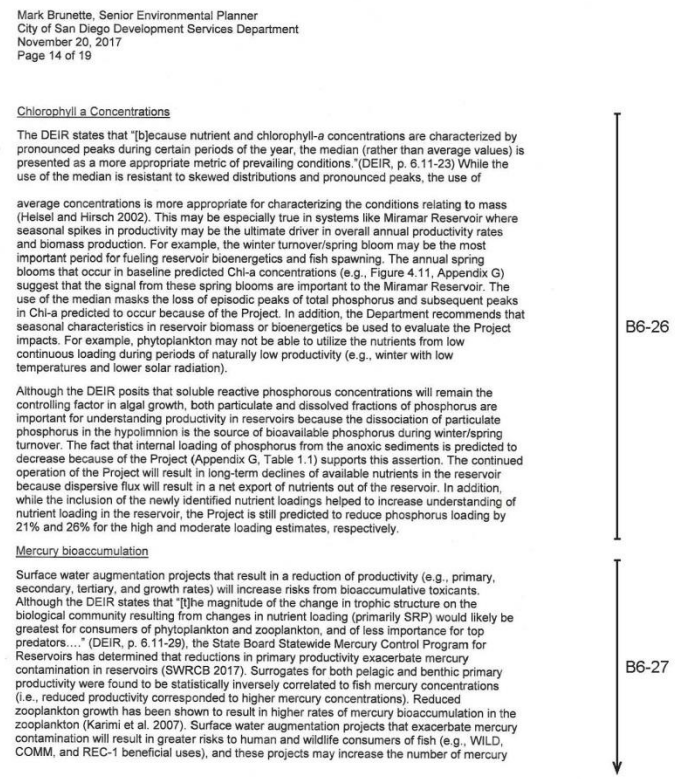
B6-23 This comment assumes that Water Quality Solution's (WQS) dynamic model of the reservoir did not identify a sufficient source of external phosphorus to result in improved primary productivity in the reservoir. However, per Sections 1.1 and 1.2 of Draft EIR/EIS Appendix G, nearly double the nutrient loading was identified from outside (allochthonous) sources in relationship to the expected loading from the North City Project.

B6-24 Refer to Responses to Comment B6-22 and B6-25. No significant impacts were identified and hence, no mitigation is required for potential impacts to the recreational fishery.

B6-25 As stated in Section 6.18.2 of the Draft EIR/EIS, Appendix G of the CEQA Guidelines contain

	significance guidelines (i.e., Thresholds of Significance) related to recreation. This includes physical impacts to parks and recreation facilities, but neither this nor the City's Significance Determination Thresholds directly identify or infer that modification of a managed recreational fishery would be considered an impact under CEQA (see page 6.18-1 Draft EIR/EIS). Nonetheless, the recreational fishery was discussed on page 5.18-10 of the Draft EIR/EIS. It found that among the individuals responding to CDFW's creel survey concerning their visit to Miramar Reservoir, over 90% of respondents identified "enjoying the outdoors" as very important, and approximately 60% identified "to catch a fish" or "to be with friends and family" as very important. Nearly 50% of respondents identified "to catch a trophy fish" and/or "to reflect on past trip" as important, and 60% identified "to develop fishing skills" as important (CDFW 2014). Page 6.18-5 of the Draft EIR/EIS concludes that all of these activities will still be available to the public as the anticipated reduced level of productivity associated with small changes in nutrients

	would not substantially affect the fishery such that anglers would be deterred from visiting the reservoir. As identified on pages 6.18-5, and 6.18-8 of the Draft EIR/EIS, the anticipated reduced level of productivity associated with changes in nutrients would alter, but not substantially affect the fishery such that anglers would be deterred from visiting the reservoir and, in turn, would not substantially increase use of other water bodies in the region, or have adverse physical effects on the environment resulting from new or expanded recreational facilities. In fact, the City would continue to allow fishing at the reservoir and would continue to support CDFW stocking during and after Project. The additional information on fisheries contained on 6.18-12 of the Draft EIR/EIS was provided to disclose potential impacts to recreational resources at City recreation facilities, including City open space parks and reservoirs, but no formal impact finding is included for this supplemental information, and no mitigation is required.



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Chlorophyll a Concentrations

The DEIR states that "[b]ecause nutrient and chlorophyll-*a* concentrations are characterized by pronounced peaks during certain periods of the year, the median (rather than average values) is presented as a more appropriate metric of prevailing conditions."(DEIR, p. 6.11-23) While the use of the median is resistant to skewed distributions and pronounced peaks, the use of

average concentrations is more appropriate for characterizing the conditions relating to mass (Helsel and Hirsch 2002). This may be especially true in systems like Miramar Reservoir where seasonal spikes in productivity may be the ultimate driver in overall annual productivity rates and biomass production. For example, the winter turnover/spring bloom may be the most important period for fueling reservoir bioenergetics and fish spawning. The annual spring blooms that occur in baseline predicted Chl-a concentrations (e.g., Figure 4.11, Appendix G) suggest that the signal from these spring blooms are important to the Miramar Reservoir. The use of the median masks the loss of episodic peaks of total phosphorus and subsequent peaks in Chl-a predicted to occur because of the Project. In addition, the Department recommends that seasonal characteristics in reservoir biomass or bioenergetics be used to evaluate the Project impacts. For example, phytoplankton may not be able to utilize the nutrients from low continuous loading during periods of naturally low productivity (e.g., winter with low temperatures and lower solar radiation).

Although the DEIR posits that soluble reactive phosphorous concentrations will remain the controlling factor in algal growth, both particulate and dissolved fractions of phosphorus are important for understanding productivity in reservoirs because the dissociation of particulate phosphorus in the hypolimnion is the source of bioavailable phosphorus during winter/spring turnover. The fact that internal loading of phosphorus from the anoxic sediments is predicted to decrease because of the Project (Appendix G, Table 1.1) supports this assertion. The continued operation of the Project will result in long-term declines of available nutrients in the reservoir because dispersive flux will result in a net export of nutrients out of the reservoir. In addition, while the inclusion of the newly identified nutrient loadings helped to increase understanding of nutrient loading in the reservoir, the Project is still predicted to reduce phosphorus loading by 21% and 26% for the high and moderate loading estimates, respectively.

Mercury bioaccumulation

Surface water augmentation projects that result in a reduction of productivity (e.g., primary, secondary, tertiary, and growth rates) will increase risks from bioaccumulative toxicants. Although the DEIR states that "[t]he magnitude of the change in trophic structure on the biological community resulting from changes in nutrient loading (primarily SRP) would likely be greatest for consumers of phytoplankton and zooplankton, and of less importance for top predators…." (DEIR, p. 6.11-29), the State Board Statewide Mercury Control Program for Reservoirs has determined that reductions in primary productivity exacerbate mercury contamination in reservoirs (SWRCB 2017). Surrogates for both pelagic and benthic primary productivity were found to be statistically inversely correlated to fish mercury concentrations (i.e., reduced productivity corresponded to higher mercury concentrations). Reduced zooplankton growth has been shown to result in higher rates of mercury bioaccumulation in the zooplankton (Karimi et al. 2007). Surface water augmentation projects that exacerbate mercury contamination will result in greater risks to human and wildlife consumers of fish (e.g., WILD, COMM, and REC-1 beneficial uses), and these projects may increase the number of mercury

B6-26

B6-27

B6-26 The commenter did not cite any studies that address the importance of the winter turnover/spring bloom relative to fueling reservoir bioenergetics and fish spawning, nor were any studies found during our literature review that would confirm or refute that nutrient spikes are essential to fish spawning or reservoir bioenergetics. Other factors, such as temperature, transient nutrient concentrations, and timing of the lake turnover, may be more important for determining the reproductive success, productivity rates, and biomass production in this warm water body that has adapted to inconsistent conditions. Including an analysis of the mean chlorophyll-*a* output from the WQS model would skew the comparison of pre-project to post-project conditions by placing additional emphasis on this brief spike in productivity, which has not been shown to be an important driver in this system's bioenergetics and fish spawning.

Therefore, analysis of the WQS water quality model (2017) in Draft EIR/EIS Section 6.11.4.1 and Draft EIR/EIS Appendix G referenced therein, as well as Section 4.6.5 of the Draft

	EIR/EIS Appendix C focused on the median concentrations of chlorophyll-*a*, as this metric is considered more appropriate for understanding the level of productivity required for maintaining the ecosystem's baseline productivity. In addition, CDFW's concern with the potential loss of productivity during periods of low productivity (e.g., low temperatures/solar radiation) is addressed in the model (Appendix G of the Draft EIR/EIS, Figure 4.12); the existing period of peak productivity occurs after the reservoir's turnover in the winter (the period of low productivity), and the model predicts that the future periods of pronounced productivity will be maintained. As stated in the Draft EIR/EIS, a slight decline in some fish populations could be expected, but the nutrient spikes from the seasonal turnover will remain, and the aquatic ecosystem will continue to be self-sustaining (Draft EIR/EIS Appendix C, pages 222, 223, and 229). **B6-27** Water quality modeling presented in the Draft EIR/EIS indicates that the North City Project is expected to result in a decrease in algae

	production and an increase in the N:P ratio. However, CDFW does not present any evidence that the research summarized is applicable to Miramar Reservoir, i.e., that mercury or methylmercury (MeHg) is a water quality problem in Miramar Reservoir. As stated on Draft page 5.11-9 (3rd paragraph), Miramar Reservoir is not listed as impaired for any constituent under Clean Water Act Section 303(d), which includes mercury. There is no data available for Miramar Reservoir regarding MeHg concentrations in fish tissue, but eight quarterly water samples in 2005 and 2006 were analyzed for mercury as part of the City's submittal for the Clean Water Act 303(d) Section list of water quality impairments. Mercury was not detected in any of the samples (SWRCB 2016). Furthermore, the Statewide Mercury Control Program includes a number of factors that are positively correlated with MeHg concentrations in fish tissue, including the presence of mercury and gold mines upstream, atmospheric deposition, water level fluctuations and the watershed size, other geographic factors, and the extent and

impaired reservoirs in California. Mercury bioaccumulation increases at the bottom of the food web will transfer throughout the food web, including to piscivorous birds, wildlife, and humans. Furthermore, fish species will also likely be impacted by mercury toxicity because recent studies have suggested that fish species are as sensitive as or more sensitive to mercury toxicity than humans (Beckvar et al. 2005; Dillon et al. 2010; Depew et al. 2012; Gehringer et al. 2012).

B6-27 Cont.

Conformance with Basin Plan and Water Quality Objectives

The DEIR finds that the "…water discharges would not violate [Regional Water Quality Control Board, RWQCB] Basin Plan water quality objectives (i.e., result in the loss or impairment of identified beneficial uses), and because the warm water habitat of the reservoir would continue to be well supported, albeit likely at a reduced level, the impact would be less than significant." (DEIR, p. 6.11-30) The applicable Water Quality Objective (WQO) states:

> *Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1 , on a weight to weight basis shall be used.*

B6-28

The City's monitoring has shown that the current ratios (approximately 100 N: 1 P) have been able to maintain the current fisheries conditions. This will likely be altered by the discharge of the Pure Project water. The predicted Project water ratio is expected to be 200 N: 1 P, which does not conform with the WQO.

Furthermore, the WQO for Biostimulatory Substances states: "Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses."

The promotion of growth causing nuisance or adversely affect beneficial uses is not limited to only "excessive" growth and eutrophication. As our letter notes above in the "Nutrient Availability" section, alterations to nutrient stoichiometry can alter processes that regulate nutrient cycling, thereby changing nutrient availability for primary productivity, resulting in shifts in food web structure, or constraining zooplankton growth (Glibert 2012; Hassett et al. 2001). Karimi et al. (2007) found that zooplankton fed phytoplankton grown in high N:P (110:1) conditions had growth rates 3.5-fold lower than zooplankton fed phytoplankton grown in low N:P (15:1) conditions. The researchers attributed the decrease in zooplankton growth rates to a reduction of nutritional value of phytoplankton grown in high N:P conditions. Shifts in nutrient ratios or availability may result in the proliferation of undesirable primary producers (e.g., smaller bodied or cyanobacteria). A reduction of nutrient levels or changes in ecological stoichiometry in oligotrophic reservoirs, like Miramar Reservoir, may reduce the ability for this reservoir to support aquatic-life beneficial uses and viable fisheries.

B6-29

Shifts in Reservoir Water Temperature

The Department believes that evaluating predicted temperature increase in isolation of the other impacts to Miramar Reservoir may miss environmental impacts that should be identified in the DEIR. The DEIR points out that the RWQCB "…Basin Plan does not contain a numeric water quality objective for any beneficial use other than COLD (cold freshwater habitat)…" (DEIR p. 6.11-30) and therefore does not violate the narrative WQO. Increased reservoir temperatures

B6-30

duration of anoxic conditions. As stated in Draft EIR/EIS Section 5.11.2 (page 5.11-3, 2nd paragraph), the watershed is small, and the water level is maintained at a similar elevation. There are no geologic sources of mercury, and implementation of the Project is expected to slightly reduce the extent and depth of anoxic conditions, as stated on Draft EIR/EIS page 6.11-29. Furthermore, water quality testing conducted as part of the Water Purification Demonstration Project showed wastewater influent concentrations of mercury to be very low and the purification process to be effective at removing mercury to non-detectable levels (Draft EIR/EIS pages 2-21 to 2-28). Most of the mercury-affected reservoirs are in Northern California, and the aforementioned factors do not support the notion that there is a pre-existing mercury issue present that changes in the nutritional value of algae and/or zooplankton abundance could exacerbate.

B6-28 The N:P ratios in Miramar Reservoir vary dramatically both spatially and temporally, depending on climate and reservoir management (e.g., source of imported water), and is not the only factor that maintains the

	fishery. In reference to nutrient sources unrelated to discharges in to the reservoir, the Draft EIR/EIS states "external phosphorus sources are nearly identical during the dry season, and approximately half in the wet season (Draft EIR/EIS Appendix G). This indicates that external sources decrease the sensitivity of the reservoir to the lower TP levels from product water inflows. In addition, an important distinction between the existing condition and proposed condition with regard to TP is that all of it will consist of SRP (i.e., bioavailable) when compared to existing imports from Lake Skinner" (Draft EIR/EIS page 6.11-26, 2nd paragraph). The prevailing condition is of a warm-water oligotrophic reservoir, and the persistence of a self-sustaining warm water ecosystem within the reservoir over time, despite large fluctuations in nutrient concentrations suggests a certain degree of resilience to changing water chemistry. CDFW's claim that the North City Project would not meet water quality objectives (WQOs) is addressed in the following comment response (B6-29).

	B6-29	Authority for implementation and therefore interpretation of Basin Plan provisions is within the purview of the San Diego RWQCB. With that said, the City disagrees with CDFW's interpretation, as the Basin Plan WQOs for phosphorus and nitrogen are consistently framed in the context of excessive aquatic growths: "waters shall not contain biostimulatory substances in concentrations that *promote* aquatic growth to the extent that *such growths* cause nuisance or adversely affect beneficial uses" (emphases added). As stated in the Draft EIR/EIS, "Ultimately, the San Diego RWQCB is responsible for considering the beneficial uses Miramar Reservoir in the development and issuance of the individual WDRs [waste discharge requirements] and NPDES permits. As part of this process, the RWQCB develops discharge limitations in NPDES/WDR permits based on the applicable water quality criteria or objectives of the Basin Plan, the beneficial uses being protected, and corresponding state and federal antidegradation policies" (Draft EIR/EIS page 6.11-32). See also Draft EIR/EIS Section 2.4.2 (pages 2-16 through and 2-19 in particular) for a detailed explanation of the permitting

	process, which operates in parallel with but is separate from the CEQA process. For the purpose of making CEQA significance determinations, Draft EIR/EIS Chapter 6.11, Issue 3, relies on a comparison of existing versus proposed conditions and both numeric and narrative WQOs for each constituent of concern. Existing data, scientific literature, and pre- versus post-project water quality modeling results were compiled to judge the degree to which water quality changes would affect the warm water fishery. As indicated above, the issue of beneficial use is under the purview of the San Diego RWQCB and SWRCB, and is considered in development of WDR/NPDES permits. The City's CEQA thresholds of significance do not include effects on beneficial uses as a CEQA topic, but instead uses a more general screening criterion of whether projects would alter water quality. As stated in the Draft EIR/EIS, compliance with Basin Plan WQOs is the main metric by which water quality impacts are judged, as WQOs are designed to protect beneficial uses (Draft EIR/EIS page 6.11-14, last paragraph, and page 6.11-21, last paragraph).

	Because the Basin Plan does not contemplate excessively low nutrient levels in point source discharges as a water quality problem for warm freshwater habitat (WARM) or wildlife habitat (WILD) beneficial uses, there are no lower limits established as a water quality objective. Therefore, there is no appropriate CEQA threshold under which to analyze this issue, because lowering nutrient levels in a reservoir cannot be fairly characterized as either a "pollutant" in the traditional sense of the word, or an action that degrades or lowers water quality. However, for informational purposes and to support the development and issuance of the WDR/NPDES Permit for the Project, Draft EIR/EIS Section 6.11 examined the ecological implications of the Project's low-nutrient discharge based on professional judgment and the best available information, i.e., the results of water quality modeling of pre- versus post-project conditions, and an extensive literature review, as more fully discussed in Section 4.6.5 of Draft EIR/EIS Appendix C. The analysis in Draft EIR/EIS Section 6.11 of whether the Project substantially and/or unreasonably impairs WARM or WILD beneficial uses, especially with

	respect to nutrients, considers not only the water quality changes anticipated, but also the physical and regulatory context within which the reservoir operates. The physical context is that the reservoir is a constructed off-stream component of the City's drinking water system with no nexus to downstream receiving waters (e.g., streams or lagoons). In addition, the San Diego RWQCB policy of "key" beneficial uses (Resolution No. R9-2017-0030) defines municipal drinking water (MUN) as the key beneficial use of the reservoir, and the SWRCB's overall Recycled Water Policy supports and encourages the sustainable use of recycled water to promote conservation of water resources. As discussed in Responses to Comment B6-19 through B6-25, CDFW's claims that the North City Project will have significant impacts on the warm water habitat within Miramar Reservoir remains speculative and hypothetical, though additional information regarding concerns on the nutritional value of phytoplankton and zooplankton is provided in those responses. CEQA requires the use of the best available information and reasonable scientific/

	professional judgment to determine impacts. Despite the uncertainty disclosed in the Draft EIR/EIS regarding the exact magnitude of reductions in primary productivity, the reasons for which changes in water quality would be "less than significant" is provided in Section 6.11, Issue 3, and clarified below: • The Project does not exceed or violate Basin Plan WQOs. • Several sections of the California Water Code clarify that it is possible for the quality of the water to be changed to some degree so long as it maintains reasonable protection of beneficial uses, and that in developing permit provisions, that the need to develop and use recycled water shall be considered (Water Code Section 13241). • Per San Diego RWQCB Resolution R9-2017-0030, "beneficial uses associated with habitats and ecosystems (e.g., WARM and WILD) are prioritized for ocean waters, bays and estuaries, and stream systems, but are not considered as a "key" beneficial uses for drinking water reservoirs" (Draft EIS/EIS page 2.11-22, 1st paragraph). Miramar Reservoir is

not a natural water body and functions first and foremost a drinking water reservoir (i.e., the "key" beneficial use is MUN).

- Existing evidence shows a functioning aquatic community will continue to exist in Miramar Reservoir, due partly to continuing nutrient inputs from external sources (i.e., the Project will not result in the "loss" of a beneficial use). As clarified in responses B6-19 through B6-25 above, decreases in primary productivity and fisheries impacts attributable to the North City Project are not anticipated to be substantial.

Given the aforementioned factors, the City's has determined that changes in water quality attributable to the North City Project are less than significant under CEQA, as stated in the Draft EIR/EIS; hence, implementation of any mitigation, such as a monitoring and adaptive management program as suggested by CDFW, is not necessary. The City looks forward to continued coordination with CDFW, the San Diego RWQCB, and the SWRCB Division of Drinking Water in the permitting process, including development of reasonable and appropriate permit provisions and/or conditions.

	B6-30	This comment is based on the predicted changes to the range of temperatures that are reported as the minimum and maximum temperatures in the Draft EIR/EIS (Section 6.11), which do not adequately characterize the overall modeled impacts to the reservoir's water temperature. As reported in Table 6.11-4 of the Draft EIR/EIS, differences in water temperatures were modeled for the surface (epilimnion) minimum temperature (1°C increase) and the bottom (hypolimnion) maximum temperature (6° C increase). The Final EIR/EIS has been updated to include the modeled impact to seasonal and annual average temperatures in the epilimnion and hypolimnion. This representation of WQS' 2016 model output (Draft EIR/EIS Appendix G) clarifies that the anticipated average temperature changes within the reservoir are minimal. Section 6.11.4 of the Draft EIR/EIS has been modified in the Final EIR/EIS as follows: The Basin Plan does not contain a numeric water quality objective for any beneficial use other than the COLD (cold freshwater habitat) beneficial use, which prohibits

	increases of more than 5° F (2.8° C) above the natural receiving water temperature. For WARM, WILD, REC-1, and REC-2, a narrative objective applies, i.e., that changes in natural receiving water temperature shall not result in loss or impairment of beneficial uses (San Diego RWQCB 2016a). As indicated in Table 6.11-4, purified water discharges are expected to maintain the overall range of temperatures historically observed in the reservoir with the exception of the maximum bottom temperature of the reservoir. Hydrodynamic modeling of the reservoir shows that the average annual temperature increase in the epilimnion and hypolimnion will be 1.2° C and 2.0° C, respectively. Broken down seasonally, the average temperature in the epilimnion will increase by 0.6° C during the warmer months (April through September), and 1.8° C during the cooler months (October through March). For the hypolimnion, the average temperature in will increase by 2.0° C

during the warmer months (April through September), and 2.1° C during the cooler months (October through March).

Additional analyses of the hydrodynamic medical show a deepening of the thermocline by about 16 feet over a 2-year period (Appendix G). The volume of the epilimnion [the water above the thermocline], is roughly 4,000 acre-feet. Deepening the thermocline by 16 feet increases the epilimnetic volume by roughly 200 acre-feet, which is a 5% change from existing conditions. The modeling results also show that the turnover dates would not be significantly affected (Appendix G).

The largest temperature increases predicted in the model occur in the hypolimnion, which will have negligible impact on the reservoir's warm water aquatic species that reside in the epilimnion (especially highly adaptable species such as the largemouth bass: Mulhollem et al. 2015).

	Even though slight increases in temperature could potentially elevate metabolic rates, the comment provides no supporting data from studies conducted in comparable water bodies that show the effects of increased temperature (from 0.5° C to 2° C) on the metabolic rates and subsequent repercussions on food requirements of similar species. Available literature indicates that increases in water temperature has different effects depending on the species and life stage and the magnitude of the increase relative to a specific species thermal tolerance. However, it appears that slight increases in temperature can either increase or decrease feeding requirements depending on the species. Walberg and Fisher (2011) found that an increase of 2° C over a period of 4 weeks showed an insignificant change in feeding behavior for black crappie and a significant decrease in feeding behavior for black bullhead. Based on the limited increase in water temperature predicted in the future, it is possible that some increase in metabolism may occur on a seasonal basis; however, since the temperature increase is minor, it is not

will likely result in higher metabolisms of all organisms in the reservoir, and when combined with a 29-43% decrease in available food (i.e., annual average Chl-a concentrations) can result in a significant loss of energy to support the higher trophic level fishery. The Department suggests the comprehensive direct and indirect impacts of the Project be evaluated.

B6-30 Cont.

Summary of Water Quality Impacts on Wildlife Resources

The Department agrees that the resulting changes in primary productivity have the potential to affect organisms that rely on primary producers. As well, the Project may cause adverse impacts to human and wildlife consumers of fish by increasing rates of bioaccumulation of contaminants (see DEIR p. 6.11-33).

B6-31

The Department disagrees that the impacts to primary productivity are sufficiently tempered by external nutrient inputs. While the inclusion of the additional nutrient inputs greatly increased the predicted annual average surface Chl-a estimates (Appendix G, Table 4.5), annual average Chl-a concentrations are still expected to decrease by 29-43% as a result of the Project (Appendix G, Table 4.8). A 29-43% reduction in available food source at the bottom of the food web will likely cause large impacts to the food web and fishery, especially since the reservoir is already food limited. Table 4.9 shows an estimated increase in nutrient loadings from the 0.004 to 0.10 mg/L scenarios (e.g., 1.12, 1.46, and 1.80 mg/L), and a decreasing impact of the Project in regards to total phosphorus loadings (e.g., baseline = 1.52 mg/L). The predicted phosphorus loadings for the moderate nutrient loadings and PW = 0.010 mg/L scenario is higher than baseline loading estimates. However, the Chl-a estimates in Table 4.8 show that the Project will still result in large decreases in productivity for all scenarios (29-43% Chl-a concentrations). This suggests that the phytoplankton production in the reservoir is somewhat decoupled from phosphorus loading alone, the modeling parameters do not represent the linkage between nutrients and biology well, or that the Project will cause decreases in primary productivity by other means not identified. This complexity and the large uncertainty around the controlling factors of Miramar Reservoir's primary and secondary productivity is echoed elsewhere in the environmental document. This supports the need for a very robust monitoring program to be able to adaptively manage the Project's discharges into the reservoir, the reservoir food web and fishery, and impacts to human and wildlife health to mitigate for any adverse impacts of the Project.

B6-32

The predicted phosphorus reductions exceed 20% resulting in correlating reductions of 29-42% (annual average) in pelagic primary productivity does not appear to be "slightly lower." (DEIR, p. 6.18-4) These are large decreases in primary productivity, when considering that the reservoir is already oligotrophic. Even the presented reduction of 15-19% of the median concentrations of Chl-a may greatly impact ability of the fishery to support itself. Salmon population models have estimated that as little as a 16% reduction in growth and 6% reduction in length in juveniles would result in 50% reductions in spawner abundance in 20 years (Baldwin et al. 2009; Macneale et al. 2014). Resource limitations, including food limitations, have been demonstrated to adversely impact reservoir fish populations (e.g., stunted growth or altered reproduction) (Ylikarjula et al. 1999). Similar reduction in reservoir food web growth rates could possibly crash the fishery in Miramar Reservoir. The DEIR has not demonstrated that the predicted resource limitations in Miramar Reservoir will not cause impacts to the well-established fishery, nor has the DEIR included a monitoring or adaptive management program to mitigate any future impacts because of the Project.

B6-33

expected to significantly change feeding behaviors or the amount of food consumed on an annual basis. Since the reservoir's existing ecosystem has adapted to warm nutrient-limited waters, it is expected that the existing community will adjust to the minor increases in temperature and reductions in nutrients.

Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

B6-31 Please refer to Responses to Comments B6-19 and B6-27 for a discussion of potential impacts associated with bioaccumulation of contaminants.

B6-32 Although the City acknowledges that CDFW would like the City to implement a monitoring program to identify the magnitude of any impact and for the City to adaptively manage the reservoir, the City does not agree that any mitigation is triggered for the reasons stated in responses

		B6-22, B6-24, B6-25, and B6-29; hence, no such program under CEQA or necessary.
	B6-33	CDFW utilizes the annual average in this comment and although that is one methodology to interpret the model data, as detailed in response B6-26, the City strongly believes the median values are more appropriate (e.g., reduction in chlorophyll-*a* 15% to 19%) and qualifies that level of change as "slight" in the Recreation analysis of the Draft EIR/EIS. CDFW also discusses the potential impact of the reduction in growth and length of salmon populations resulted in a 50% reduction in spawner abundance in 20 years. Although the City does not believe that a cold water anadromous fish species is a suitable analytical surrogate for a warm water reservoir species like black bass, the City has identified on page 6.18-11 of the Draft EIR/EIS that a functioning aquatic community is expected to continue to exist after the changeover from Colorado River and/or the State Water Project source water to purified water, albeit at a reduced level of productivity. The rationale for this finding as well as the relativity of a fishery assessment under CEQA

	that addresses CDFW's comment is further discussed in Section 6.11, Hydrology and Water Quality and above in Responses to Comment B6-22, B6-24, B6-25, and B6-26.

The Department appreciates the opportunity to comment on the DEIR to assist the City in identifying and mitigating Project impacts on biological resources. CDFW requests a written response to our comments 10 days prior to the City's certification of the final EIR (Pub. Resources Code, § 21092.5). Questions regarding this letter or further coordination should be directed to Eric Weiss, Senior Environmental Scientist at (858) 467-4289, Eric.Weiss@wildlife.ca.gov, or Russell Black, Environmental Scientist at (858) 467-4262, Russell.Black@wildlife.ca.gov.

B6-34

Sincerely,

Edmund Pert
Regional Manager
South Coast Region

Attachment:

Department Comments to the State Water Resources Control Board regarding the Proposed Surface Water Augmentation Regulations on Department-held trust resources, September 12, 2017

ec: Office of Planning and Research, State Clearinghouse, Sacramento
Gail K. Sevrens, Department, San Diego
John O'Brien, Department, Los Alamitos
David Zoutendyk, USFWS, Carlsbad
Patrick Gower, USFWS, Carlsbad

B6-34 Comment noted. The City will notify CDFW of the certification of the Final EIR/EIS.

References

American Bird Conservancy and the New York City Audubon. 2015. Bird-Friendly Building Design. https://abcbirds.org/program/glass-collisions/bird-friendly-design/

Baldwin, D., J. Spromberg, T. Collier, and N. Scholz. 2009. A fish of many scales: extrapolating sublethal pesticide exposures to the productivity of wild salmon populations. Ecological Applications 19(8):2004-2015.

Beckvar, N., T. Dillon, and L. Read. 2005. Approaches for linking whole-body fish tissue residues of mercury or DDT to biological effects thresholds. Environmental Toxicology and Chemistry 24: 2094-2105.

Bohonak, Andrew J., and Marie A. Simovich. Landscape Genetics and Hybridization in the San Diego Fairy Shrimp: Connectivity, Land Use, and Management Recommendations. Journal of Crustacean Biology, 33 (5): 730-740, 2013.

City of San Diego. 1997a. Implementing Agreement by and between United States Fish and Wildlife Service California Department of Fish and Game City of San Diego. To Establish a Multiple Species Conservation Program ("MSCP") for the Conservation of Threatened, Endangered and Other Species in the Vicinity of San Diego, California.

City of San Diego. 1997b. Cornerstone Conservation Bank Agreement by and Between The City of San Diego, The California Department of Fish and Game, The United States Fish and Wildlife Service. July 17, 1997.

City of San Diego. 2012. San Diego Municipal Code Land Development Code—Biology Guidelines. Amended April 23, 2012.

City of San Diego. July 2016. California Environmental Quality Act Significance Determination Thresholds.

County of San Diego, 1998. Final Multiple Species Conservation Program (MSCP) Subregional Plan. Document No. 110921000. Prepared by Ogden. August 1998.

Depew, D., N. Basu, N. Burgess, L. Campbell, E. Devlin, P. Drevnick, C. Hammerschmidt, C. Murphy, M. Sandeinrich, and J. Wiener. 2012. Toxicity of dietary methylmercury to fish: Derivation of ecologically meaningful threshold concentrations. Environmental Toxicology and Chemistry 1-12.

Dillon, T., N. Beckvar, and J. Kern. 2010. Residue-based mercury dose-response in fish: An analysis using lethality-equivalent test endpoints. Environmental Toxicology and Chemistry 11: 2559-2565.

Dudek. September 2017. Biological Resources Report for the North City Project, City of San Diego, California PTS #499621. Prepared for: City of San Diego – Public Utilities Department.
Ericksen, Cylde, and Denton Belk. Fairy Shrimps of California's Puddles, Pools, and Playas. 1999. Mad River Press, Inc. 141 Carter Lane. Eureka, CA 95503. ISBN 0-916422-83-6.
Gehringer D. B., M. E. Finkelstein, K. H. Coale, M. Stephenson, and J. B. Geller. 2012. Assessing mercury exposure and biomarkers in Largemouth Bass (Micropterus salmoides) from a contaminated river system in California. Arch Environ Contam Toxicol 64:484–493. doi: http://dx.doi.org/10.1007/s00244-012-9838-4.

Glibert, P. M. 2012. Ecological stoichiometry and its implications for aquatic ecosystem sustainability. Curr. Opin. Environ. Sustain. 4: 272–277. doi: 10.1016/j.cosust.2012.05.009.
Hassett, R. P., B. Cardinale, L. B. Stabler, and J. J. Elser. 1997. Ecological stoichiometry of N and P in pelagic ecosystems: Comparison of lakes and oceans with emphasis on the zooplankton-phytoplankton interaction. Limnol. Oceanogr. 42(4): 649-662.

Helsel, D. R. and R. M. Hirsch. 2002. Statistical Methods in Water Resources, Book 4, Chapter A3. U.S. Geological Survey. 522 pp.

Karimi, R., C. Chen, P. Pickhardt, N. Fisher, and C. Folt. 2007. Stoichiometric controls of mercury dilution by growth. Proceedings of the National Academy of Sciences. 104(18): 7477-7482.

Lynn, S., and B. E. Kus. 2011. Distribution, abundance, and breeding activities of the least Bell's vireo along the San Diego River, California. 2011 Annual Data Summary. Prepared for the San Diego River Conservancy, San Diego, California.

Macneale, Kate H., Julann A. Spromberg, David H. Baldwin, and Nathaniel L. Scholz. March 31, 2014. *A model Comparison of Direct and Food Web-Mediated Impacts of Common Pesticides on Pacific Salmon.* https://doi.org/10.1371/journal.pone.0092436.

Office of Surface Mining Reclamation and Enforcement. December 31, 1996. Handbook of Western Reclamation Techniques.

South County Grassland Project – Best Management Practices Workshop. September 19, 2017. Presented by Travis Brooks.

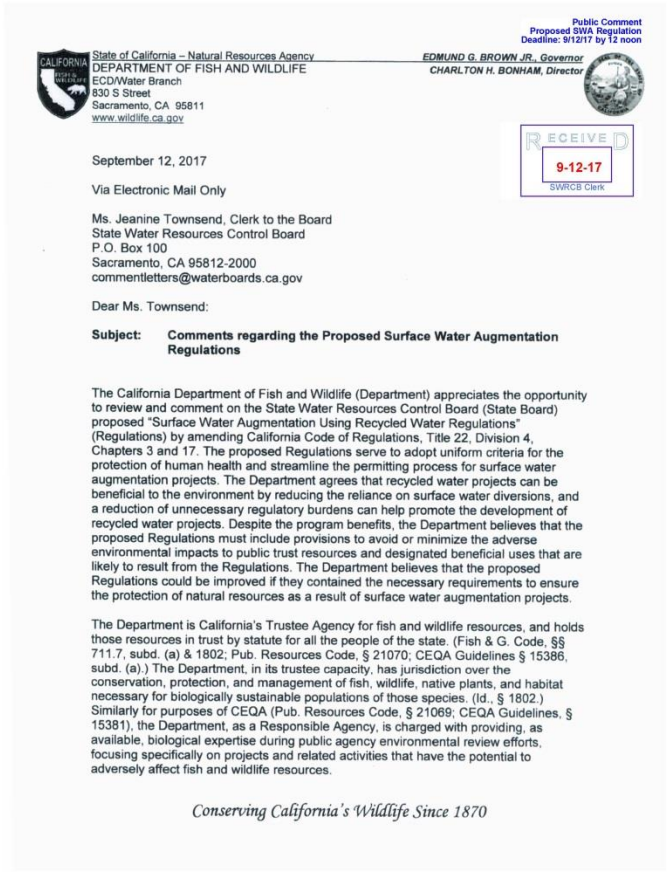
State Water Resources Control Board. 2017. Draft Staff Report for Scientific Peer Review for the Amendment to the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Mercury Reservoir Provisions — Mercury TMDL and Implementation Program for Reservoirs. Statewide Mercury Control Program for Reservoirs. State Water Resources Control Board. Sacramento, CA. April 2017.

U.S. Fish and Wildlife Service. 1998. Draft Recovery plan for the least Bell's vireo. U.S. Fish and Wildlife Service, Portland, Or. 139 pp.

Water Quality Solutions. 2017. *Limnology and Detention Study for Miramar Reservoir*. Prepared for the City of San Diego.

Westerling A. L., H. G. Hidalgo, D. R. Cayan, T. W. Swetnam. July 6, 2006. 10.1126/science.1128834. www.sciencemag.org 313: 940-943.

Ylikarjula, J., M. Heino, and U. Dieckmann. 1999. Ecology and adaption of stunted growth in fish. Evolutionary Ecology 13:433-453.



Public Comment
Proposed SWA Regulation
Deadline: 9/12/17 by 12 noon

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
ECD/Water Branch
830 S Street
Sacramento, CA 95811
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

RECEIVED
9-12-17
SWRCB Clerk

September 12, 2017

Via Electronic Mail Only

Ms. Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-2000
commentletters@waterboards.ca.gov

Dear Ms. Townsend:

Subject: Comments regarding the Proposed Surface Water Augmentation Regulations

The California Department of Fish and Wildlife (Department) appreciates the opportunity to review and comment on the State Water Resources Control Board (State Board) proposed "Surface Water Augmentation Using Recycled Water Regulations" (Regulations) by amending California Code of Regulations, Title 22, Division 4, Chapters 3 and 17. The proposed Regulations serve to adopt uniform criteria for the protection of human health and streamline the permitting process for surface water augmentation projects. The Department agrees that recycled water projects can be beneficial to the environment by reducing the reliance on surface water diversions, and a reduction of unnecessary regulatory burdens can help promote the development of recycled water projects. Despite the program benefits, the Department believes that the proposed Regulations must include provisions to avoid or minimize the adverse environmental impacts to public trust resources and designated beneficial uses that are likely to result from the Regulations. The Department believes that the proposed Regulations could be improved if they contained the necessary requirements to ensure the protection of natural resources as a result of surface water augmentation projects.

The Department is California's Trustee Agency for fish and wildlife resources, and holds those resources in trust by statute for all the people of the state. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) The Department, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (Id., § 1802.) Similarly for purposes of CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381), the Department, as a Responsible Agency, is charged with providing, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

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B6-35 CDFW's letter to the SWRCB regarding the proposed surface water augmentation regulations is noted. As indicated in Draft EIR/EIS pages 2-17 and 2-18, the SWRCB is in the process of adopting regulations for surface water augmentation and is required to consider all public comments, including CDFW's, in its regulatory proceeding. The City is not responsible for the promulgation of these regulations, and therefore it is outside the City's purview to respond to the attached letter. However, the issues brought up in the letter, where applicable, have been addressed in the preceding responses. Since the source of wastewater being recycled is otherwise destined for the ocean, CDFW's concern regarding depletion of inland surface waters and/or estuaries is not applicable to the North City Project.

The Department has jurisdiction over fully protected species of birds, mammals, amphibians and reptiles, and fish, pursuant to Fish & G. Code §§ 3511, 4700, 5050, and 5515. To the extent that implementation of projects may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.Take of any fully protected species is prohibited and the Department cannot authorize their incidental take. The Department has jurisdiction over projects subject to the lake an streambed alteration regulatory authority (Fish & G. Code § 1600 *et seq.*).

Impacts to Water Bodies Resulting from Reduced Discharge

Many water bodies in southern California have had their natural flows reduced or eliminated due to historical surface-water diversions and ground water use. The discharge of treated wastewater currently supports many aquatic and riparian habitats critical to fish and wildlife . Many of these effluent-reliant water bodies represent the last remaining habitats available to support ecological resources because much of the surrounding landscape has been developed for urban and agricultural uses. The protection of these critical habitats from dewatering is of great importance to the Department.

The Department is concerned that the streamlining of the regulatory process for recycled water projects may result in the dewatering of effluent-reliant habitats resulting in ecological degradation of public trust resources. The Department believes that streamlining the process may increase the occurrence of incomplete environmental assessments in the permitting and petition-for-change processes, including but not limited to, the cumulative impact of the project concomitant with other water recycling or water-management changes in the watershed. The Department has had to initiate numerous protests of recycled water projects because project proponents inadequately evaluated impacts to ecological resources, including but not limited to, expected impacts to riparian habitats supporting known populations of State and Federally listed Threatened or Endangered Species and changes in water quality from the exchange of refuge supply water to recycled water. These delays in the permitting process may extend the overall regulatory approval process for recycled water projects.

Direct Impacts to Reservoir Water Quality and Ecosystems

The Department is concerned that the Regulations will have unintended consequenses to aquatic ecosystems. For example, while combination of reverse osmosis and subsequent advanced oxidation process is predicted to effectively remove most harmful

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concentrations of regulated organic chemicals, heavy metals, total dissolved solids, viruses, and bacteria, the treatment is also predicted to remove constituents (e.g., nitrogen, phosphorus, and micronutrients) necessary for the support of aquatic beneficial uses (e.g., WARM, COLD, Rec-1, WILD, and COMM). A reduction in nutrient inputs into eutrophic reservoirs or reservoirs exhibiting cyanobacterial blooms may benefit those water bodies. However, the reduction of nutrients in oligotrophic reservoirs will likely reduce primary productivity, and subsequently, affect the food web and fishery, and increase the risk of bioaccumulative toxicants to fish and human and wildlife consumers of fish.

Impacts to the nutrient levels, ratios, and primary productivity have been predicted to occur by the City of San Diego Indirect Potable Reuse/Reservoir Augmentation San Vicente Reservoir Demonstration Project environmental assessment (Ding 2012).It appears that the Expert Panel and the scientific peer review pursuant Health and Safety Code §57004 limited their evaluations of surface water augmentation to parameters for the protection of potable use of reservoir water and did not consider criteria for the protection of ecological resources. The modeling of impacts to San Vicente Reservoir Demonstration Project included effects from both reservoir enlargement and surface water augmentation, so it is difficult to apportion the actual impact as the result of ultra-low nutrient water discharge into the reservoir.

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Preliminary modeling for the proposed Miramar Reservoir surface water augmentation project in San Diego was also anticipated to potentially change the aquatic community in the reservoir (City of San Diego 2017). Unlike the San Vicente Reservoir demonstration project, the Miramar Reservoir project proposal does not include reservoir enlargement. As well, the project proposes to limit nearly all of the appreciable water inputs to reverse osmosis treated water. The reservoir water will essentially be replaced by ultra-low nutrient water within two years. Miramar Reservoir is currently an oligotrophic reservoir, and it is anticipated that the low level nutrient inputs will further reduce the primary productivity in the reservoir. Such a change in nutrient availability for primary productivity affects the the base of the food chain resulting in reduced secondary productivity throughout the food chain. Surface water augmentation projects that result in a reduction of nutrient levels or changes in ecological stoichiometry in oligotrophic reservoirs may reduce the ability for these reservoirs to support aquatic-life beneficial uses and viable fisheries.

Surface water augmentation projects that result in a reduction of productivity (e.g., primary, secondary, tertiary, and growth rates) will increase risks from bioaccumulative toxicants. The State Board Statewide Mercury Control Program for Reservoirs has determined that reductions in primary productivity exacerbate mercury contamination in reservoirs (SWRCB 2017). Surrogates for both pelagic and benthic primary productivity were found to be statistically correlated to fish mercury concentrations (i.e., reduced productivity corresponded to higher mercury concentrations). Reduction in zooplankton

growth can result in higher rates of mercury bioaccumulation in the zooplankton (Karimi et al. 2007). This study is an example of how nutrient ratio alterations can increase mercury bioaccumulation through the food web. Surface water augmentation projects that exacerbate mercury contamination will result in greater risks to human and wildlife consumers of fish (e.g., WILD, COMM, and REC-1 beneficial uses), and these projects may increase the number of mercury impaired reservoirs in California. Furthermore, fish species will also likely be impacted by mercury toxicity because recent studies have suggested that fish species are as sensitive or more sensitive to mercury toxicity than humans (Beckvar et al. 2005; Dillon et al. 2010; Depew et al. 2012; Gehringer et al. 2012).

The Department is concerned that this proposed Regulation has been structured to establish minimum criteria to protect human health from toxicological effects, but the proposed Regulations has not developed necessary minimum criteria for the protection of fish and wildlife from the discharge directly into reservoirs. Even with the use of advanced treatment (reverse osmosis and advance oxidation), the Department is concerned about the potential affects to fish and wildlife resources from unregulated organic contaminants.

Studies have shown that the use of reverse osmosis and both lime and microfiltration combinations only partial removal of unregulated organic contaminants including pharmaceuticals, antioxidants, and plasticizers in wastewater treatment plant effluent (Soliman et al. 2007). Even trace levels of some of these substances may have deleterious reproductive effects on aquatic organisms; in particular, the Department is concerned with the feminization of fish due to hormones or other endocrine disrupting chemicals that could be difficult to remove by treatment processes (Lavado et al. 2009; Plakas and Karabelas 2011; Murphy et al. 2012; Bhandari et al. 2015). The Department is concerned the treatment level proposed and the monitoring may not be stringent enough to protect fish and wildlife resources from deleterious effects.

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Conclusion

The Department appreciates the State Board's efforts to adopt uniform criteria for the protection of human health and streamline the permitting process for surface water augmentation projects and understand this program will benefit the State. At the same time the Department is concerned that without addressing likely impacts to the State's fish and wildlife resources as a result of the Regulations the program will have unintended negative impacts on these resources. These impacts will most likely be located in areas of southern California where recycled water projects are most needed. Because of the scarcity of water in this region, some of the State's most imperiled fish and wildlife resources will be negatively affected due to reduced discharges to water bodies. In addition, the regulations could increase contaminant exposure to both humans and wildlife, as well as reduce nutrient input into water bodies such that primary

and secondary productivity could be reduced to levels that would not sustain healthy ecosytems. The Department requests that the State Board address these issues through the regulatory process and recommends that State Board staff consult with the Department early in the development of the Regulations.

The Department appreciates the opportunity to provide comments on the proposed Regulations. If you have any questions, please feel free to call me at (916) 445-1272.

Sincerely,

Scott Cantrell
Chief, Water Branch
Department of Fish and Wildlife

Enclosure (Citations)

ec: California Department of Fish and Wildlife

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Citations

Beckvar, N., T. Dillon, and L. Read, 2005. Approaches for linking whole-body fish tissue residues of mercury or DDT to biological effects thresholds. *Environmental Toxicology and Chemistry* 24: 2094-2105.

Bhandari, R.K., S.L. Deem, D.K. Holliday, C.M. Jandegian, C.D. Kassotis, S.C. Nagel, D. E. Tillitt, F.S. vom Saal, and C.S. Rosenfeld. 2015. Effects of the environmental estrogenic contaminants bisphenol A and 17α-ethinyl estradiol on sexual development and adult behaviors in aquatic wildlife species. *General and Comparative Endocrinology* 214: 195-219.

City of San Diego. 2017. Pure Water San Diego at Miramar Reservoir. Fact Sheet. June.

Depew, D., N. Basu, N. Burgess, L. Campbell, E. Devlin, P. Drevnick, C. Hammerschmidt, C. Murphy, M. Sandeinrich, and J. Wiener, 2012. Toxicity of dietary methylmercury to fish: Derivation of ecologically meaningful threshold concentrations. *Environmental Toxicology and Chemistry* 1-12.

Dillon, T., N. Beckvar, and J. Kern, 2010. Residue-based mercury dose-response in fish: An analysis using lethality-equivalent test endpoints. *Environmental Toxicology and Chemistry* 11: 2559-2565.

Ding, Li. 2012. Water Purification Demonstration Project: Limnology and Reservoir Detention Study of San Vicente Reservoir - Nutrient and Algae Modeling Results. Prepared for the City of San Diego.

Gehringer DB, Finkelstein ME, Coale KH, Stephenson M, Geller JB. 2012. Assessing mercury exposure and biomarkers in Largemouth Bass (*Micropterus salmoides*) from a contaminated river system in California. *Arch Environ Contam Toxicol* 64:484–493. doi: http://dx.doi.org/10.1007/s00244-012-9838-4

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Cont.

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Karimi, R. C. Chen, P. Pickhardt, N. Fisher, C. Folt. 2007. Stoichiometric controls of mercury dilution by growth. Proceedings of the National Academy of Sciences. 104(18): 7477-7482.

Lavado, R., J.E. Loyo-Rosales, E. Floyd, E.P. Kolodziej, S.A. Snyder, D.L. Sedlak, and D. Schlenk. 2009. Site-specific profiles of estrogenic activity in agricultural areas of California's inland waters. *Environmental Science & Technology* 43.24: 9110-9116.

Murphy, E.A., G.B. Post, B.T. Buckley, R.L. Lippincott, and M.G. Robson. 2012. Future Challenges to Protecting Public Health from Drinking-Water Contaminants. Annual review of public health. 33: 209-224. doi:10.1146/annurev-publhealth-031811-124506.

Plakas, K.V. and A.J. Karabelas. 2011. Removal of pestcides from water by NF and RO membranes – A Review. *Desalination* 287: 255-265. doi:10.1016/j.desal.2011.08.003

Soliman, M., J. Pedersen, H. Park, A. Castaneda-Jimenez, and M. Stenstrom. 2007. Human Pharmaceuticals, Antioxidants, and Plasticizers in Wastewater Treatment Plant and Water Reclamation Plant Effluents, *Water Environment Research*, Volume 79, Number 2.

SWRCB. 2017. Draft Staff Report for Scientific Peer Review for the Amendment to the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Mercury Reservoir Provisions — Mercury TMDL and Implementation Program for Reservoirs. Statewide Mercury Control Program for Reservoirs. State Water Resources Control Board. Sacramento, CA. April.

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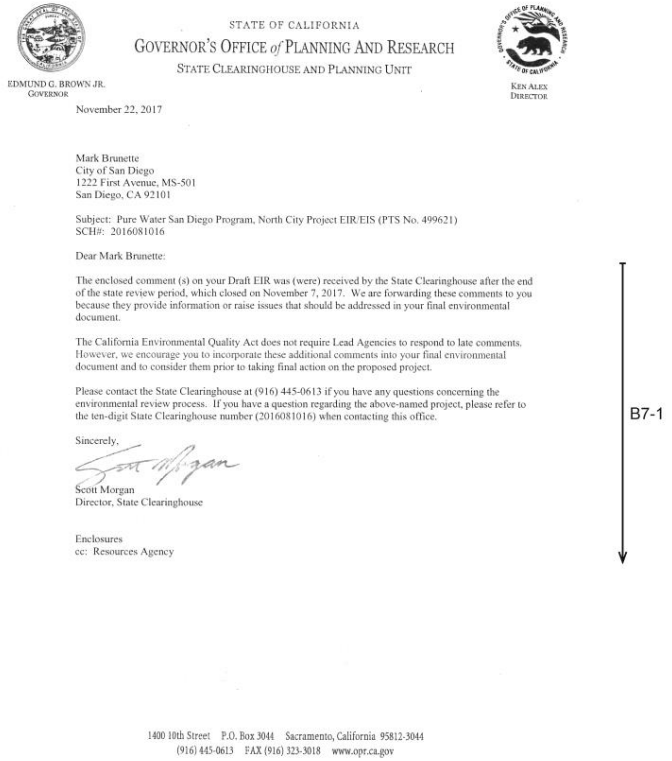
Comment Letter B7



STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

November 22, 2017

Mark Brunette
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Subject: Pure Water San Diego Program, North City Project EIR/EIS (PTS No. 499621)
SCH#: 2016081016

Dear Mark Brunette:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on November 7, 2017. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2016081016) when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

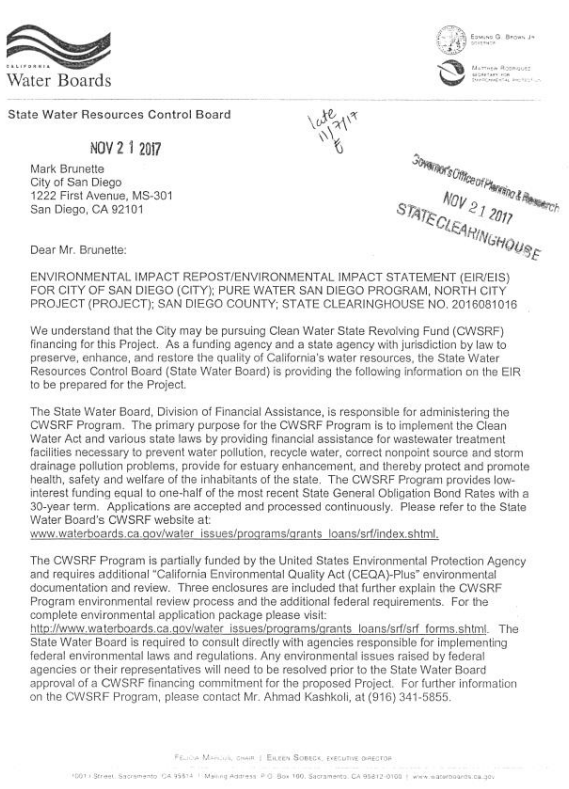
1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

B7-1

Response to Comment Letter B7

State Clearinghouse
Scott Morgan
November 22, 2017

B7-1 This comment acknowledges receipt of the comment letter by the State Water Resources Control Board. Please refer to comment letter B8 for responses to the enclosed letter.



Water Boards

State Water Resources Control Board

NOV 2 1 2017

Mark Brunette
City of San Diego
1222 First Avenue, MS-301
San Diego, CA 92101

late 11/27/17

Governor's Office of Planning & Research
NOV 21 2017
STATE CLEARINGHOUSE

Dear Mr. Brunette:

ENVIRONMENTAL IMPACT REPOST/ENVIRONMENTAL IMPACT STATEMENT (EIR/EIS) FOR CITY OF SAN DIEGO (CITY); PURE WATER SAN DIEGO PROGRAM, NORTH CITY PROJECT (PROJECT); SAN DIEGO COUNTY; STATE CLEARINGHOUSE NO. 2016081016

We understand that the City may be pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project. As a funding agency and a state agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information on the EIR to be prepared for the Project.

The State Water Board, Division of Financial Assistance, is responsible for administering the CWSRF Program. The primary purpose for the CWSRF Program is to implement the Clean Water Act and various state laws by providing financial assistance for wastewater treatment facilities necessary to prevent water pollution, recycle water, correct nonpoint source and storm drainage pollution problems, provide for estuary enhancement, and thereby protect and promote health, safety and welfare of the inhabitants of the state. The CWSRF Program provides low-interest funding equal to one-half of the most recent State General Obligation Bond Rates with a 30-year term. Applications are accepted and processed continuously. Please refer to the State Water Board's CWSRF website at:
www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml.

The CWSRF Program is partially funded by the United States Environmental Protection Agency and requires additional "California Environmental Quality Act (CEQA)-Plus" environmental documentation and review. Three enclosures are included that further explain the CWSRF Program environmental review process and the additional federal requirements. For the complete environmental application package please visit:
http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml. The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to the State Water Board approval of a CWSRF financing commitment for the proposed Project. For further information on the CWSRF Program, please contact Mr. Ahmad Kashkoli, at (916) 341-5855.

B7-1
Cont.

It is important to note that prior to a CWSRF financing commitment, projects are subject to provisions of the Federal Endangered Species Act (ESA), and must obtain Section 7 clearance from the United States Department of the Interior, Fish and Wildlife Service (USFWS), and/or the United States Department of Commerce National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) for any potential effects to special-status species.

Please be advised that the State Water Board will consult with the USFWS, and/or the NMFS regarding all federal special-status species that the Project has the potential to impact if the Project is to be financed by the CWSRF Program. The City will need to identify whether the Project will involve any direct effects from construction activities, or indirect effects such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur in the Project site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects.

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act (Section 106). The State Water Board has responsibility for ensuring compliance with Section 106, and must consult directly with the California State Historic Preservation Officer (SHPO). SHPO consultation is initiated when sufficient information is provided by the CWSRF applicant. If the City decides to pursue CWSRF financing, please retain a consultant that meets the Secretary of the Interior's Professional Qualifications Standards (http://www.nps.gov/history/local-law/arch_stnds_9.htm) to prepare a Section 106 compliance report.

Note that the City will need to identify the Area of Potential Effects (APE), including construction and staging areas, and the depth of any excavation. The APE is three-dimensional and includes all areas that may be affected by the Project. The APE includes the surface area and extends below ground to the depth of any Project excavations. The records search request should extend to a ½-mile beyond project APE. The appropriate area varies for different projects but should be drawn large enough to provide information on what types of sites may exist in the vicinity.

Other federal environmental requirements pertinent to the Project under the CWSRF Program include the following (for a complete list of all federal requirements please visit: https://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf):

A. An alternative analysis discussing environmental impacts of the project in either the CEQA document (EIR) or in a separate report.

B. A public meeting or hearing for adoption/certification of all environmental documents, except for those with little to no environmental impacts.

C. Compliance with the Federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.

B7-1
Cont.

Mark Brunette - 3 -

D. Compliance with the Coastal Zone Management Act: Identify whether the Project is within a coastal zone and the status of any coordination with the California Coastal Commission.

E. Protection of Wetlands: Identify any portion of the proposed Project area that should be evaluated for wetlands or United States waters delineation by the United States Army Corps of Engineers (USACE), or requires a permit from the USACE, and identify the status of coordination with the USACE.

F. Compliance with the Farmland Protection Policy Act: Identify whether the Project will result in the conversion of farmland. State the status of farmland (Prime, Unique, or Local and Statewide Importance) in the Project area and determine if this area is under a Williamson Act Contract.

G. Compliance with the Migratory Bird Treaty Act: List any birds protected under this act that may be impacted by the Project and identify conservation measures to minimize impacts.

H. Compliance with the Flood Plain Management Act: Identify whether or not the Project is in a Flood Management Zone and include a copy of the Federal Emergency Management Agency flood zone maps for the area.

I. Compliance with the Wild and Scenic Rivers Act: Identify whether or not any Wild and Scenic Rivers would be potentially impacted by the Project and include conservation measures to minimize such impacts.

B7-1
Cont.

Following are specific comments on the City's draft EIR:

1. Please correct the State Clearinghouse number on pages 1 and 3.
2. On Page 9, it reads: "State Water Resources Control Board Division of Clean Water Programs". Please change this to: State Water Resources Control Board, Division of Financial Assistance.

If pursuing CWSRF funds:

1. Please come up with a naming convention for each application that ties the Project titles submitted to the EIR/EIS.

Please provide us with the following documents applicable to the proposed Project following the City's CEQA process: (1) one copy of the draft and final EIR, (2) the resolution certifying the EIR and making CEQA findings, (3) all comments received during the review period and the City's response to those comments, (4) the adopted Mitigation Monitoring and Reporting Program, and (5) the Notice of Determination filed with the San Diego County Clerk and the Governor's Office of Planning and Research, State Clearinghouse. We would appreciate notices of any hearings or meetings held regarding environmental review of any projects to be funded by the State Water Board.

Mark Brunette - 4 -

Thank you for the opportunity to review the City's draft EIR. If you have any questions or concerns, please feel free to contact me at (916) 327-9401 or by email at Carina.grove@waterboards.ca.gov, or contact Ahmad Kashkoli at (916) 341-5855, or by email at Ahmad.Kashkoli@waterboards.ca.gov.

Sincerely,

Carina Grove
Environmental Scientist

Enclosures (3):

1. Clean Water State Revolving Fund Environmental Review Requirements
2. Quick Reference Guide to CEQA Requirements for State Revolving Fund Loans
3. Basic Criteria for Cultural Resources Reports

Cc: State Clearinghouse
(Re: SCH# 2016081016)
P.O. Box 3044
Sacramento, CA 95812-3044

B7-1
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CLEAN WATER STATE REVOLVING FUND

California Environmental Quality Act Requirements

State Water Resources Control Board
Division of Financial Assistance

The State Water Resources Control Board (State Water Board), Division of Financial Assistance, administers the Clean Water State Revolving Fund (CWSRF) Program. The CWSRF Program is partially funded by grants from the United States Environmental Protection Agency. All applicants seeking CWSRF financing must comply with the California Environmental Quality Act (CEQA), and provide sufficient information so that the State Water Board can document compliance with federal environmental laws. The "Environmental Package" provides the forms and instructions needed to complete the environmental review requirements for CWSRF Program financing. It is available at: *http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml*

We've got the green to keep California's water clean
CLEAN WATER STATE REVOLVING FUND

LEAD AGENCY

The applicant is usually the "Lead Agency" and must prepare and circulate an environmental document before approving a project. Only a public agency, such as a local, regional or state government, may be the "Lead Agency" under CEQA. If a project will be completed by a non-governmental organization, "Lead Agency" responsibility goes to the first public agency providing discretionary approval for the project.

RESPONSIBLE AGENCY

The State Water Board is generally a "Responsible Agency" under CEQA. As a "Responsible Agency," the State Water Board must make findings based on information provided by the "Lead Agency" before financing a project.

ENVIRONMENTAL REVIEW

The State Water Board's environmental review of the project's compliance with both CEQA and federal cross-cutting regulations must be completed before a project can be financed by the CWSRF Program.

DOCUMENT REVIEW

Applicants are encouraged to consult with State Water Board staff early during preparation of CEQA document if considering CWSRF financing. Applicants shall also send their environmental documents to the State Water Board, Environmental Review Unit during the CEQA public review period. This way, any environmental concerns can be addressed early in the process.

REQUIRED DOCUMENTS

The Environmental Review Unit requires the documents listed below to make findings and complete its environmental review. Once the State Water Board receives all the required documents and makes its own findings, the environmental review for the project will be complete.

- ✓ Draft and Final Environmental Documents: Environmental Impact Report, Negative Declaration, and Mitigated Negative Declaration as appropriate to the project
- ✓ Resolution adopting/certifying the environmental document, making CEQA findings, and approving the project
- ✓ All comments received during the public review period and the "Lead Agency's" responses to those comments
- ✓ Adopted Mitigation Monitoring and Reporting Plan, if applicable
- ✓ Date-stamped copy of the Notice of Determination or Notice of Exemption filed with the County Clerk(s) and the Governor's Office of Planning and Research
- ✓ CWSRF Evaluation Form for Environmental Review and Federal Coordination with supporting documents

Contact Information: For more information related to the CWSRF Program environmental review process and requirements, please contact your State Water Board Project Manager or Mr. Ahmad Kashkoli at 916-341-5855 or Ahmad.Kashkoli@waterboards.ca.gov

REVISED FEB 2014

Water Boards
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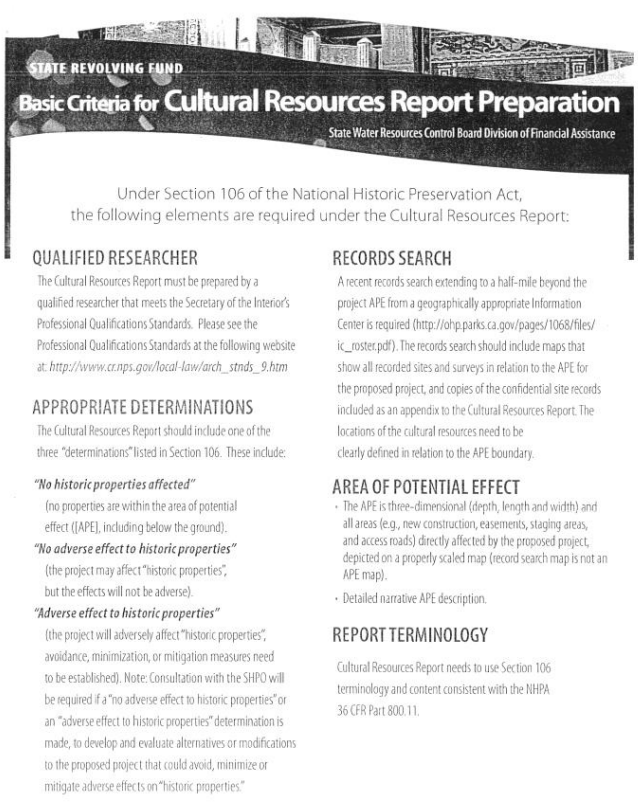

STATE REVOLVING FUND

Basic Criteria for Cultural Resources Report Preparation

State Water Resources Control Board Division of Financial Assistance

Under Section 106 of the National Historic Preservation Act, the following elements are required under the Cultural Resources Report:

QUALIFIED RESEARCHER

The Cultural Resources Report must be prepared by a qualified researcher that meets the Secretary of the Interior's Professional Qualifications Standards. Please see the Professional Qualifications Standards at the following website at: *http://www.cr.nps.gov/local-law/arch_stnds_9.htm*

APPROPRIATE DETERMINATIONS

The Cultural Resources Report should include one of the three "determinations" listed in Section 106. These include:

"No historic properties affected"
(no properties are within the area of potential effect ([APE], including below the ground).

"No adverse effect to historic properties"
(the project may affect "historic properties", but the effects will not be adverse).

"Adverse effect to historic properties"
(the project will adversely affect "historic properties", avoidance, minimization, or mitigation measures need to be established). Note: Consultation with the SHPO will be required if a "no adverse effect to historic properties" or an "adverse effect to historic properties" determination is made, to develop and evaluate alternatives or modifications to the proposed project that could avoid, minimize or mitigate adverse effects on "historic properties."

RECORDS SEARCH

A recent records search extending to a half-mile beyond the project APE from a geographically appropriate Information Center is required (http://ohp.parks.ca.gov/pages/1068/files/ic_roster.pdf). The records search should include maps that show all recorded sites and surveys in relation to the APE for the proposed project, and copies of the confidential site records included as an appendix to the Cultural Resources Report. The locations of the cultural resources need to be clearly defined in relation to the APE boundary.

AREA OF POTENTIAL EFFECT

- The APE is three-dimensional (depth, length and width) and all areas (e.g., new construction, easements, staging areas, and access roads) directly affected by the proposed project, depicted on a properly scaled map (record search map is not an APE map).
- Detailed narrative APE description.

REPORT TERMINOLOGY

Cultural Resources Report needs to use Section 106 terminology and content consistent with the NHPA 36 CFR Part 800.11.

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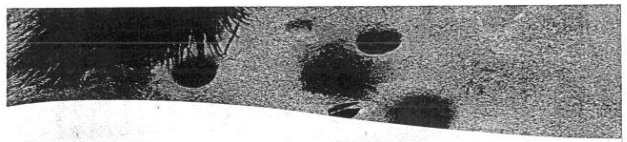

NATIVE AMERICAN AND INTERESTED PARTY CONSULTATION

- Native American and interested party consultation should be initiated at the planning phase of the proposed project to gather information to assist with the preparation of an adequate Cultural Resources Report.
- The Native American Heritage Commission (NAHC) must be contacted to obtain documentation of a search of the Sacred Lands Files for or near the project APE. *http://nahc.ca.gov/wp-content/uploads/2015/04/Sacred-Lands-File-NA-Contact-Form.pdf*
- All local Native American tribal organizations or individuals identified by the NAHC must be contacted by certified mail, that includes a map and a description of the proposed project.
- Follow-up contact should be made by telephone and a phone log maintained to document the contacts and responses.
- Comments and Responses need to be addressed by the preparer.
- Letters of inquiry seeking historical information on the project area and local vicinity should be sent to local historical societies, preservation organizations, or individual members of the public with a demonstrated interest in the proposed project.

Copies of all documents mentioned above (project description, map, phone log and letters sent to the NAHC and Native American tribal organizations or individuals and interested parties) must be included in the Cultural Resources Report.

Contact Information: For more information related to the SRF Program Cultural Resources and Requirments, please contact Mr. Gary Scholze at 916-341-5642 or Gary.Scholze@waterboards.ca.gov

PRECAUTIONS

- A determination of ***"no known resources"*** without supporting evidence is unacceptable. The Cultural Resources Report must identify resources within the APE or demonstrate with sufficient evidence that none are present.
- ***"The area is sensitive for buried archaeological resources,"*** followed by a statement that ***"monitoring is recommended."*** Monitoring is not an acceptable option without good-faith effort to demonstrate that no known resource is present.
- If ***"the area is already disturbed by previous construction"*** documentation is still required to demonstrate that the proposed project will not affect "historic properties." An existing road can be protecting a buried archaeological deposit or may itself be a "historic property." Additionally, previous construction may have impacted an archaeological site that has not been previously documented.

SHPO CONSULTATION LETTER (AS REQUESTED)

Following review of the submitted material, State Water Resources Control Board staff may request submittal of a draft consultation letter prepared by the qualified researcher. A draft consultation letter template is available for download on the State Water Board webpage at: *http://www.waterboards.ca.gov/water_issues/programs/grants_loans/cwsrf_requirements.shtml*

Water Boards

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National Historic Preservation Act (NHPA)

Section 106 of the NHPA requires an analysis of the effects on "historic properties." The Section 106 process is designed to accommodate historic preservation concerns for federal actions with the potential to affect historic properties. Early consultation with appropriate government agencies, Indian tribes, and members of the public, will ensure that their views and concerns are addressed during the planning phase. Historic properties (i.e., buildings, structures, objects, and archeological sites 50 years or older) are properties that are included in the National Register of Historic Places or meet the criteria for the National Register.

Required Documents:

- A draft State Historic Preservation Officer consultation request letter; and
- A cultural resources report on historic properties conducted according to the Secretary of the Interior's Standards, including:
  - A clearly defined Area of Potential Effect (APE), specifying the length, width, and depth of excavation, with a map clearly illustrating the project APE;
  - A records search, less than one year old, extending to a half-mile beyond the project APE;
  - Written description of field methods;
  - Identification and evaluation of historic properties within the project's APE; and
  - Documentation of consultation with the Native American Heritage Commission and local Native American tribes.

ADDITIONAL INFORMATION

If your project has the potential to affect biological resources or historic properties, the consultation process can be lengthy. Please contact the State Water Board staff early in your planning process to discuss what additional information may be needed for your specific project.

Please contact your State Water Board Project Manager or Mr. Ahmad Kashkoli at (916) 341-5855 or *Ahmad.Kashkoli@waterboards.ca.gov* for more information related to the CWSRF Program environmental review process and requirements.

We've got the green... to keep California's water clean

www.waterboards.ca.gov

STATE REVOLVING FUND

Environmental Review Requirements

State Water Resources Control Board
Division of Financial Assistance

B7-1
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ENVIRONMENTAL REVIEW REQUIREMENTS

The Clean Water State Revolving Fund (CWSRF) Program is partially funded by the United States Environmental Protection Agency (EPA), and is subject to federal environmental regulations as well as the California Environmental Quality Act (CEQA). All applicants seeking CWSRF financing must comply with both CEQA and the federal cross-cutting regulations. The "**Environmental Package**" provides the forms and instructions needed to complete the environmental review requirements for CWSRF financing. The forms and instructions are available at: *http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml.*

Lead Agency/Applicant

The applicant will generally act as the "Lead Agency" for environmental review. It will prepare, circulate, and consider the environmental documents prior to approving the project. It also provides the State Water Board with copies of the CEQA documents, and a completed "**Environmental Evaluation Form for Environmental Review and Federal Coordination**" *(http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf)* with supporting documents as part of the "**Environmental Package.**"

Responsible Agency/State Water Board

The State Water Board acts on behalf of EPA to review and consider the environmental documents before approving financing. The State Water Board may require additional studies or documentation to make its own CEQA findings, as well as circulate CEQA documents and other environmental reports to relevant federal agencies for consultation before making a determination about the project financing.

The Applicant must address all relevant federal agencies' comments before project financing is approved.

FEDERAL CROSS-CUTTING REGULATIONS

The CWSRF Program requires consultation with relevant federal agencies on the following federal environmental regulations, if applicable to the project:

- Clean Air Act
- Coastal Barriers Resources Act
- Coastal Zone Management Act
- Endangered Species Act
- Environmental Justice
- Farmland Protection Policy Act
- Floodplain Management
- Magnuson-Stevens Fishery Conservation and Management Act
- Migratory Bird Treaty Act
- National Historic Preservation Act
- Protection of Wetlands
- Safe Drinking Water Act, Sole Source Aquifer Protection
- Wild and Scenic Rivers Act

The following is a brief overview of requirements for some of the key regulations.

Clean Air Act (CAA)

The CAA general conformity analysis only applies to projects in areas not meeting the National Ambient Air Quality Standards or subject to a maintenance plan.

If project emissions are below the federal "de minimis" levels then:

- A general conformity analysis is not required.

If project emissions are above the federal "de minimis" levels then:

- A general conformity determination for the project must be made. A general conformity determination can be made if facilities are sized to meet the needs of current population projections used in an approved State Implementation Plan for air quality.
- Using population projections, applicants must explain how the proposed capacity increase was calculated.

An air quality modeling analysis is necessary of all projects for the following criteria pollutants, regardless of attainment status:

- Carbon monoxide
- Lead
- Oxides of nitrogen
- Ozone
- Particulate matter (PM2.5 and PM10)
- Sulfur dioxide

Endangered Species Act (ESA)

The ESA requires an analysis of the effects on federally listed species. The State Water Board will determine the project's potential effects on federally listed species, and will initiate informal/formal consultation with the United States Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service, as necessary under Section 7 of the ESA.

Required Documents:

- ✓ A species list, less than one year old, from the USFWS and the California Department of Fish and Wildlife's Natural Diversity Database;
- ✓ A biological survey conducted during the appropriate time of year;
- ✓ Maps or documents (biological reports or biological assessments, if necessary); and
- ✓ An assessment of the direct or indirect impacts to any federally listed species and/or critical habitat. If no effects are expected, explain why and provide the supporting evidence.

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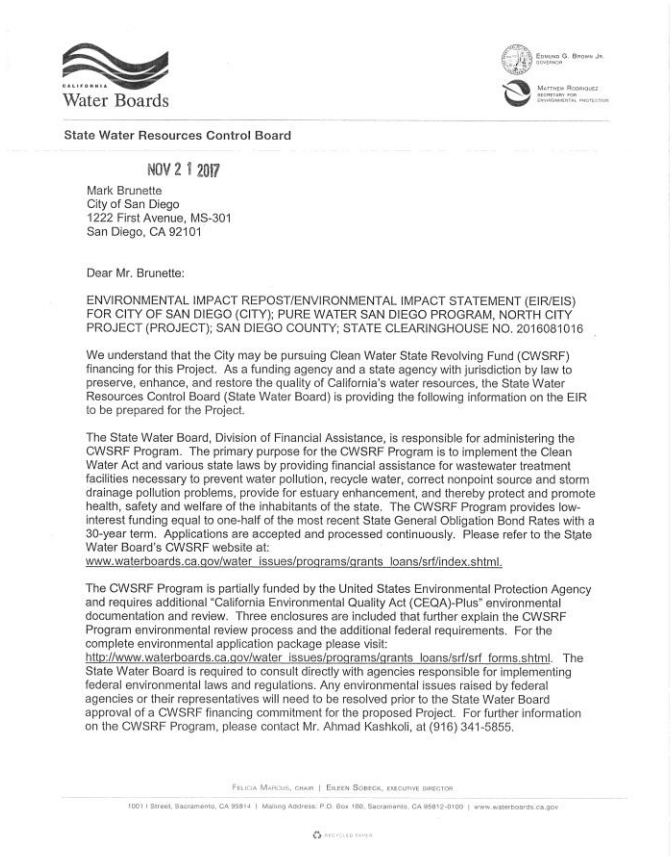
Comment Letter B8



Water Boards

State Water Resources Control Board

NOV 2 1 2017

Mark Brunette
City of San Diego
1222 First Avenue, MS-301
San Diego, CA 92101

Dear Mr. Brunette:

ENVIRONMENTAL IMPACT REPOST/ENVIRONMENTAL IMPACT STATEMENT (EIR/EIS) FOR CITY OF SAN DIEGO (CITY); PURE WATER SAN DIEGO PROGRAM, NORTH CITY PROJECT (PROJECT); SAN DIEGO COUNTY; STATE CLEARINGHOUSE NO. 2016081016

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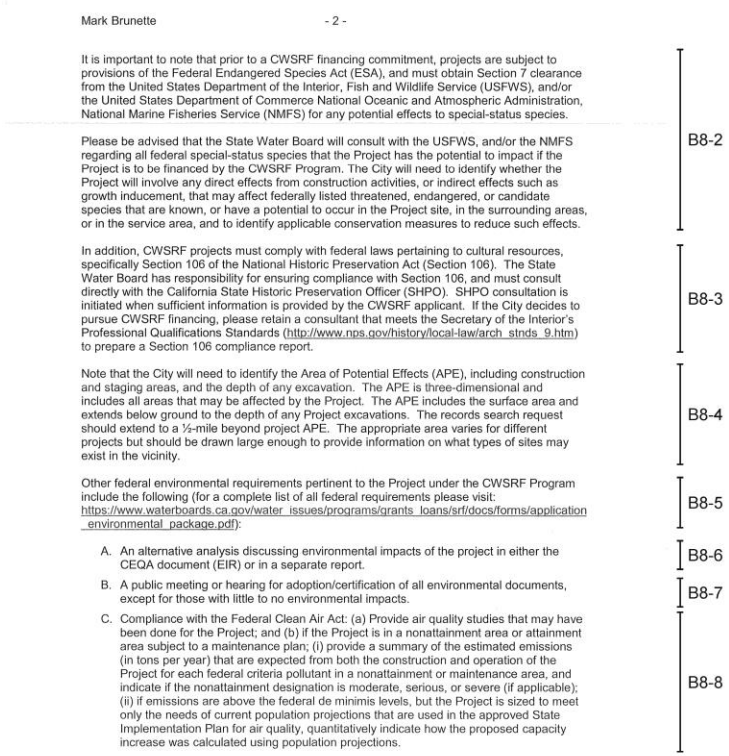
B8-1

FELICIA MARCUS, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR
1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, CA 95812-0100 | www.waterboards.ca.gov

Response to Comment Letter B8

State Water Resources Control Board (SWRCB)
Carina Grove
November 21, 2017

B8-1 Comment noted. The City appreciates the information provided by SWRCB regarding the Clean Water State Revolving Fund (CWSRF). The City plans to submit an application for CWSRF funding in early 2018.



Mark Brunette - 2 -

It is important to note that prior to a CWSRF financing commitment, projects are subject to provisions of the Federal Endangered Species Act (ESA), and must obtain Section 7 clearance from the United States Department of the Interior, Fish and Wildlife Service (USFWS), and/or the United States Department of Commerce National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) for any potential effects to special-status species.

Please be advised that the State Water Board will consult with the USFWS, and/or the NMFS regarding all federal special-status species that the Project has the potential to impact if the Project is to be financed by the CWSRF Program. The City will need to identify whether the Project will involve any direct effects from construction activities, or indirect effects such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur in the Project site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects.

B8-2

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act (Section 106). The State Water Board has responsibility for ensuring compliance with Section 106, and must consult directly with the California State Historic Preservation Officer (SHPO). SHPO consultation is initiated when sufficient information is provided by the CWSRF applicant. If the City decides to pursue CWSRF financing, please retain a consultant that meets the Secretary of the Interior's Professional Qualifications Standards (http://www.nps.gov/history/local-law/arch_stnds_9.htm) to prepare a Section 106 compliance report.

B8-3

Note that the City will need to identify the Area of Potential Effects (APE), including construction and staging areas, and the depth of any excavation. The APE is three-dimensional and includes all areas that may be affected by the Project. The APE includes the surface area and extends below ground to the depth of any Project excavations. The records search request should extend to a ½-mile beyond project APE. The appropriate area varies for different projects but should be drawn large enough to provide information on what types of sites may exist in the vicinity.

B8-4

Other federal environmental requirements pertinent to the Project under the CWSRF Program include the following (for a complete list of all federal requirements please visit: https://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf):

B8-5

A. An alternative analysis discussing environmental impacts of the project in either the CEQA document (EIR) or in a separate report.

B8-6

B. A public meeting or hearing for adoption/certification of all environmental documents, except for those with little to no environmental impacts.

B8-7

C. Compliance with the Federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.

B8-8

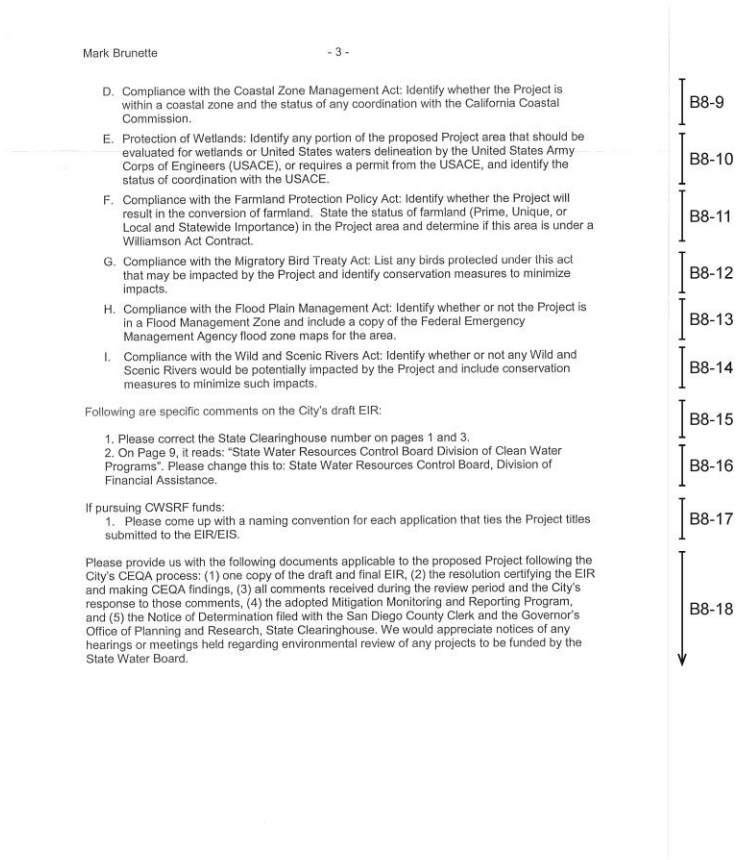
B8-2 Comment noted. The Draft EIR/EIS discusses the Project's compliance with applicable federal environmental regulations and policies in Section 9.5. The Project's direct and indirect effects on special-status species is discussed in more detail in Section 6.4, Biological Resources**.** As stated in Section 9.5 of the Draft EIR/EIS:

> Implementation of the North City Project will not jeopardize the survival and recovery of any species listed or proposed as federally threatened or endangered, or result in the destruction or adverse modification of any critical habitat areas.
>
> The North City Pure Water Facility site contains vernal pool habitat. Surveys have not identified any federally listed species at the site. The proposed gas pipeline across Marine Corps Air Station (MCAS) Miramar will affect sage scrub habitat used by the threatened coastal California gnatcatcher, and will be installed within 100 feet of vernal pools. The U.S. Fish and Wildlife Service has

	been requested to concur with a "not likely to adversely affect" determination by the Bureau of Reclamation, under section 7(a)(2) of the Endangered Species Act.
	B8-3 Comment noted. The Draft EIR/EIS discusses the Project's compliance with Section 106 of the National Historic Preservation Act in Section 9.5, and in more detail in Section 6.10, Historical Resources. As stated in Section 9.5 of the Draft EIR/EIS, "no adverse effects to any properties eligible for listing in the National Register of Historic Places have been identified." In addition, the Bureau of Reclamation, which is a joint lead agency of the Project, has initiated consultation with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and implementing regulations at 36 CFR Part 800**.**
	B8-4 The City and Bureau of Reclamation have identified the Area of Potential Effects (APE) to include all proposed potential project facilities, temporary work areas, and pipeline routes.

	The archaeological APE includes a 100-foot buffer applied to all proposed Project components. The APE is shown on Figures 5A–5L in Appendix F2 of the Draft EIR/EIS. The vertical APE for the Project is variable and will be subject to revision based on ongoing design modifications; however, subsurface work will be largely confined to disturbed road fill or other areas. For the purposes of providing management recommendations, the vertical APE has been assumed to be no greater than 30 feet below the ground surface.. A records search encompassing the APE and a 1-mile buffer around the APE was conducted, and the results are included in Appendix F2 of the Draft EIR/EIS.
	B8-5 Comment noted. The City acknowledges the federal requirements pertinent to the Project under the CWSRF Program.
	B8-6 The environmental document for the Project has been prepared as a combined EIR and EIS, and the alternatives analysis follows the typical format of an EIS. As such, a description of each of the three alternatives, including the No

	Project Alternative, the Preferred Alternative (i.e., the Miramar Reservoir Alternative), and the San Vicente Reservoir Alternative, is presented in Chapter 3 of the Draft EIR/EIS. An environmental analysis of each alternative is presented in Chapter 6 of the Draft EIR/EIS. **B8-7** Comment noted. A public hearing is being planned for the adoption/certification of the environmental documents for the Project. **B8-8** The Draft EIR/EIS discusses the Project's compliance with the federal Clean Air Act in Section 9.5, and in more detail in Section 6.3, Air Quality and Odor. As stated in Section 9.5 of the Draft EIR/EIS, "the San Diego air basin is nonattainment/moderate for 2008 8-hour ozone, maintenance for 1997 8-hour ozone, maintenance for ozone 1-hour, maintenance for carbon monoxide, and attainment for lead, NO_2, $PM_{2.5}$ and PM_{10}. The Project would not exceed the federal de minimis thresholds during construction or operation. No conformity determination is required."



Mark Brunette - 3 -

D. Compliance with the Coastal Zone Management Act: Identify whether the Project is within a coastal zone and the status of any coordination with the California Coastal Commission. B8-9

E. Protection of Wetlands: Identify any portion of the proposed Project area that should be evaluated for wetlands or United States waters delineation by the United States Army Corps of Engineers (USACE), or requires a permit from the USACE, and identify the status of coordination with the USACE. B8-10

F. Compliance with the Farmland Protection Policy Act: Identify whether the Project will result in the conversion of farmland. State the status of farmland (Prime, Unique, or Local and Statewide Importance) in the Project area and determine if this area is under a Williamson Act Contract. B8-11

G. Compliance with the Migratory Bird Treaty Act: List any birds protected under this act that may be impacted by the Project and identify conservation measures to minimize impacts. B8-12

H. Compliance with the Flood Plain Management Act: Identify whether or not the Project is in a Flood Management Zone and include a copy of the Federal Emergency Management Agency flood zone maps for the area. B8-13

I. Compliance with the Wild and Scenic Rivers Act: Identify whether or not any Wild and Scenic Rivers would be potentially impacted by the Project and include conservation measures to minimize such impacts. B8-14

Following are specific comments on the City's draft EIR: B8-15

1. Please correct the State Clearinghouse number on pages 1 and 3.
2. On Page 9, it reads: "State Water Resources Control Board Division of Clean Water Programs". Please change this to: State Water Resources Control Board, Division of Financial Assistance. B8-16

If pursuing CWSRF funds:
1. Please come up with a naming convention for each application that ties the Project titles submitted to the EIR/EIS. B8-17

Please provide us with the following documents applicable to the proposed Project following the City's CEQA process: (1) one copy of the draft and final EIR, (2) the resolution certifying the EIR and making CEQA findings, (3) all comments received during the review period and the City's response to those comments, (4) the adopted Mitigation Monitoring and Reporting Program, and (5) the Notice of Determination filed with the San Diego County Clerk and the Governor's Office of Planning and Research, State Clearinghouse. We would appreciate notices of any hearings or meetings held regarding environmental review of any projects to be funded by the State Water Board. B8-18

B8-9 Section 9.5 of the Draft EIR/EIS discusses the Project's compliance with the Coastal Zone Management Act. As stated in Section 9.5, "[t]he North City Project is entirely outside the coastal zone, with the exception of one overflow pipe from the Morena Pump Station that is approximately 200 feet within the boundary. The City has received concurrence that the overflow pipe is within the City's jurisdiction (and the California Coastal Commission's Coastal Development Permit appealable jurisdiction), and coastal development permits can be processed locally."

B8-10 The Draft EIR/EIS discusses the Project's compliance with Executive Order 11990 – Protection of Wetlands in Section 9.5. As stated in Section 9.5,"construction of the North City Pure Water Facility will result in direct permanent impacts to a total of 0.38 acre of vernal pool wetlands; impacts would be mitigated through the restoration of 0.75 acre of vernal pools and adjacent upland habitats. Applicable wetland permits will also be obtained. A subaqueous discharge pipeline will also be installed at the bottom of the Miramar Reservoir. Placement of pipes at the bottom of

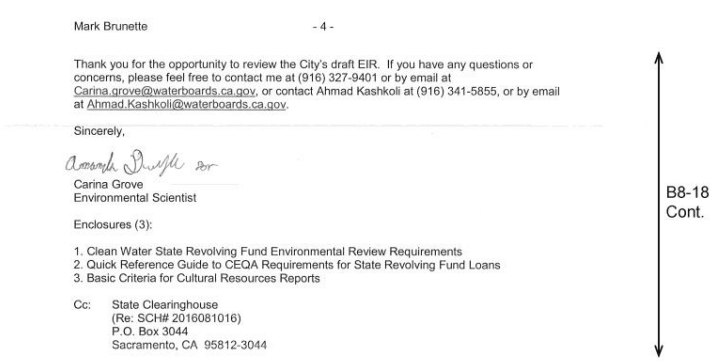
	the reservoir will not result in the net loss of aquatic resources function or services, nor would it reduce habitat for wildlife." More detail regarding the Project's impacts to wetlands is presented in Section 6.4.4, Issue 2 – Jurisdictional Resources.
	B8-11 The Draft EIR/EIS discusses the Project's compliance with the Farmland Protection Policy Act in Section 9.5. As stated in Section 9.5 of the Draft EIR/EIS, "the Project will not convert farmland to non-agricultural use. The proposed Landfill Gas Pipeline alignment will avoid Unique Farmland mapped at the west end of MCAS Miramar. The alignment crosses locally important farmland along Miramar Road, but the pipeline will be installed within the paved roadway. No other Prime, Unique, or Statewide farmland is mapped within or near the Project. Except for the undeveloped land on MCAS Miramar, nearly all of the Project is within land already in urban development, mapped as developed by the California Farmland and Monitoring Program, and identified as "urbanized area" on the Census Bureau Map."

B8-12 The Draft EIR/EIS discusses the Project's compliance with the Migratory Bird Treaty Act in Section 9.5, and discussed in more detail in Section 6.4, Biological Resources. As stated in Section 9.5 of the Draft EIR/EIS, "vegetation clearing will be scheduled outside of the bird nesting season. Biological monitoring is required before any construction activities during the nesting season."

B8-13 The Draft EIR/EIS discusses the Project's compliance with the Flood Plain Management Act in Section 9.5. Section 9.5 of the Final EIR/EIS reads:

> Several project pipelines would cross areas located within a 1~~5~~00-year floodplain or floodway. No aboveground facilities will be installed within or partially within a flood zone. The Project will not place structures that would impede or redirect flood flows. There is no practicable alternative to locating the pipelines in the floodplain. The action conforms to local floodplain protection standards.

	B8-14 The Draft EIR/EIS discusses the Project's compliance with the Wild and Scenic Rivers Act in Section 9.5. As stated in Section 9.5 of the Draft EIR/EIS, "the Project does not involve any river designated in the National Wild and Scenic Rivers System or any river listed in the National River Inventory. No river in San Diego County is designated in the National Wild and Scenic Rivers System or listed in the National River Inventory. The nearest Wild and Scenic River is Bautista Creek, in the San Jacinto Mountains, Riverside County, 50 miles north of the Project." **B8-15** The State Clearinghouse number has been revised on the cover page and title page of the Final EIR/EIS. **B8-16** In response to this comment, the distribution list included in Final EIR/EIS has been revised to read "State Water Resources Control Board, Division of Financial Assistance." **B8-17** Comment noted. A naming convention for each Project component has been developed for the application and will either match or clearly relate to the titles used in the EIR/EIS.



Mark Brunette - 4 -

Thank you for the opportunity to review the City's draft EIR. If you have any questions or concerns, please feel free to contact me at (916) 327-9401 or by email at Carina.grove@waterboards.ca.gov, or contact Ahmad Kashkoli at (916) 341-5855, or by email at Ahmad.Kashkoli@waterboards.ca.gov.

Sincerely,

Carina Grove
Environmental Scientist

Enclosures (3):

1. Clean Water State Revolving Fund Environmental Review Requirements
2. Quick Reference Guide to CEQA Requirements for State Revolving Fund Loans
3. Basic Criteria for Cultural Resources Reports

Cc: State Clearinghouse
(Re: SCH# 2016081016)
P.O. Box 3044
Sacramento, CA 95812-3044

B8-18 Cont.

B8-18 Comment noted. Following the City's CEQA process, the requested documents applicable to the Project will be provided to SWRCB. The City appreciates the SWRCB's review of the Draft EIR/EIS. The provided attachments are noted.

CLEAN WATER STATE REVOLVING FUND

California Environmental Quality Act Requirements

State Water Resources Control Board
Division of Financial Assistance

The State Water Resources Control Board (State Water Board), Division of Financial Assistance, administers the Clean Water State Revolving Fund (CWSRF) Program. The CWSRF Program is partially funded by grants from the United States Environmental Protection Agency. All applicants seeking CWSRF financing must comply with the California Environmental Quality Act (CEQA), and provide sufficient information so that the State Water Board can document compliance with federal environmental laws. The "Environmental Package" provides the forms and instructions needed to complete the environmental review requirements for CWSRF Program financing. It is available at *http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml*

We've got the green to keep California's water clean

LEAD AGENCY

The applicant is usually the "Lead Agency" and must prepare and circulate an environmental document before approving a project. Only a public agency, such as a local, regional or state government, may be the "Lead Agency" under CEQA. If a project will be completed by a non-governmental organization, "Lead Agency" responsibility goes to the first public agency providing discretionary approval for the project.

RESPONSIBLE AGENCY

The State Water Board is generally a "Responsible Agency" under CEQA. As a "Responsible Agency," the State Water Board must make findings based on information provided by the "Lead Agency" before financing a project.

ENVIRONMENTAL REVIEW

The State Water Board's environmental review of the project's compliance with both CEQA and federal cross-cutting regulations must be completed before a project can be financed by the CWSRF Program.

DOCUMENT REVIEW

Applicants are encouraged to consult with State Water Board staff early during preparation of CEQA document if considering CWSRF financing. Applicants shall also send their environmental documents to the State Water Board, Environmental Review Unit during the CEQA public review period. This way, any environmental concerns can be addressed early in the process.

REQUIRED DOCUMENTS

The Environmental Review Unit requires the documents listed below to make findings and complete its environmental review. Once the State Water Board receives all the required documents and makes its own findings, the environmental review for the project will be complete.

- ✓ Draft and Final Environmental Documents: Environmental Impact Report, Negative Declaration, and Mitigated Negative Declaration as appropriate to the project
- ✓ Resolution adopting/certifying the environmental document, making CEQA findings, and approving the project
- ✓ All comments received during the public review period and the "Lead Agency's" responses to those comments
- ✓ Adopted Mitigation Monitoring and Reporting Plan, if applicable
- ✓ Date-stamped copy of the Notice of Determination or Notice of Exemption filed with the County Clerk(s) and the Governor's Office of Planning and Research
- ✓ CWSRF Evaluation Form for Environmental Review and Federal Coordination with supporting documents

Contact Information: For more information related to the CWSRF Program environmental review process and requirements, please contact your State Water Board Project Manager or Mr. Ahmad Kashkoli at 916-341-5855 or Ahmad.Kashkoli@waterboards.ca.gov

Water Boards
waterboards.ca.gov

B8-18
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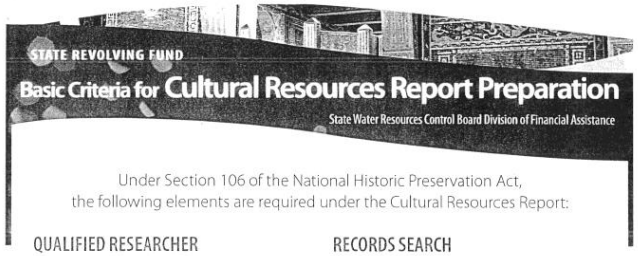


STATE REVOLVING FUND

Basic Criteria for Cultural Resources Report Preparation

State Water Resources Control Board Division of Financial Assistance

Under Section 106 of the National Historic Preservation Act, the following elements are required under the Cultural Resources Report:

QUALIFIED RESEARCHER

The Cultural Resources Report must be prepared by a qualified researcher that meets the Secretary of the Interior's Professional Qualifications Standards. Please see the Professional Qualifications Standards at the following website at: *http://www.cr.nps.gov/local-law/arch_stnds_9.htm*

APPROPRIATE DETERMINATIONS

The Cultural Resources Report should include one of the three "determinations" listed in Section 106. These include:

"No historic properties affected"
(no properties are within the area of potential effect ([APE], including below the ground).

"No adverse effect to historic properties"
(the project may affect "historic properties", but the effects will not be adverse).

"Adverse effect to historic properties"
(the project will adversely affect "historic properties", avoidance, minimization, or mitigation measures need to be established). Note: Consultation with the SHPO will be required if a "no adverse effect to historic properties" or an "adverse effect to historic properties" determination is made, to develop and evaluate alternatives or modifications to the proposed project that could avoid, minimize or mitigate adverse effects on "historic properties."

RECORDS SEARCH

A recent records search extending to a half-mile beyond the project APE from a geographically appropriate Information Center is required (http://ohp.parks.ca.gov/pages/1068/files/ic_roster.pdf). The records search should include maps that show all recorded sites and surveys in relation to the APE for the proposed project, and copies of the confidential site records included as an appendix to the Cultural Resources Report. The locations of the cultural resources need to be clearly defined in relation to the APE boundary.

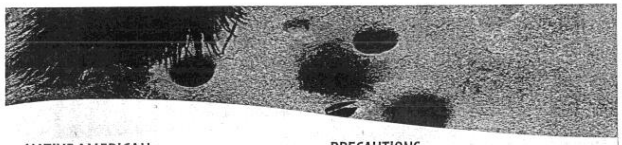
AREA OF POTENTIAL EFFECT

- The APE is three-dimensional (depth, length and width) and all areas (e.g., new construction, easements, staging areas, and access roads) directly affected by the proposed project, depicted on a properly scaled map (record search map is not an APE map).
- Detailed narrative APE description.

REPORT TERMINOLOGY

Cultural Resources Report needs to use Section 106 terminology and content consistent with the NHPA 36 CFR Part 800.11.

B8-18
Cont.



NATIVE AMERICAN AND INTERESTED PARTY CONSULTATION

- Native American and interested party consultation should be initiated at the planning phase of the proposed project to gather information to assist with the preparation of an adequate Cultural Resources Report.
- The Native American Heritage Commission (NAHC) must be contacted to obtain documentation of a search of the Sacred Lands Files for or near the project APE. *http://nahc.ca.gov/wp-content/uploads/2015/04/Sacred-Lands-File-NA-Contact-Form.pdf*
- All local Native American tribal organizations or individuals identified by the NAHC must be contacted by certified mail, that includes a map and a description of the proposed project.
- Follow-up contact should be made by telephone and a phone log maintained to document the contacts and responses.
- Comments and Responses need to be addressed by the preparer.
- Letters of inquiry seeking historical information on the project area and local vicinity should be sent to local historical societies, preservation organizations, or individual members of the public with a demonstrated interest in the proposed project.

Copies of all documents mentioned above (project description, map, phone log and letters sent to the NAHC and Native American tribal organizations or individuals and interested parties) must be included in the Cultural Resources Report.

Contact Information: For more information related to the SRF Program Cultural Resources and Requirments, please contact Mr. Gary Scholze at 916-341-5642 or Gary.Scholze@waterboards.ca.gov

PRECAUTIONS

- A determination of ***"no known resources"*** without supporting evidence is unacceptable. The Cultural Resources Report must identify resources within the APE or demonstrate with sufficient evidence that none are present.
- ***"The area is sensitive for buried archaeological resources,"*** followed by a statement that ***"monitoring is recommended."*** Monitoring is not an acceptable option without good-faith effort to demonstrate that no known resource is present.
- If ***"the area is already disturbed by previous construction"*** documentation is still required to demonstrate that the proposed project will not affect "historic properties." An existing road can be protecting a buried archaeological deposit or may itself be a "historic property." Additionally, previous construction may have impacted an archaeological site that has not been previously documented.

SHPO CONSULTATION LETTER (AS REQUESTED)

Following review of the submitted material, State Water Resources Control Board staff may request submittal of a draft consultation letter prepared by the qualified researcher. A draft consultation letter template is available for download on the State Water Board webpage at: *http://www.waterboards.ca.gov/water_issues/programs/grants_loans/cwsrf_requirements.shtml*

Water Boards

waterboards.ca.gov

B8-18
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National Historic Preservation Act (NHPA)

Section 106 of the NHPA requires an analysis of the effects on "historic properties." The Section 106 process is designed to accommodate historic preservation concerns for federal actions with the potential to affect historic properties. Early consultation with appropriate government agencies, Indian tribes, and members of the public, will ensure that their views and concerns are addressed during the planning phase.

Historic properties (i.e., buildings, structures, objects, and archaeological sites 50 years or older) are properties that are included in the National Register of Historic Places or meet the criteria for the National Register.

Required documents:

- A draft State Historic Preservation Officer consultation request letter; and
- A cultural resources report on historic properties conducted according to the Secretary of the Interior's Standards, including:
  - A clearly defined Area of Potential Effect (APE), specifying the length, width, and depth of excavation, with a map clearly illustrating the project APE;
  - A records search, less than one year old, extending to a half-mile beyond the project APE;
  - Written description of field methods;
  - Identification and evaluation of historic properties within the project's APE; and
  - Documentation of consultation with the Native American Heritage Commission and local Native American tribes.

ADDITIONAL INFORMATION

If your project has the potential to affect biological resources or historic properties, the consultation process can be lengthy. Please contact the State Water Board staff early in your planning process to discuss what additional information may be needed for your specific project.

Please contact your State Water Board Project Manager or Mr. Ahmad Kashkoli at (916) 341-5855 or *AhmadKashkoli@waterboards.ca.gov* for more information related to the CWSRF Program environmental review process and requirements.

CLEAN WATER STATE REVOLVING FUND

Environmental Review Requirements

State Water Resources Control Board
Division of Financial Assistance

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to help you clean the water

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www.waterboards.ca.gov

ENVIRONMENTAL REVIEW REQUIREMENTS

The Clean Water State Revolving Fund (CWSRF) Program is partially funded by the United States Environmental Protection Agency (EPA), and is subject to federal environmental regulations as well as the California Environmental Quality Act (CEQA). All applicants seeking CWSRF financing must comply with both CEQA and the Federal cross-cutting regulations. The "**Environmental Package**" provides the forms and instructions needed to complete the environmental review requirements for CWSRF financing. The forms and instructions are available at: *http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml.*

Lead Agency/Applicant

The applicant will generally act as the "Lead Agency" for environmental review. It will prepare, circulate, and consider the environmental documents prior to approving the project. It also provides the State Water Board with copies of the CEQA documents, and a completed "**Environmental Evaluation Form for Environmental Review and Federal Coordination**" (*http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf*) with supporting documents as part of the "**Environmental Package.**"

Responsible Agency/State Water Board

The State Water Board acts on behalf of EPA to review and consider the environmental documents before approving financing. The State Water Board may require additional studies or documentation to make its own CEQA findings, as well as circulate CEQA documents and other environmental reports to relevant federal agencies for consultation before making a determination about the project financing.

The Applicant must address all relevant federal agencies' comments before project financing is approved.

FEDERAL CROSS-CUTTING REGULATIONS

The CWSRF Program requires consultation with relevant federal agencies on the following federal environmental regulations, if applicable to the project:

- Clean Air Act
- Coastal Barriers Resources Act
- Coastal Zone Management Act
- Endangered Species Act
- Environmental Justice
- Farmland Protection Policy Act
- Floodplain Management
- Magnuson-Stevens Fishery Conservation and Management Act
- Migratory Bird Treaty Act
- National Historic Preservation Act
- Protection of Wetlands
- Safe Drinking Water Act, Sole Source Aquifer Protection
- Wild and Scenic Rivers Act

The following is a brief overview of requirements for some of the key regulations.

Clean Air Act (CAA)

The CAA general conformity analysis only applies to projects in areas not meeting the National Ambient Air Quality Standards or subject to a maintenance plan.

If project emissions are below the federal "de minimis" levels then:

- A general conformity analysis is not required.

If project emissions are above the federal "de minimis" levels then:

- A general conformity determination for the project must be made. A general conformity determination can be made if facilities are sized to meet the needs of current population projections used in an approved State implementation Plan for air quality.
- Using population projections, applicants must explain how the proposed capacity increase was calculated.

An air quality modeling analysis is necessary of all projects for the following criteria pollutants, regardless of attainment status:

- Carbon monoxide
- Lead
- Oxides of nitrogen
- Ozone
- Particulate matter (PM2.5 and PM10)
- Sulfur dioxide

Endangered Species Act (ESA)

The ESA requires an analysis of the effects on federally listed species. The State Water Board will determine the project's potential effects on federally listed species, and will initiate informal/formal consultation with the United States Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service, as necessary under Section 7 of the ESA.

Required **Documents:**

✓ A species list, less than one year old, from the USFWS and the California Department of Fish and Wildlife's Natural Diversity Database;

✓ A biological survey conducted during the appropriate time of year;

✓ Maps or documents (biological reports or biological assessments, if necessary); and

✓ An assessment of the direct or indirect impacts to any federally listed species and/or critical habitat. If no effects are expected, explain why and provide the supporting evidence.

B8-18
Cont.

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Comment Letter B9

Megan Lawson

Subject: FW: SCH # 2016081016
Attachments: OGER_24_SHP465_UNIPS-220@conservation.ca.gov_20170914_095327.pdf

From: Chan, Crina@DOC [mailto:Crina.Chan@conservation.ca.gov]
Sent: Thursday, September 14, 2017 2:16 PM
To: DSD EAS <DSDEAS@sandiego.gov>
Subject: SCH # 2016081016

Hello,

We have received Project Pure Water San Diego Program with the wrong SCH # 2106081016. I believe it should be 2016081016.

Just letting you know regarding the typo within the document.

Thank You!

C.

Crina Chan
Department of Conservation
Office of Governmental and Environmental Relations
801 K Street, MS 24-02 Sacramento, CA 95814
(916) 445-8733
Crina.Chan@conservation.ca.gov

B9-1

1

Response to Comment Letter B9

California Department of Conservation
Crina Chan
September 14, 2017

B9-1 Comment noted. The State Clearinghouse number has been revised in the Final EIR/EIS.

THE CITY OF SAN DIEGO

RECEIVED
SEP 08 2017
BY: DOCUMENT

DATE OF NOTICE: September 7, 2017

PUBLIC NOTICE OF A
DRAFT ENVIRONMENTAL IMPACT REPORT
DEVELOPMENT SERVICES DEPARTMENT

The City of San Diego Development Services Department has prepared a draft Environmental Impact Report (EIR) for the following project and is inviting your comments regarding the adequacy of the document. The draft ENVIRONMENTAL IMPACT REPORT and associated technical appendices have been placed on the City of San Diego web-site and can be accessed using the following link:

http://www.sandiego.gov/city-clerk/officialdocs/notices/index.shtml

Your comments must be received by November 7, 2017, to be included in the final document considered by the decision-making authorities. Please send your written comments to the following address: **Mark Brunette, Senior Environmental Planner, City of San Diego Development Services Center, 1222 First Avenue, MS 501, San Diego, CA 92101 or e-mail your comments to DSDEAS@sandiego.gov with the Project Name and Number in the subject line.**

General Project Information:

- Project Name: Pure Water San Diego Program, North City Project
- Project No.: 499621 / SCH No. 2106081016
- Community Plan Areas: University, Mira Mesa, Scripps Miramar Ranch, Clairemont Mesa, Linda Vista, Mission Valley, Kearny Mesa, Tierrasanta, Navajo
- Council Districts: 1, 2, 5, 6, 7

PROJECT LOCATION: The North City Project includes a variety of facilities located throughout the central coastal areas of San Diego County in the North City geographic area of the University, Mira Mesa, Scripps Miramar Ranch, Clairemont Mesa, Linda Vista, Mission Valley, Kearny Mesa, Tierrasanta, and Navajo Community Plan Areas. A new pure water facility, expanded water reclamation facility, and three pump stations would be located within the corporate boundaries of the City of San Diego. Proposed pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside and other areas in unincorporated San Diego County, as well as federal lands within the Marine Corps Air Station Miramar.

PROJECT DESCRIPTION: The Bureau of Reclamation and the City of San Diego have prepared a joint Environmental Impact Report/Environmental Impact Statement to evaluate the effects of the North City Project, the first phase of the Pure Water San Diego Program (Pure Water Program). The Pure Water Program consists of the design and construction of new advanced water treatment facilities, wastewater treatment facilities, pump stations, and pipelines. The North City Project would use advanced water purification technology to produce purified water from recycled water and provide a safe, reliable, and cost-effective drinking water supply for San Diego.

Page 1 of 2

B9-1
Cont.

The proposed project will expand the existing North City Water Reclamation Plant and construct an adjacent North City Pure Water Facility with a purified water pipeline to Miramar Reservoir. A project alternative would install a longer pipeline to deliver product water to the San Vicente Reservoir.

Other project components include: a new pump station and forcemain to deliver additional wastewater to the North City Water Reclamation Plant, a brine discharge pipeline, and upgrades to the existing Metropolitan Biosolids Center.

A new North City Renewable Energy Facility is proposed, and would be constructed at the North City Water Reclamation Plant to receive landfill gas from the City's Miramar Landfill gas collection system via a new gas pipeline, providing power to the North City Project components. The landfill gas line would cross Marine Corps Air Station Miramar and will require approval by the United States Marine Corps.

Applicant: The City of San Diego, Public Utilities Department

Recommended Finding: The draft EIR concludes that the project would result in: significant and unavoidable environmental impacts with regard to Air Quality and Aesthetics (San Vicente Reservoir Alternative only), and Noise and Transportation/Circulation/Parking (both Project Alternatives). The project would result in less than significant environmental impacts with implementation of mitigation measures with regard to Land Use (San Vicente Reservoir Alternative only), Air Quality (Miramar Reservoir Alternative only), and Biological Resources, Health and Safety/Hazards, Historical Resources, Paleontological Resources, and Public Utilities (both Project Alternatives). All other impacts analyzed in the EIR were found to be less than significant.

Availability in Alternative Format: To request this Notice, the draft EIR, Initial Study, and/or supporting documents in alternative format, call the Development Services Department at 619-446-5460 or (800) 735-2929 (TEXT TELEPHONE).

Additional Information: For environmental review information, contact Mark Brunette at (619) 446-5379. The draft EIR and supporting documents may be reviewed, or purchased for the cost of reproduction, at the Fifth floor of the Development Services Center. If you are interested in obtaining additional copies of either the Compact Disk (CD), a hard-copy of the draft EIR, or the technical appendices, they can be purchased for an additional cost.

A public workshop will be held on October 11, 2017 from 4:00pm to 8:00pm at the Public Utilities Department located at 9192 Topaz Way, San Diego, CA 91923. This workshop will be set up as an open house with informative poster stations. There will not be a formal presentation at this meeting, and attendees can arrive anytime within the workshop hours. At this meeting, public comments may be provided orally (recorded via court reporter) or in writing. For information regarding public meetings/hearings on this project, contact Project Manager Kell Balo at (858) 292-6423.

This notice was published in the SAN DIEGO DAILY TRANSCRIPT and distributed on September 7, 2017.

IO No.: 21003699

Kerry Santoro
Deputy Director
Development Services Department

Page 2 of 2

B9-1
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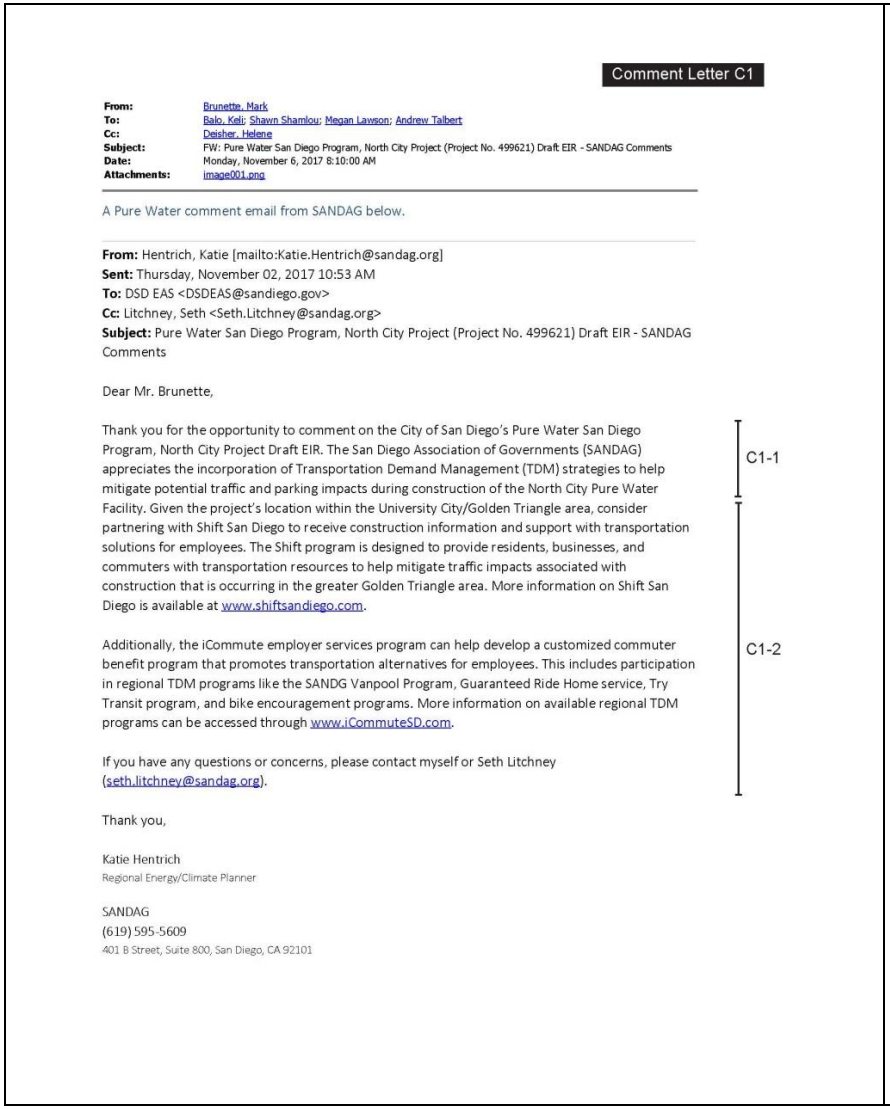

Comment Letter C1

From: Brunette, Mark
To: Balo, Keli; Shawn Shamlou; Megan Lawson; Andrew Talbert
Cc: Deisher, Helene
Subject: FW: Pure Water San Diego Program, North City Project (Project No. 499621) Draft EIR - SANDAG Comments
Date: Monday, November 6, 2017 8:10:00 AM
Attachments: image001.png

A Pure Water comment email from SANDAG below.

From: Hentrich, Katie [mailto:Katie.Hentrich@sandag.org]
Sent: Thursday, November 02, 2017 10:53 AM
To: DSD EAS <DSDEAS@sandiego.gov>
Cc: Litchney, Seth <Seth.Litchney@sandag.org>
Subject: Pure Water San Diego Program, North City Project (Project No. 499621) Draft EIR - SANDAG Comments

Dear Mr. Brunette,

Thank you for the opportunity to comment on the City of San Diego's Pure Water San Diego Program, North City Project Draft EIR. The San Diego Association of Governments (SANDAG) appreciates the incorporation of Transportation Demand Management (TDM) strategies to help mitigate potential traffic and parking impacts during construction of the North City Pure Water Facility. Given the project's location within the University City/Golden Triangle area, consider partnering with Shift San Diego to receive construction information and support with transportation solutions for employees. The Shift program is designed to provide residents, businesses, and commuters with transportation resources to help mitigate traffic impacts associated with construction that is occurring in the greater Golden Triangle area. More information on Shift San Diego is available at www.shiftsandiego.com.

C1-1

Additionally, the iCommute employer services program can help develop a customized commuter benefit program that promotes transportation alternatives for employees. This includes participation in regional TDM programs like the SANDG Vanpool Program, Guaranteed Ride Home service, Try Transit program, and bike encouragement programs. More information on available regional TDM programs can be accessed through www.iCommuteSD.com.

If you have any questions or concerns, please contact myself or Seth Litchney (seth.litchney@sandag.org).

C1-2

Thank you,

Katie Hentrich
Regional Energy/Climate Planner

SANDAG
(619) 595-5609
401 B Street, Suite 800, San Diego, CA 92101

Response to Comment Letter C1

San Diego Association of Governments
Katie Hentrich
November 2, 2017

C1-1 The City appreciates the commenter's review and comments on the Draft EIR/EIS.

C1-2 Comment noted; the City appreciates this information related to the Shift San Diego and iCommute programs. The City is a current participant in the Shift San Diego program. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

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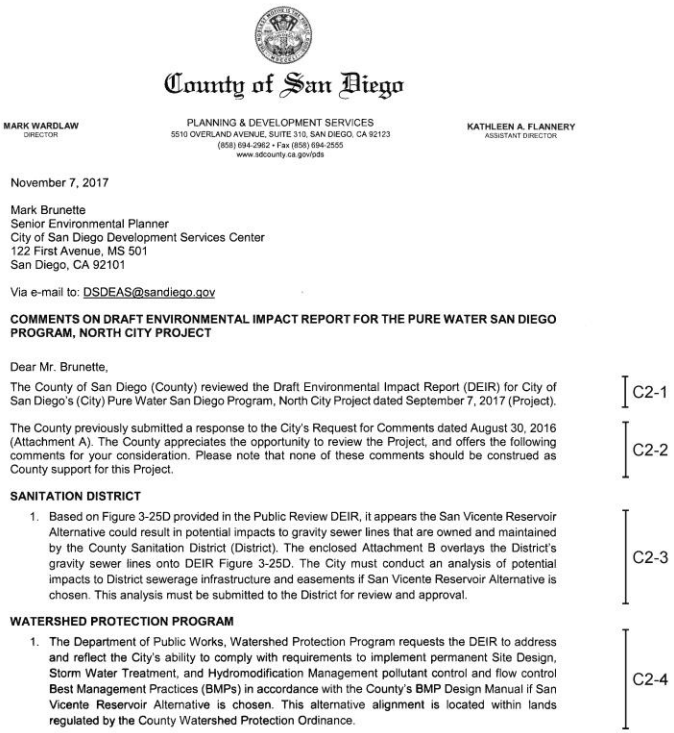
Comment Letter C2



County of San Diego

MARK WARDLAW
DIRECTOR

PLANNING & DEVELOPMENT SERVICES
5510 OVERLAND AVENUE, SUITE 310, SAN DIEGO, CA 92123
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KATHLEEN A. FLANNERY
ASSISTANT DIRECTOR

November 7, 2017

Mark Brunette
Senior Environmental Planner
City of San Diego Development Services Center
122 First Avenue, MS 501
San Diego, CA 92101

Via e-mail to: DSDEAS@sandiego.gov

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE PURE WATER SAN DIEGO PROGRAM, NORTH CITY PROJECT

Dear Mr. Brunette,

The County of San Diego (County) reviewed the Draft Environmental Impact Report (DEIR) for City of San Diego's (City) Pure Water San Diego Program, North City Project dated September 7, 2017 (Project). C2-1

The County previously submitted a response to the City's Request for Comments dated August 30, 2016 (Attachment A). The County appreciates the opportunity to review the Project, and offers the following comments for your consideration. Please note that none of these comments should be construed as County support for this Project. C2-2

SANITATION DISTRICT

1. Based on Figure 3-25D provided in the Public Review DEIR, it appears the San Vicente Reservoir Alternative could result in potential impacts to gravity sewer lines that are owned and maintained by the County Sanitation District (District). The enclosed Attachment B overlays the District's gravity sewer lines onto DEIR Figure 3-25D. The City must conduct an analysis of potential impacts to District sewerage infrastructure and easements if San Vicente Reservoir Alternative is chosen. This analysis must be submitted to the District for review and approval. C2-3

WATERSHED PROTECTION PROGRAM

1. The Department of Public Works, Watershed Protection Program requests the DEIR to address and reflect the City's ability to comply with requirements to implement permanent Site Design, Storm Water Treatment, and Hydromodification Management pollutant control and flow control Best Management Practices (BMPs) in accordance with the County's BMP Design Manual if San Vicente Reservoir Alternative is chosen. This alternative alignment is located within lands regulated by the County Watershed Protection Ordinance. C2-4

Response to Comment Letter C2

County of San Diego
Eric Lardy
November 7, 2017

C2-1 Comment noted.

C2-2 Comment noted; the City appreciates the County of San Diego's review of the Draft EIR/EIS.

C2-3 This comment does not challenge the adequacy of analysis or dispute the conclusions reached in the Draft EIR/EIS. The City acknowledges the potential for utility conflicts, and in particular, conflicts between the gravity sewer lines owned and maintained by the County Sanitation District (District) and San Vicente Reservoir Alternative Project components. If selected, the City will conduct further analysis of potential impacts to District sewerage infrastructure and coordinate with the District as needed.

C2-4 This comment does not challenge the adequacy of analysis or dispute the conclusions reached in the Draft EIR/EIS. The City will work cooperatively with the County to show design elements of the San Vicente

	Pipeline Alternative within County jurisdiction, if selected and applicable, that meet the intent of the County's Watershed Protection Ordinance and BMP Design Manual. The impacts of the North City Project Alternatives with regard to runoff quality and quantity into the regional municipal storm drain system is addressed in Draft EIR/EIS Section 6.11.3 (pages 6.11-3 through 6.11-13). Both the City of San Diego and the County of San Diego are permittees under the same National Pollutant Discharge Elimination System Municipal Storm Water Permit (San Diego RWQCB Order No. R9-2013-0001, as amended), which is described in Draft EIR/EIS Section 5.11.3 (pages 5.11-19 and 5.11-20). Therefore, Project elements, whether they are located in within City or County jurisdiction, would be subject to similar water quality BMPs and low impact development standards, as outlined the City's Storm Water Standards Manual, which incorporates the standards outlined in the in the Municipal Storm Water Permit and the regional Best Management Practices (BMP) Design Manual.

Mr. Burnette
November 7, 2017
Page 2

FLOOD CONTROL

1. The San Vicente Reservoir Alternative could potentially result in impacts to County Flood Control facilities. Close coordination with the County Flood Control District is required if this alternative is chosen. C2-5

2. The San Vicente Reservoir Alternative alignment would impact the FEMA and County-mapped Floodway/Floodplain of the San Diego River. Any changes to the base flood elevation or limits due to the proposed work would require a County Letter of Map Revision (LOMR) to be processed through the County and FEMA in accordance with the Flood Damage Prevention Ordinance (FDPO) Section 811.503(b). Any proposed work in the Floodway would require a "No-Rise" Certificate and Analysis in accordance with the FDPO Section 811.506. C2-6

The County looks forward to receiving future documents and/or notices related to this Project and providing additional assistance at your request. If you have any questions regarding these comments, please contact Timothy Vertino at 858-495-5468 or by e-mail at timothy.vertino@sdcounty.ca.gov. C2-7

Sincerely,

Eric Lardy, AICP
Group Program Manager, Advance Planning Division
Planning & Development Services

E-mail cc:

Adam Wilson, Policy Advisor, Board of Supervisors, District 2
Jason Paguio, Policy Advisor, Board of Supervisors, District 3
Adrian Granda, Policy Advisor, Board of Supervisors, District 4
Vincent Kattoula, CAO Staff Officer, LUEG
Sheri McPherson, Project Manager, DPW
Jeff Kashak, Planner, DPW

Enclosure:

Attachment A – 2016-08-30 COSD comment letter
Attachment B – San Diego County Sanitation District Sewer Gravity Line

C2-5 This comment does not challenge the adequacy of analysis or dispute the conclusions reached in the Draft EIR/EIS. The City will work cooperatively with the County to show design elements of the San Vicente Pipeline Alternative within County jurisdiction, if selected and applicable, which avoid or restore any physical changes to the County's flood control facilities. Appropriate approvals would be obtained for any work within a floodway.

As indicated in Draft EIR/EIS Section 6.11.1, the only facilities that cross Federal Emergency Management Agency or County 100-year floodplains are belowground pipeline facilities, including a 2.3-mile portion of the San Vicente Pipeline below the San Vicente Reservoir. It is standard practice to match the surface grade and cover type when completing an installation. As these facilities are belowground, they would not impact the extent or depth of flooding. It should also be noted that the Pure Water Program EIR completed in August 2016 (SCH No. 2014111068) includes a mitigation measure (MM-HYD-3) that would be applicable to

	components of the San Vicente Project Alternatives that are not within or immediately adjacent to 100-year flood hazard zones, and includes a provision to bury pipelines at depths that would protect them from being exposed due to scour. MM-HYD-3 also requires that "development or alterations located within or across a 100-year flood hazard area shall be reviewed and approved by the County's floodplain administrator or designee prior to notice to proceed." **C2-6** Comment noted. Refer to Response C2-5. **C2-7** Comment noted.

Comment Letter C3

Comments on
Pure Water San Diego Program, North City Project Draft
Environmental Impact Report.
Project 499621, State Clearinghouse No. 2016081016

Prepared by: Scripps Ranch Planning Group

Submitted: November 7, 2017

Introduction: The Scripps Miramar Ranch Planning Group (SRPG) is one of the 42 Community Planning Groups chartered by the City of San Diego. The SRPG and provides consultation and recommendations to the City, County, State, and other agencies regarding planning, land use, transportation and traffic, public safety and other issues for the city planning areas of Scripps Miramar Ranch and Rancho Encantada. C3-1

The SRPG is in favor of the Public Utilities Department's initiative regarding water purification at the North City Water Reclamation Plant, and of the concept of a pipeline to the Miramar Reservoir. However, we disagree strongly with the proposed routing of the pipeline in Scripps Ranch, and we are grateful that further analysis of alternatives has been conducted. C3-2

The SRPG has identified the following inaccuracies, omissions, and insufficiencies in the Draft EIR. C3-3

Issue 1: Incomplete Analysis of Alternatives.

The DEIR considers only two alternatives, the Miramar Reservoir Alternative and the San Vicente Reservoir Alternative. There is little serious analysis of local routings within these gross alternatives. The discussion beginning on pg 3-54 (plus Figure 3-31B) purports to consider several alternative routings within the Scripps Ranch Business Park, but is completely insufficient. The DEIR briefly mentions a memo, *NC04B Pure Water Pipeline Alignment Alternatives*, which is "for preliminary staff project study alternatives." This was given to our Planning Group at our September 7, 2017 meeting, nearly two months after it was prepared. While it does consider some alternative pipeline routes, most of these were not among those suggested by the community, nor was there much consultation with the community. They are merely strawmen. The document itself says "This memorandum is to provide an overview of the issues and is not intended to be a complete analysis of all facts and issues regarding alignment alternatives." However, a complete analysis is exactly what is required by CEQA for an acceptable Environmental Impact review. All viable alternatives must be examined, analyzed adequately, and evaluated according to properly stated significance criteria. C3-4 C3-5 C3-6

Page 1

Response to Comment Letter C3

Scripps Ranch Planning Group
November 7, 2017

C3-1 Comment noted. The City appreciates the commenter's review of the Draft EIR/EIS.

C3-2 The commenter's general support of water purification, along with the specific objections related to the route of the North City Pure Water Pipeline (North City Pipeline) through Scripps Ranch, is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.

C3-3 Comment noted. Please refer to the responses below.

C3-4 As discussed in Chapter 3, Alternatives, of the Draft EIR/EIS, CEQA requires a discussion of alternatives to the project be provided. Specifically, Section 15126.6(a) of the CEQA Guidelines states that an EIR shall, "[d]escribe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen

	any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Section 15126.6(f) further states, "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." This is defined in the same section of the CEQA Guidelines as not meaning every conceivable alternative to the project, but only a reasonable range of potentially feasible alternatives. Additionally, an EIR must consider a reasonable range of alternatives to the project, or to the location of the project, which (1) offer substantial environmental advantages over the project proposal and (2) may be feasibly accomplished in a successful manner considering the economic, environmental, social, and technological factors involved (*South County Citizens for Smart Growth versus County of Nevada*, 221 Cal. App. 4th 316 (2013)). The City of San Diego disagrees that a reasonable range of alternatives was not considered in the Draft EIR/EIS. The City has conducted an extensive analysis of alternative

		routes for each of the proposed pipeline alignments as summarized in Section 3.7.2, Current Alternative Screening, including the North City Pipeline. However, modifications to the route of the North City Pipeline were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required. Please also refer to responses C3-5, C3-10, and C3-24 for more detailed responses regarding specific alternative alignments considered in the Draft EIR/EIS and/or proposed by the Scripps Ranch Planning Group.
	C3-5	Please refer to response C3-4. The City disagrees that the alternate routes discussed are "merely strawmen." Section 3.7.2 of the Draft EIR/EIS summarizes the extensive analysis for alternative routes for each of the proposed pipeline alignments that was conducted by the City during various stages of the design process. Three alignments (shown on Figure 3-31A of the Draft EIR/EIS) were initially evaluated for the North City Pipeline and "Alternative B" was

	advanced to the 10% Design Phase. During the 30% and 60% design efforts, further refinements were made to Alternative B for both technical and environmental reasons. Additionally, in response to discussions with the Murphy Development Company Inc. (Murphy Development) over concerns of the pipeline route through the Scripps Ranch Technology Park (SRTP), the City evaluated nine alternative routes for the North City Pipeline between Scripps Ranch Boulevard and Miramar Reservoir (as shown on Figure 3-31B of the Draft EIR/EIS). The memorandum, "NC04B Pure Water Pipeline Alignment Alternatives," provides a thorough analysis of the alternative routes initially considered and evaluated; however, none of the route modifications would result in an alternative that would both substantially lessen the significant environmental effects of the Project and be feasible. In response to feedback received from the Scripps Ranch Planning Group on May 4, 2017, again on September 7, 2017, and Murphy Development on October 10, 2017, the City further analyzed an additional suggested alignment for the pipeline in a memo titled

	"North City Pure Water Pipeline Alignment Analysis" (City of San Diego 2017a). This memo was presented at the SRPG meeting on November 2, 2017. The suggested alignment would require the City to utilize property south of the Scripps Lake Drive right-of-way (ROW) from Scripps Ranch Boulevard and have the pipeline travel alongside Scripps Lake Drive. (Existing San Diego County Water Authority pipelines and other utilities would prevent the pipeline from being constructed under the roadway.) Because of operational requirements the suggested alternative would require the Dechlorination Facility to be located near Miramar Reservoir. The "North City Pure Water Pipeline Alignment Analysis" (City of San Diego 2017a) identifies numerous engineering constraints associated with the SRPG's proposed alternative route south of Scripps Lake Drive (shown as a green line in comment C3-24), including, but not limited to, construction outside of the ROW would require considerable grading and backfill within the existing slope to support the pipeline; approval from the State Division of Safety of Dams (DSOD) would be required to

	backfill over critical drainage infrastructure south of Scripps Lake Drive; long stretches of tunneling would be required to avoid conflicts with other utilities; tunneling would occur in the Santiago Peak Volcanic Formation geologic unit, which is difficult to bore through and would require blasting; blasting may damage San Diego County Water Authority (SDCWA) large-diameter aqueducts located within the roadway ROW; construction duration would be increased; the receiving shaft of the tunnel would need to be located in the Scripps Ranch Library parking lot, and additional staging and work space would be needed to ensure safety of the public; tunneling would be located directly in front of the earthen dam supporting Miramar Reservoir, approval of which would be required from DSOD; and crossing of SDCWA property would occur at an angle, which would complicate approval. These technical constraints all limit the feasibility of the proposed alternative route south of Scripps Lake Drive and result in increased potential environmental impacts related to air quality (from longer construction duration and more tunneling), biological

	resources (from fill in canyon areas and re-grading of the slope which could impact wetlands), geologic impacts (from blasting for tunnels), noise (from increased tunneling), and public utilities (from additional conflicts with DSOD and SDCWA infrastructure). Additionally, significant and unavoidable short-term traffic impacts associated with construction of the North City Pipeline would not be alleviated as a result of this alternative route. Therefore, this alternative route (shown as a green line in comment C3-24) would have limited feasibility and would not lessen the significant environmental effects of the Project. **C3-6** Please refer to responses C3-4 and C3-5.

Within the Miramar Reservoir alternative in the DEIR, there is no serious analysis of alternative sites for the Dechlorination Facilitiy. The DEIR does not analyze the impact to surrounding Business Park land for siting the facility. It appears that the site was chosen solely because it is on City-owned land. A previous paragraph in the DEIR suggests that alternatives are often dismissed because they have the "disadvantage of requiring the most private commercial land easement acquisitions" By law related to the CEQA, such cost considerations must not be a part of the environmental analysis and shall not result in premature dismissal of alternatives that might otherwise be environmentally preferable C3-7 C3-8 C3-9

At our regular Planning Group meeting on November 2, 2017, a more complete analysis of an alternative route south of Scripps Lake Drive was presented. Presenters from the Public Utilities Department agreed that the route was viable. Additionally, Representatives from among Business Park landowners showed that the route was viable and would likely cost less when costs of easements were considered. C3-10

The siting of the Dechlorination Facility then fundamentally limits the alternative routings for the pipeline since both the supply from the treatment plant, and the discharge toward the reservoir must connect there. This is transparent and totally unacceptable: By failing to identify and competently analyze other choices for the facility location, alternative pipeline routes are then ignored or improperly dismissed. C3-11

The present DEIR therefore does not provide an accurate and complete basis for any conclusion regarding location of the Pipeline from the purification plant to the Miramar Reservoir. Complete analyses of the Public Utilities Department alternative route presented on November 2, and another discussed below, should be included in the Final EIR. C3-12 C3-13

While we thank the Public Utilities Department for its engagement with the community, and for seriously considering alternatives. In the final EIR, we hope otherwise viable alternatives are dismissed because "there are other pipelines in the way," or "there might be environmental issues." Neither of these reasons is a valid excuse to avoid a complete environmental analysis: The first is a statement about cost, which is not an allowable objection under CEQA, and the second is an admission that analysis is incomplete. The fact that alternative routings suggested by the community have nowreceived serious analysis, and cannot be prematurely dismissed.. C3-14

The CEQA mandates that (1) Environmental Impact Reports (EIRs) shall be used to provide full public disclosure of the environmental impacts of a proposed project, and (2) no project, which would cause significant environmental effects, should be approved as proposed, without analysis to assess environmental impacts and provide feasible and practicable alternatives to avoid, minimize, or mitigate impacts.. C3-15

Page 2

C3-7 The Draft EIR/EIS is not required to analyze every feasible alternative route or facility site for all Project components within a Project Alternative; refer to response C3-4. The siting of the Dechlorination Facility was determined by the location of the proposed North City Pipeline alignment, as opposed to the siting of the Dechlorination Facility determining the alignment. As such, potential siting of the Dechlorination Facility relied on the routing of feasible alignments; please refer to Response C3-24 regarding feasibility and practicality of suggested potential North City Pipeline routing alternatives. Within the proposed North City Pipeline alignment, two possible locations for the Dechlorination Facility were identified during 10% design. These locations include in the south shore of Miramar Reservoir on the Miramar Water Treatment Plant (Miramar WTP) site, and the Miramar Recycled Water Storage Tank and North City Pump Station site, located approximately 2,000 feet downstream of the Miramar WTP site. Both sites are improved with existing facilities, and the City owns the properties. Requirements for the Dechlorination Facility site include an approximately 22-foot by-22-foot bermed or

	sunken secondary containment area with allowance for truck access. The design requires a sodium bisulfite chemical storage or a 7,500-gallon high-density polyethylene (HDPE) tank to provide 14 days of storage, metering pumps, transfer pump, emergency shower and eyewash, and control panel. As design progressed, the City eliminated the Miramar WTP site because it would result in an impact on public parking to Miramar Reservoir, or impact an area of the Miramar WTP set aside for future plant improvements. It would also not provide adequate response time. Regarding response time, the sodium bisulfite will react with water within a relatively short distance. The measurement of chlorine residual and oxygen reduction potential will measure the residual chlorine in the North City Pipeline after the static mixer located in Meanley Drive. An additional distance from the static mixer to the Miramar Reservoir is needed to allow City forces the ability to properly shutdown the North City Pure Water Pump Station and prevent off-spec (chlorinated) pure water from entering Miramar Reservoir. Five minutes was selected

	as a minimum response time (1,200 feet) at maximum speed velocity of 4 feet per second. The City determined 5 minutes to be the minimum response time necessary for an operator to see a system light, consult the operational procedures, and implement a controlled shutdown of the Pure Water pump station. The pump station must be systematically ramped down to avoid damage to the system. For these reasons, the Miramar WTP site was not selected. **C3-8** The land use and visual compatibility of the proposed Dechlorination Facility is discussed in Section 6.1, Land Use, and Section 6.2, Aesthetics, of the Draft EIR/EIS. The proposed Dechlorination Facility would be located on a property currently improved with a water storage facility and would result in minimal change to the visual environment. Once operational, the facility would result in minimal impact to the surrounding business park land uses. Please refer to response C3-19 for more information.

	C3-9 Please refer to responses C3-4 and C3-7. **C3-10** Four alternative routes for the section of the North City Pipeline in the vicinity of the SRTP were presented at the Planning Group meeting on November 2, 2017 (City of San Diego 2017b). These routes included: (1) Alternative 1: Scripps Lake Drive; (2) Alternative 2: KBS Horizon Parking Lot; (3) Alternative 3: KBS Horizon Lot and Landscaped Area; and (4) Alternative 4: SRTP. The alternative route (Alternative 1: Scripps Lake Drive) presented in the PowerPoint was located within the ROW of Scripps Lake Drive, and not south of the roadway as this comment implies. These routes are shown on Figure 3-31B of the Draft EIR/EIS, and each route is discussed in detail in Section 3.7.2 of the Draft EIR/EIS. As stated in the Draft EIR/EIS: "Alignment C – Scripps Lake Drive Alternative" reconsidered routing the North City Pipeline from the Dechlorination Facility back to Scripps Ranch Boulevard, then east on Scripps Lake Drive to the Miramar WTP site before entering the Miramar Reservoir;

	however, utility congestion in Scripps Lake Drive (including a fiber optic line, SDG&E electrical, SDG&E electrical vault, City water pressure reducing station, and a San Diego County Water Authority facility not previously discovered in earlier research) limited available space for the North City Pipeline, which needs to meet specific separation requirements. In addition to the utility conflicts discussed in the Draft EIR/EIS, the PowerPoint presented at the Planning Group meeting identified that the Scripps Lake Drive Alternative would require additional easements, additional trenching and tunneling, implementation of blasting due to geological formations, and higher energy use due to the need for larger pumps. As such, while feasible, this alternative route would not substantially lessen the environmental effects of the Project since it would result in greater impacts related to noise and air quality (from additional tunneling), geological impacts (from blasting), and higher energy use. This alternative route would also result in additional traffic impacts since more construction would

	occur within roadway ROW within Scripps Ranch Boulevard and Scripps Lake Drive. The PowerPoint identifies the following constraints related to Alternative 2: parking/pavement restoration and utility relocation would be required; easement acquisition would be required; the tunneling receiving pit would be located close to an existing building; and higher energy use would be required. The following constraints related to Alternative 3 were identified: additional grading, retaining walls, and utility relocation would be required; a permanent access for operations and maintenance would be required; and a temporary easement from the SRTP would be required. Alternative 4 modifies the original alignment to locate the pipeline within the 20-foot-wide setback of the SRTP parcel. This alternative route would require additional grading, retaining walls, and a permanent access for operations and maintenance staff. However, this alternative route would eliminate the Murphy Development's concern with the pipeline conflicting with structural influence

	line of a future parking lot, will not impede ingress/egress during construction, and would allow construction workers to work opposite hours of future construction or operation on the parcel. As such, this alternative route was determined to have the least amount of impacts and the lowest energy use, and therefore was carried forward for analysis in the Draft EIR/EIS. The alternative route presented at the Planning Group meeting is similar to the Scripps Lake Drive Alternative as shown on Figure 3-31B of the Draft EIR/EIS that follows Alignment C to Alignment A3; however, the alternative route is located south of Scripps Lake Drive outside of the roadway ROW. This alternative route would be feasible; however, it would require fill within a canyon area and would require additional tunneling. As such, rather than lessening the significant environmental effects of the Project, this alternative route would conversely increase construction impacts related to air quality and noise and would continue to result in similar traffic impacts. Additionally, it would result in greater impacts to environmentally sensitive

areas than the proposed route in the Draft EIR/EIS. This alternative route would also result in greater community impacts as a result of disturbance to the Scripps Ranch Library parking lot.

C3-11 Please refer to responses C3-4 and C3-7.

C3-12 The City disagrees that the Draft EIR/EIS does not provide an accurate and complete basis for the location of the Project pipeline; refer to responses C3-4 and C3-7.

C3-13 Please refer to responses C3-4 and C3-5.

C3-14 Please refer to response C3-4.

C3-15 Comment regarding the State CEQA Guidelines is noted.

The DEIR contains extensive descriptions of the purification process, and the use of natural gas from the Miramar landfill, but puts alternative route analysis in "Alternatives Considered but not Carried Forward." The route analysis, and analysis of environmental effects, is the purpose of the document, so alternatives for analysis presented to our Planning Group need to be included in the Final EIR. C3-16

Issue 2: Land Use

The Scripps Miramar Ranch Community Plan calls for a strong and vibrant business park. The relevant sections of the Plan are as follows: C3-17

> The general industrial goal of Scripps Ranch is to ENCOURAGE THE DEVELOPMENT OF A PRESTIGIOUS INDUSTRIAL PARK WHICH MINIMIZES POLLUTION AND PROVIDES DESIRABLE EMPLOYMENT OPPORTUNITIES. The following objectives clarify this goal.
>
> • Promote the development of attractive, well designed and landscaped industrial parks.
> …
> • Encourage the development of industries which would provide desirable employment opportunities within Scripps Miramar Ranch.
> …
> • Protect areas designated for industrial use from encroachment by incompatible land uses.
> …

The industrial park land is designated as Prime Industrial in the San Diego General Plan. This is further intended to protect the park from incompatible development and from encroachment from incompatible land uses.

The proposed routing of the pipeline greatly reduces the attractiveness and utility of the Business Park for current and future tenants, and makes portions of it unusable for a protracted period during construction. This affects the marketability of both existing and proposed facilities in the Business Park. The project as proposed works directly against the goals and objectives of the Community Plan and the San Diego General Plan. C3-18 C3-19

The proposed dechlorination facility in the middle of the business park is not an allowed use. The DEIR recognizes this, but provides no serious analysis of alternative locations for it, or of alternative routes for the pipeline that would be possible if the facility were located elsewhere. The claim in the DEIR on pg. 5.1-9 that while "Dechlorination Facilities are not expressly permitted within the IP-2-1 zone, flood control facilities are permitted with limitations" is merely obfuscation, since the proposed project has nothing to do with flood control. C3-20

Page 3

C3-16 The Draft EIR/EIS provides three North City Project Alternatives: (1) No Project/No Action Alternative, (2) Miramar Reservoir Alternative, and (3) San Vicente Reservoir Alternative. Chapter 3 of the Draft EIR/EIS contains a discussion of various alternative routes to the pipeline alignments and components of the North City Project. The purpose of the discussion of the alternatives alignment screening is to describe the process that the City undertook to determine the most appropriate alignment of the proposed pipelines with respect to the factors listed in Section 3.7.2 of the Draft EIR/EIS. NEPA and CEQA require that environmental documents identify and analyze a reasonable range of feasible alternatives that could be implemented to meet the North City Project purpose and need and objectives. It does not require that a lead agency analyze each possible alternative that can be found within each alternative carried forward into detailed analysis. Please also refer to response C3-4.

C3-17 Comment noted.

	C3-18 Regarding construction staging and access, as stated in Section 3.4.5 of the Draft EIR/EIS, staging areas for facilities and pump stations, which includes the Dechlorination Facility, would be located within the facility footprints. Pipeline staging areas will be located within developed parking lots or other developed and disturbed areas to minimize traffic and road disruptions and would move frequently as construction progresses along the alignment. Access to properties surrounding pipeline alignments would be maintained at all times during construction. Additionally, all construction contracts have conditions mandating emergency access into and through the site at all times. It should also be noted that construction of this segment of the North City Pipeline within the public ROW would occur at nighttime (see Table 5.16-3 of the Draft EIR/EIS); these work hours would avoid causing disruptions during normal business hours of the surrounding properties. Upon completion of construction, the proposed pipeline would not affect the potential of future development within the SRTP.

		The City acknowledges the comment and notes it raises economic or social issues that do not appear to relate to any physical effect on the environment. This comment will be included in the administrative record for the Project as part of the Final EIR/EIS.
	C3-19	The City disagrees with the commenter regarding the North City Project's consistency with the City of San Diego General Plan (General Plan) and applicable community plans. Potential impacts to land use and planning are found in Section 6.1, Land Use, of the Draft EIR/EIS. Specifically, consistency with applicable environmental goals, objectives, and recommendations of the City's General Plan, Municipal Code, and other applicable plans is found in Section 6.1.3 of the Draft EIR/EIS. The Industrial Park (IP-2-1) zone allows for research and development uses with some limited manufacturing; as noted in Section 5.1.2.2 of the Draft EIR/EIS, dechlorination facilities are not expressly permitted. However, as described in Section 6.1.3 of the Draft EIR/EIS, given the concentration of existing uses in the immediate area including the Miramar Recycled Water Storage Tank, multi-story

	industrial office complexes, and the Miramar WTP, the Dechlorination Facility would be compatible with existing development. In addition, the approximately 20-foot-high, 768-square-foot single-story structure would be experienced by the public as a concrete masonry building with a slightly pitched composite tile roof. Other than signage affixed to perimeter fencing, on-site storage of chemicals would not be readily apparent. Similar to the Dechlorination Facility, research and development, light manufacturing, and high technology uses permitted in the Industrial Employment and Industrial Park land use designations may also store chemicals on site. For these reasons, and additional reasons provided in Section 6.1.3 of the Draft EIR/EIS, no adverse effects between the Dechlorination Facility and the applicable environmental goals, objectives, and recommendations of the City General Plan would occur. The new facility would not damage the existing industrial neighborhood identity of the area. As illustrated in Figure 6.2-20, the public would experience the facility as a single-story concrete masonry building with a slightly pitched

	composite tile roof. The facility would be fenced and new trees and shrubs would be installed on the property outside of the fence line (see Figure 6.2-19). Proposed landscaping would soften the appearance of the facility that would be visible to a limited number of employees of local businesses as they travel on Meanley Drive. In addition, existing landscaping on adjacent parcels and implementation of the proposed planting plan would partially screen the facility from viewers at nearby office developments. Further, development of a 20-foot-tall concrete masonry unit building would not result in perceived scale or mass contrasts as similarly scaled (and larger) two-story office development is located in the surrounding area. Therefore, no adverse effects related to the Dechlorination Facility and the relevant objectives of the Scripps Miramar Ranch Community Plan would occur. As discussed in Section 6.1, Land Use, of the Draft EIR/EIS, the North City Project is found to be consistent with the environmental goals, policies, and recommendations of the General Plan and applicable community plans.

	C3-20 Please refer to Response to Comment C3-19. Potential impacts to land use and planning are disclosed in Section 6.1, Land Use, of the Draft EIR/EIS. Specifically, consistency with applicable environmental goals, objectives, and recommendations of the City's General Plan, Municipal Code, and other applicable plans is found in Section 6.1.3 of the Draft EIR/EIS. The Industrial Park (IP-2-1) zone allows for allows for research and development uses with some limited manufacturing; as noted in Section 5.1.2.2 of the Draft EIR/EIS, dechlorination facilities are not expressly permitted as disclosed therein. Flood control facilities are referenced in Section 5.1.2.2 of the Draft EIR/EIS to demonstrate that while dechlorination facilities are not expressly permitted, utilities and other uses that may include on-site storage of chemicals are permitted, permitted with limitations, or conditionally permitted within the IP-2-1 zone. Further, Section 131.0620(f) of the San Diego Municipal Code acknowledges that there may be uses that cannot be readily classified and thus not included in Table 131-06B, Use Regulations Table for Industrial Zones.

	Please also refer to Section 3.7.2 of the Draft EIR/EIS, which describes different alignments and locations for the North City Pipeline and Dechlorination Facility considered for the North City Project.

Finally, we wonder why there is so much description of the dechlorination facility for the Miramar Reservoir alternative, but no description for a similar facility for the San Vicente alternative. Are there other technologies that would eliminate the need for it? Was it improperly omitted for the San Vicente alternative? Or is it simply the case that sites known to be problematic received additional attention?

C3-21

Issue 3: Incomplete Specification of Significance Criteria.

The DEIR is insufficient and unacceptable because it is not focused on the legal mandates in the CEQA, which among other things, require correctly articulated significance criteria for the analysis and evaluation of environmental effects. The DEIR completely obfuscates the legal requirement to address project impacts on existing land uses, does not specify valid criteria for significance of effects, and does not apply those criteria to properly identified alternatives.

C3-22

4. Cumulative Effects.

There is no analysis of cumulative effects as required by the CEQA.

C3-23

5. Alternative Routes that should be investigated:

C3-24

Page 4

C3-21 The San Vicente Reservoir Alternative has three inlet pipeline terminus alternatives discussed in Section 3.3.2 and shown on Figure 3-26 of the Draft EIR/EIS. As described in the Draft EIR/EIS, one of the alternatives, the Tunnel Alternative Terminus (TAT) includes a dechlorination injection point to eliminate any residual chlorine in the purified water prior to discharge. In response to this comment, a revision to the Draft EIR/EIS has been made to include a dechlorination injection point for the San Vicente Pipeline – In-Reservoir Alternative Terminus (IRAT) and San Vicente Pipeline – Marina Alternative Terminus (MAT). The Draft EIR/EIS mistakenly omitted this description for each alternative terminus; however, similar dechlorination steps would be required for each alternative terminus. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

C3-22 Each section of Chapter 6 of the Draft EIR/EIS contains a subsection titled "CEQA Thresholds of Significance," which clearly lists the

	significance criteria for each environmental issue area analyzed within the document. Each section also has a subsection titled "Significance of Impacts Under CEQA," which explicitly provides a determination of significance for each issue area analyzed. Therefore, the Draft EIR/EIS sufficiently specifies the significance criteria in compliance with CEQA. **C3-23** Please refer to Chapter 7, Cumulative Impacts, of the Draft EIR/EIS for analysis of cumulative impacts. **C3-24** Please refer to responses C3-4, C3-5, and C3-10. This comment presents three alternative routes for the North City Pipeline in the vicinity of the SRTP and Scripps Lake Drive. The alternative routes are shown as red, green, and yellow lines on a figure included in the comment. The green line is the same route as discussed above under response C3-5. As stated above in response C3-5, there are a number of technical constraints that limit the feasibility of the proposed alternative route south of Scripps Lake Drive and result in increased potential environmental impacts

	related to air quality (from longer construction duration and more tunneling), biological resources (from fill in canyon areas and re-grading of the slope which could impact wetlands), geologic impacts (from blasting for tunnels), noise (from increased tunneling), and public utilities (from additional conflicts with DSOD and SDCWA infrastructure). Additionally, significant and unavoidable short-term traffic impacts associated with construction of the North City Pipeline would not be alleviated as a result of this alternative route. Therefore, this alternative route shown as a green line in this comment would have limited feasibility and would not lessen the significant environmental effects of the Project. Similarly, the alternative routes shown as red and yellow lines on the graphic in this comment would have similar technical constraints since both would also require tunneling using blasting techniques south of Scripps Lake Drive (which would result in additional impacts related to air quality, biology, geology and noise) as well as conflicts with existing infrastructure in the area (such as DSOD drainages and the Miramar Reservoir

There are a number of alternative routes that should be analyzed and investigated. The graphic above shows alternative locations for the Dechlorination Facility (red rectangles), and alternative routes (red, yellow, and green lines) that have less impact on the business park. (Note: these routes could be located about 20 feet or more south of Scripps Lake Drive to avoid existing plumbing.) The "green" route (the portion east of Scripps Ranch Blvd is the route the Department presented on November 2 and found viable. All of these routes, with careful planning and coordination with other departments in the City, could result in a new parking lot for our branch library, which has been a CIP priority for a number of years, which we have communicated to various City departments, and for which funding is already available. If there are environmental issues in the area west of the library, it is exactly the purpose of an Environmental Impact Report to disclose them. Reasonable alternatives should be examined, and environmental issues should be identified. Then decisions can be made about whether and to what extent environmental effects should be mitigated, or accepted as is. C3-24 Cont.

Other Comments by Planning Group Members:

The following additional specific comments on the Draft EIR should also be addressed: C3-25

Page 3-51: The Meanley Drive Dechlorination facility site was chosen because it provides adequate contact time to properly remove chlorine. The EIR does not mention the minimum and maximum contact time/ contact distance. The Dechlorination facility site chosen for the San Vicente Reservoir alternative (TAT) is prior to water release into the reinforced concrete structure (page 3-18). The San Vicente site has a shorter contact distance/time, yet is presumed to be adequate. Why is the distance for the Miramar alternate significantly longer? C3-26

Section 5.9 Health and Safety/Hazards: The table does not list or address chemical storage and use at the Meanley Drive Dechlorination facility site. C3-27

Page 5.18-16: typo - 'eats' should be 'east'. C3-28

Section	Page	Comment
3.3	page 3-3	In accordance with CEQA, alternatives are insufficient for an analysis of impacts to the environment because alternatives do not address alternate routes to Miramar and San Vicente reservoirs. Consequently, alternatives do not address impacts to known Land Use impacts as articulated in writing by the Scripps Ranch Community Planning Group during scoping.

C3-29

C3-30

Page 5

dam and SDCWA aqueducts). As such, the red and yellow alternative routes would have limited feasibility and would not lessen the significant environmental effects of the Project.

Please refer to response C3-7 regarding the alternative locations proposed for the Dechlorination Facility.

C3-25 Comment noted. Additional responses to each of the specific following comments are provided below.

C3-26 Please refer to Response to Comments C3-7 and C3-21. Please note that the commenter's assumption regarding distance and contact time as compared to the Miramar Reservoir Alternative is not conclusive based on the design plans available for the San Vicente Reservoir Alternative.

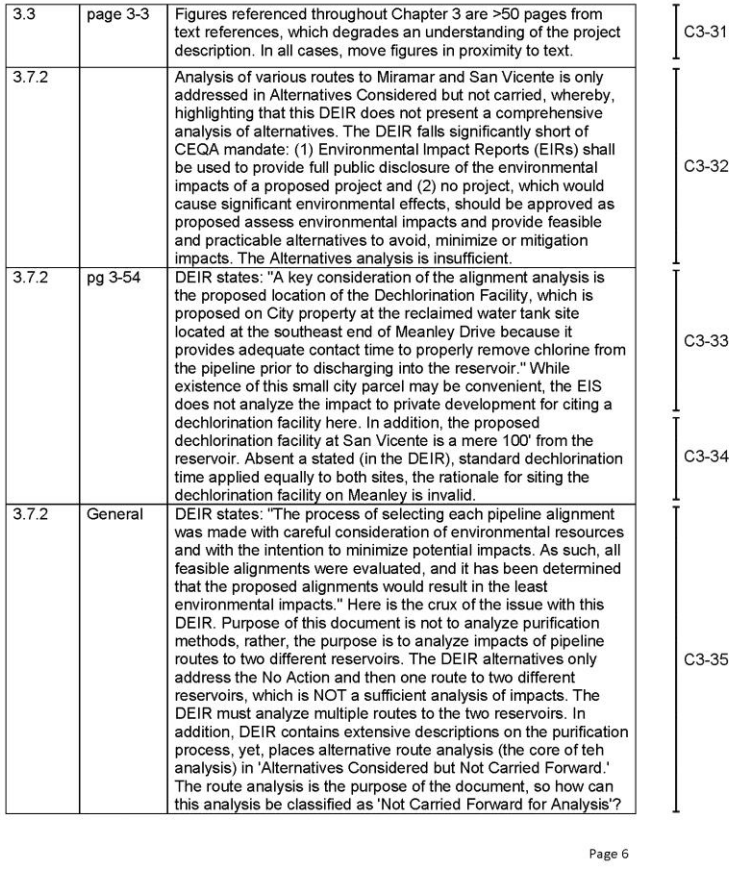
C3-27 It is unclear which table is referred to by the comment as there are several within Section 5.9 of the Draft EIR/EIS. It should be noted that Section 5.9 describes existing health and safety hazards rather than potential health and safety hazards resulting from the Project. Therefore, the storage and use of chemicals at the

proposed Dechlorination Facility is discussed in Section 6.9 of the Draft EIR/EIS.

C3-28 In response to this comment, the City has corrected the typographical error identified by the commenter.

C3-29 Please refer to Response to Comment C3-4.

C3-30 Please refer to Response to Comment C3-4.



3.3	page 3-3	Figures referenced throughout Chapter 3 are >50 pages from text references, which degrades an understanding of the project description. In all cases, move figures in proximity to text.	C3-31
3.7.2		Analysis of various routes to Miramar and San Vicente is only addressed in Alternatives Considered but not carried, whereby, highlighting that this DEIR does not present a comprehensive analysis of alternatives. The DEIR falls significantly short of CEQA mandate: (1) Environmental Impact Reports (EIRs) shall be used to provide full public disclosure of the environmental impacts of a proposed project and (2) no project, which would cause significant environmental effects, should be approved as proposed assess environmental impacts and provide feasible and practicable alternatives to avoid, minimize or mitigation impacts. The Alternatives analysis is insufficient.	C3-32
3.7.2	pg 3-54	DEIR states: "A key consideration of the alignment analysis is the proposed location of the Dechlorination Facility, which is proposed on City property at the reclaimed water tank site located at the southeast end of Meanley Drive because it provides adequate contact time to properly remove chlorine from the pipeline prior to discharging into the reservoir." While existence of this small city parcel may be convenient, the EIS does not analyze the impact to private development for citing a dechlorination facility here. In addition, the proposed dechlorination facility at San Vicente is a mere 100' from the reservoir. Absent a stated (in the DEIR), standard dechlorination time applied equally to both sites, the rationale for siting the dechlorination facility on Meanley is invalid.	C3-33 C3-34
3.7.2	General	DEIR states: "The process of selecting each pipeline alignment was made with careful consideration of environmental resources and with the intention to minimize potential impacts. As such, all feasible alignments were evaluated, and it has been determined that the proposed alignments would result in the least environmental impacts." Here is the crux of the issue with this DEIR. Purpose of this document is not to analyze purification methods, rather, the purpose is to analyze impacts of pipeline routes to two different reservoirs. The DEIR alternatives only address the No Action and then one route to two different reservoirs, which is NOT a sufficient analysis of impacts. The DEIR must analyze multiple routes to the two reservoirs. In addition, DEIR contains extensive descriptions on the purification process, yet, places alternative route analysis (the core of teh analysis) in 'Alternatives Considered but Not Carried Forward.' The route analysis is the purpose of the document, so how can this analysis be classified as 'Not Carried Forward for Analysis'?	C3-35

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C3-31 Comment noted. Figures are provided at the end of each section of the Draft EIR/EIS and their specific location is indicated by the Table of Contents provided at the beginning of the document.

C3-32 Please refer to Response to Comment C3-4.

C3-33 Please refer to Response to Comment C3-7 regarding Dechlorination Facility siting. Regarding land use, as stated in Section 6.1.2 of the Draft EIR/EIS, the significance thresholds for analyzing potential land use impacts are as follows:

1. Be inconsistent with or conflict with the environmental goals, objectives, and recommendations of the City of San Diego General Plan (General Plan), the City of San Diego Municipal Code, the various community plans where the project would be located, or other applicable land use plans including the [Marine Corps Air Station] MCAS Miramar Integrated Natural Resources Management Plan?
2. Conflict with adopted environmental plans for the area including an adopted local

habitat conservation plan?

The analysis of potential impact present in Section 6.1 of the Draft EIR/EIS then focuses on consistency with the environmental goals, objectives, and recommendations of the General Plan, the City of San Diego Municipal Code, the various community plans where the Project would be located, or other applicable land use plans, rather than explicit compatibility with existing land uses. Please also refer to Response to Comment C3-19.

C3-34 Please refer to Response to Comments C3-7 and C3-21. Please note that the comment regarding the distance from the Dechlorination Facility and San Vicente Reservoir is not conclusive based on available design plans.

C3-35 Please refer to Response to Comment C3-4.

5.1.3	5.1-13	The Land Use analysis definition is incorrectly defined as a general, feel-good holistic community view, which completely obfuscates the legal requirement to address project impacts on existing land uses. Once again, analysis in this DEIR is insufficient because it is not focused on the legal mandates, does not analyze effects of the Action, lacks correctly aligned and articulated significance criteria, and is predecisional.	C3-36
5.1.3	5.1-18	Add following to Scripps Ranch Community Plan Industrial elements section: "Encourage the development of industries which would provide desirable employment opportunities within Scripps Miramar Ranch."	C3-37
5.2.3	5.2-19	Add following to Scripps Ranch Community Plan Industrial elements section: "Encourage the development of industries which would provide desirable employment opportunities within Scripps Miramar Ranch."	C3-38
5.4.2.2	5.4-5	Why does the Miramar Alternative include a Dechlorinatin Facility as part of the Proposed Action - in fact, it seems to be an anchor point for the Proposed Action - yet the DEIR states that a dechlorination facility at San Vicente Resevoir would be located along the pipeline prior to discharge and the exact location and design details of this facility are unknown at the time of the release of the DEiR?	C3-39
5.4.2.2	5.4-30	The DEIR states that "there were no sensitive wildlife species observed in the Miramar WTP footprint. Sensitive wildlife species that have moderate to high potential to occur in Miramar WTP footprint include osprey and Canada goose (Branta canadensis)." In addition to surveys, a review of the literature needs to be included in the FEIR. Example: (1) California adolphia found at Lake Miramar is an endangered species; (2) Mexican pelicans (coming to Miramar Reservoir vice Salton Sea; (3) great horned owls; (4) rosy boa, etc to name a few. Please conduct a review of the literature and complete this write-up in the FEIR.	C3-40
5.4.2.2	5.4-31	DEIR states that, "adjacent land uses [to Dechloination Facility] include a mixture of existing commerical and residential development, and Miramar Reservoir, which is located within the MHPA boundary." Revise to state: "Adjacent land use includes existing businesses and five parcels recently purchased for development of industries, which will provide desirable employment opportunities within Scripps Ranch."	C3-41
6.1.3.1	6.1-14	What comments did MCAS Miramar submit wrt impacts of running a piepline through MCAS Miramar?	C3-42
6.1.3.1	6.1-16	Include what the State laws direct wrt construction activites on private, unincorporated land.	C3-43

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C3-36 The significance thresholds for analyzing potential land use impacts are clearly listed in Section 6.1.2 of the Draft EIR/EIS. The analysis presented in Section 6.1 of the Draft EIR/EIS discusses the potential land use impacts with respect to these two significance thresholds. The City strongly believes that the Draft EIR/EIS adequately discusses potential impacts to existing land uses throughout Chapter 6 of the Draft EIR/EIS in addition to the plan, policy, and regulation consistency analysis found in Section 6.1 of the Draft EIR/EIS. The City disagrees with the commenter's assertion that the analysis is "predecisional"; substantial evidence is presented within the analysis of the Draft EIR/EIS to justify the significance conclusions.

C3-37 In response to this comment, the City has added the requested objective to the list in Section 5.1 of the Final EIR/EIS.

C3-38 Please refer to Response to Comment C3-37. The City acknowledges this request; however, the discussion of the Scripps Miramar Ranch Community Plan found in Section 5.2 of the

	Draft EIR/EIS is focused on visual and aesthetics goals and objectives. The City respectfully is opting to not revise Section 5.2 per this comment. **C3-39** Please refer to Response to Comments C3-7 and C3-21. The descriptions and analysis presented in the Draft EIR/EIS used the best available information for the San Vicente Reservoir Alternative. **C3-40** The quoted section in the comment contains a typographic error. Section 5.4.2.2 has been revised in the Final EIR/EIS to state that "There were no sensitive wildlife species observed in the Miramar WTP footprint. Sensitive wildlife species that have moderate to high potential to occur in Miramar WTP ~~footprint~~ study area include…." Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies or makes insignificant modifications does not require recirculation. As stated in Section 5.4 of the Draft EIR/EIS, Appendices M and N list the sensitive plant and

	wildlife species (respectively) with potential to occur within each component of the Miramar Reservoir Alternative. Although California adolphia (*Adolphia californica)* occurs above the Miramar Reservoir shoreline and has a California Rare Plant Rank, it is not an endangered species. Nor would it be impacted with Project implementation. California brown pelican (*Pelecanus occidentalis californicus*) and rosy boa (*Lichanura trivirgata*) are included in Appendix N. Great horned owls (*Bubo virginianus*) are not sensitive species, and therefore, not included in Appendix N.
	C3-41 The City disagrees with the suggested revision. For the purposes for biological resources impact analysis in the Draft EIR/EIS, land use type and cover is sufficient. Description of recent social/economic developments regarding adjacent lands is inappropriate for disclosure of biological resource impacts.
	C3-42 As stated in Chapter 1, Introduction, of the Draft EIR/EIS, MCAS Miramar is one of the cooperating agencies under NEPA. MCAS Miramar reviewed administrative review versions of the EIR/EIS prior to public review

	and continues to be consulted during the EIR/EIS process. **C3-43** Applicable state laws and regulations are described throughout the regulatory framework subsection in each section of Chapter 5. In general, and unless there are explicit exceptions, construction activities would be subject to the same federal, state, and local laws whether on public or private land.

6.1	General	Land Use section addressed aesthetics - which belongs in 6.2 - but never the real issue of impact to future private development of the Scripps Ranch Business Park. This oversight is a significant shortfall in the impact analysis. Along with the pre-decisional position of the analysis and insufficient alternative analysis, this gross shortfall sets the groundwork for re-scoping and reissuance of the DEIR. The Scripps Ranch Planning Group clearly articulated the issue with impacts of the De-chlorination Facility on private development in May 2017 during the Pure Water presentation at the monthly Scripps Ranch Planning Group (SRPG) Meeting. In addition, the SRPG outlined alteratives that needed to be included in the document and highlighted the need to cease development of the DEIR, re-scope the Action and restructure the Alternatives. These recommendations were ignored. Hence, the Pure Water DEIR contains a grossly insufficient impacts analysis of the Proposed Action.	C3-44
7.1	Table 7-1	Include the Carroll Canyon Mixed Use EIR in list of Projects for Cumulative Impacts section. The de-chlorination facility at Miramar Reservoir has severe negative impacts on land use of one of the five properties purchased by Murphy Development in the Scripps Ranch Business Park. The Carroll Canyon FEIR will rezone 9.8 acres of the Scripps Ranch Business Park into mixed use residential/commercial. Include Cumulative Impact analysis of the de-chlorination facility in both the Scripps Ranch Business Land Use and Cumulative Impact Sections.	C3-45 C3-46 C3-47
7.3.2	7-9 & 7-10	The DEIR states, "The Miramar Reservoir Alternative's contribution to land use..... would not be cumulatively considerable." The DEIR does not address the Land Use impact on the Scripps Ranch Business Park, and does not include reference to the Carroll Canyon Mixed Use FEIR, therefore, this is an erroneous statement in the Draft. The FEIR needs to include an analysis of the impact of the de-chlorination facility on Land Use and de-chlorination w/Carroll Canyon Mixed Use FEIR [rezoning] on the SR Business Park in Cumulative Impact Sections of the FEIR - both direct and indirect. The DEIR states, "The Miramar Reservoir Alternative would result in a beneficial cumulative impact with regards to water supply." While true, the State law mandates that CEQA documents present a comprehensive, scientifically accurate (best available science) effects analysis of the Proposed Action on the human environment. It is a given that the Proposed Action will benefit from the Proposed Action. What is the cumulative effect of the State action on the human environment - current and emergent?	C3-48 C3-49

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C3-44 Please refer to Response to Comments C3-19 and C3-33 regarding analysis contained in Section 6.1, Land Use, of the Draft EIR/EIS. The City acknowledges that portions of the analysis contained within Section 6.1, Land Use, may address aesthetics. This analysis addresses compliance with land use plans, policies, and ordinances with respect to aesthetic or visual requirements; Section 6.2, Aesthetics, of the Draft EIR/EIS discusses aesthetics from a visual character and compatibility perspective. Therefore, the City believes that the Draft EIR/EIS adequately analyzes potential land use impacts. As stated in Chapter 3 of the Draft EIR/EIS, the Dechlorination Facility will be located at the end of Meanley Drive off the cul-de-sac on the City's property for the Miramar Recycled Water Storage Tank as shown on Figure 3-15, Pure Water Dechlorination Facility Site. It is not located on private property. The North City Project components within the Scripps Miramar Ranch Community Plan Area would not impede any future private development from occurring. Please refer to Response to Comments C3-4, C3-19, and C3-24.

	C3-45 In response to this comment, the Carroll Canyon Mixed-Use project has been added to the list of cumulative projects in Section 7.2 of the Final EIR/EIS. **C3-46** Please refer to Response to Comment C3-19. The comment regarding the Carroll Canyon Mixed-Use project is noted. The proposed Dechlorination Facility is located approximately 0.6 mile from the Carroll Canyon Mixed-Use project. Given the distance and existing light industrial land uses between the two sites, the Dechlorination Facility would not result in any land use impacts with respect to the Carroll Canyon Mixed-Use project. **C3-47** Please refer to Response to Comments C3-19 and C3-46. As stated in Section 7.3.2 of the Draft EIR/EIS, the Miramar Reservoir Alternative would not be incompatible with any applicable land use plans, habitat conservation plans, and adopted Airport Land Use Compatibility Plans (ALUCPs), and would not result in a cumulatively considerable contribution to cumulative impacts related to the compatibility of the Miramar Reservoir Alternative with applicable land use plans.

	Therefore, potential cumulative land use impacts resulting from the Miramar Reservoir Alternative, including the Dechlorination Facility, have been analyzed in the Draft EIR/EIS. Please also refer to a detailed analysis of land use impacts found in Section 6.1 of the Draft EIR/EIS. **C3-48** Please refer to Response to Comments C3-19, C3-46, and C3-47. **C3-49** The analysis presented in the Draft EIR/EIS presents a comprehensive analysis of the North City Project's potential effect on the physical environment in compliance with CEQA.

8.6	pg 8-3	This statement advocating for the importance of the project does not belong in the EIR - it belongs in a marketing plan. The purpose of the DEIR is to identify effects of teh Action - positive and negative - on the human environment. The proposed Action [construction of dechlorination facility in the business park off Meanley] has a Socioeconomic affect on the Scripps Ranch business park, which needs to be addressed in the DEIR and FEIR.	C3-50 C3-51
10.2.2	pg 10-7	Why will the re-vegetation site not be fertilized?	C3-52
	General	The DEIR focused on direct effects of the project but where did it focus on the long-term effects?	C3-53

Conclusion:

The Draft Environmental Impact Report, in its present form, does not completely and adequately analyze alternatives and describe the associated environmental effects. The obvious environmental benefits of the reuse of water do not excuse an inadequate report, and do not require uncritical acceptance of the project. C3-54

Once again, we thank the Public Utilities Department for conducting further analyses of alternative routes in the Scripps Ranch area. These additional analyses must be included in the Final Environmental Impact Report. C3-55

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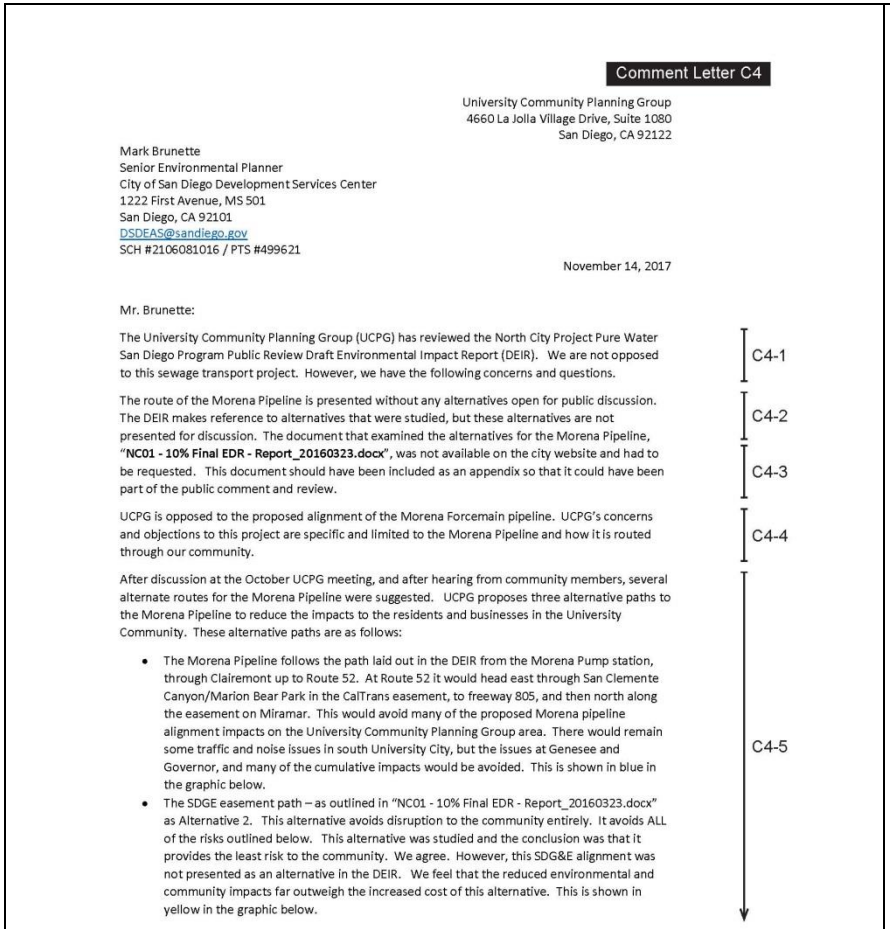
C3-50 Consistent with NEPA, Section 8.6 of the Draft EIR/EIS provides a socioeconomic analysis, including a disclosure of the approximate number of workers to be employed. This information is not intended to be marketing for the Project.

C3-51 The Draft EIR/EIS contains a brief analysis of socioeconomic effects in Section 8.6 in compliance with NEPA. Please refer to Response to Comment C3-19 regarding potential land use impacts resulting from the proposed Dechlorination Facility. The Dechlorination Facility would not impede or in any way affect future development of surrounding properties.

C3-52 Native vegetation is adapted to relatively nutrient-poor soil. The application of fertilizer typically only benefits weeds. Application of fertilizer in restoration is normally only performed to correct a specific nutrient deficiency, based on soil test results. As stated in the Conceptual Revegetation Plan (Appendix P of Appendix C of the Draft EIR/EIS), should the habitat restoration specialist determine that any part of the revegetation program is not

	meeting the performance standards, corrective measures will be recommended in the annual report. Corrective measures may include, but are not limited to, replacing dead container plants, reseeding, applying fertilizers or other soil amendments, or making adjustments to irrigation and maintenance practices. **C3-53** Operational long term effects are described and analyzed throughout Chapter 6 of the Draft EIR/EIS. **C3-54** Comment noted. This comment provides a general summary of specific preceding comments addressed above. **C3-55** Comment noted. This comment provides a general summary of specific preceding comments addressed above.



Comment Letter C4

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November 14, 2017

Mr. Brunette:

The University Community Planning Group (UCPG) has reviewed the North City Project Pure Water San Diego Program Public Review Draft Environmental Impact Report (DEIR). We are not opposed to this sewage transport project. However, we have the following concerns and questions. C4-1

The route of the Morena Pipeline is presented without any alternatives open for public discussion. The DEIR makes reference to alternatives that were studied, but these alternatives are not presented for discussion. The document that examined the alternatives for the Morena Pipeline, "**NC01 - 10% Final EDR - Report_20160323.docx**", was not available on the city website and had to be requested. This document should have been included as an appendix so that it could have been part of the public comment and review. C4-2 C4-3

UCPG is opposed to the proposed alignment of the Morena Forcemain pipeline. UCPG's concerns and objections to this project are specific and limited to the Morena Pipeline and how it is routed through our community. C4-4

After discussion at the October UCPG meeting, and after hearing from community members, several alternate routes for the Morena Pipeline were suggested. UCPG proposes three alternative paths to the Morena Pipeline to reduce the impacts to the residents and businesses in the University Community. These alternative paths are as follows: C4-5

- The Morena Pipeline follows the path laid out in the DEIR from the Morena Pump station, through Clairemont up to Route 52. At Route 52 it would head east through San Clemente Canyon/Marion Bear Park in the CalTrans easement, to freeway 805, and then north along the easement on Miramar. This would avoid many of the proposed Morena pipeline alignment impacts on the University Community Planning Group area. There would remain some traffic and noise issues in south University City, but the issues at Genesee and Governor, and many of the cumulative impacts would be avoided. This is shown in blue in the graphic below.
- The SDGE easement path – as outlined in "NC01 - 10% Final EDR - Report_20160323.docx" as Alternative 2. This alternative avoids disruption to the community entirely. It avoids ALL of the risks outlined below. This alternative was studied and the conclusion was that it provides the least risk to the community. We agree. However, this SDG&E alignment was not presented as an alternative in the DEIR. We feel that the reduced environmental and community impacts far outweigh the increased cost of this alternative. This is shown in yellow in the graphic below.

Response to Comment Letter C4

University Community Planning Group
Janay Kruger
November 14, 2017

C4-1 The City appreciates the University Community Planning Group's (UCPG) review of the Draft EIR/EIS.

C4-2 As discussed in Chapter 3, Alternatives, of the Draft EIR/EIS, CEQA requires a discussion of alternatives to the project be provided. Specifically, Section 15126.6(a) of the CEQA Guidelines states that an EIR shall, "[d]escribe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Section 15126.6(f) further states, "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." This is defined in the same section of the CEQA Guidelines as not meaning every conceivable alternative to the

	project, but only a reasonable range of potentially feasible alternatives. Additionally, an EIR must consider a reasonable range of alternatives to the project, or to the location of the project, which (1) offer substantial environmental advantages over the project proposal and (2) may be feasibly accomplished in a successful manner considering the economic, environmental, social and technological factors involved (*South County Citizens for Smart Growth v. County of Nevada,* 221 Cal.App.4th 316 (2013)). The City of San Diego disagrees that a reasonable range of alternatives was not considered in the Draft EIR/EIS. The City has conducted an extensive analysis of alternative routes for each of the proposed pipelines alignments as summarized in Section 3.7.2, Current Alternative Screening, including the Morena Pipelines. **C4-3** Per CEQA Guidelines Section 15087, as stated in the Public Notice of a Draft EIR, all technical reports and documents referenced in the Draft EIR/EIS were available to the public by request. Only reports prepared specifically to support the analysis in the Draft EIR/EIS were included as technical appendices.

- The Morena Pipeline follows the path laid out in the DEIR from the Morena Pump station, through Clairemont, up to the intersection of Genesee and Clairemont Mesa Blvd. It would continue east on Clairemont Mesa Blvd, tunneling under freeway 805, before heading north along Hickman Field Drive. It would tunnel under route 52 and then follow the proposed easement for the Land Fill Gas pipeline to the Pure Water Facility. This is shown in green on the following graphic.

C4-5 Cont.

C4-4 The commenter's opposition to the route of the Morena Pipelines is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.

C4-5 Refer to response C4-2. Three alternative routes for the Morena Pipelines are proposed by the commenter.

The first alternative alignment proposed by UCPG is labeled as the "Route 52 & 805" alignment and is shown in blue on the graphic provided by UCPG. This alternative alignment would follow the same route along the southern two-thirds of the alignment and would likely result in the same noise and traffic impacts as the proposed alignment within this area; therefore, this alternative route would not alleviate the significant and unavoidable impacts that would result with construction of the Morena Pipelines. Noise and traffic impacts occurring within the UCPG area would merely be transferred east to other communities and would also result in significant and unavoidable impacts. Additionally, this alternative alignment would require longitudinal encroachments in California Department of Transportation (Caltrans) right-

	of-way for construction of the pipelines within both State Route 52 (SR-52) and Interstate 805 (I-805). As stated in the Caltrans Encroachment Manual, Chapter 5, Section 606.1, "Caltrans' policy prohibits the placement of longitudinal encroachments within controlled access rights-of-way…[r]equests for placement of longitudinal encroachments are permitted only when approved through Caltrans' design exception process, and approved by the DOD [Division of Design], Chief, when no other reasonable alternative is available, and it has been determined that there is available space" (Caltrans 2018a). Proposed longitudinal encroachments within the access control right-of-way of freeways or expressways on a highway identified as part of the freeway and expressway system are also prohibited per the Caltrans Project Development Procedures Manual, Chapter 17 (Caltrans 2018b). These policies and practices have been confirmed through City communications with Caltrans (Caltrans 2017). Therefore, this alternative alignment is not considered feasible. The second alternative alignment proposed by UCPG is labeled as the "SDG&E" alignment and

	is shown in yellow on the graphic provided by UCPG. This route was considered and evaluated by the City for its potential to reduce impacts to the community, in particular construction-related impacts associated with noise and traffic. However, this alternative would require tunneling along its entire length, and extreme low points along the alignment would require excavation of very deep tunnel shafts. Therefore, there is an elevated risk that the pipeline could be impacted by geotechnical conditions. There is also an increased risk to existing facilities due to settlement or vibration from the tunneling work. Tunneling methods involve machinery that is more energy intensive and hence would result in greater air quality impacts during construction. Tunneling equipment would also result in higher noise and vibration levels. Further, this alternative route would have potential wetland and other biological impacts within sensitive canyon areas at entrance and exit pit locations along the trenchless tunnels. As such, this alternative alignment would not substantially lessen the significant environmental effects of the Project. Additionally, the alternative alignment would be infeasible since it would conflict with City

	Council policies 400-13 and 400-14 that prohibit new wastewater force mains in canyons and other environmentally sensitive lands (City of San Diego 2002a, City of San Diego 2002b). This alternative route would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway right-of-way (City of San Diego 2015a). The final alternative alignment proposed by UCPG is labeled as the "Clairemont Mesa Boulevard" alignment and is shown in green on the graphic provided by UCPG. Similar to the first alternative alignment proposed by UCPG, this alternative would not substantially reduce traffic or noise impacts. The route would be the same for the first two-thirds of the alignment and would result in similar significant and unavoidable traffic and noise impacts related to the construction of the Morena Pipelines. Traffic and noise impacts along Genesee Avenue for the northern portion of the route would merely be transferred east along Clairemont Mesa Boulevard. Additionally, the alignment would impact wetlands and other environmentally sensitive resources on Marine Corps Air Station

	(MCAS) Miramar along the Landfill Gas (LFG) Pipeline route. As such, this alternative alignment would not substantially lessen the significant environmental effects of the Project.

UCPG has the following concerns with the Morena Pipeline alignment as proposed in the DEIR: C4-6

Hazardous conditions during construction

The open trench construction along Genesee at Governor would require trenching adjacent to three gas stations listed in Table 5.9-1 as posing risk for hazardous and contaminated soil and having open cases for underground storage tank contamination. On page 6.9-16 of the DEIR, it states that *"Based on prior studies and the available information, it is anticipated that the potential of encountering petroleum hydrocarbon-contaminated soil and groundwater, and vapors during construction at the above listed sites is considered high."* This intersection is in close proximity to Curie Elementary, Standley Middle School, the preschool at All Saints Lutheran Church, as well as Regency Villas condominiums, a senior community. The risk of exposing seniors or children to contaminated soil and/or vapor is unacceptable. The EPA might add additional requirements while the trenches are open in this area, causing delays in completing this heavily used intersection. C4-7 C4-8

On page 6.9-19 it states: *"There are a large number of facilities with USTs along the pipeline corridors, and exposure to vapor intrusion during construction is possible. Impacts related to the potential to encounter a hazardous materials site during construction of the Miramar Reservoir Alternative, thereby posing a hazard to the public or environment, are* ***potentially significant*** *under CEQA."* The proposed mitigation, MM-HAZ-4, puts the onus of proper handling contaminated soil on the contractor – which is not an adequate mitigation when the location is so close to at risk populations. C4-9

The DEIR and the 10% design document do not tabulate the risk of forcemain failure for the alternative routes and construction methods. Tabulations should include the probability of failure, cost of cleanup, and the risk to population for each alternative path. The DEIR did not consider alternate paths for the Morena pipeline, so this analysis was not included. C4-10

Traffic

The DEIR underestimates or fails to consider significant traffic impacts of the construction of the Morena Pipeline through residential neighborhoods. C4-11

- The DEIR fails to address the impacts on traffic from lane closures. Several segments along Genesee, Clairemont Drive, Towne Centre Drive, and Nobel have construction schedule for the daytime. This will require lane closures and there will be significant traffic impacts that will radiate to surrounding streets.
- The DEIR fails to address the traffic in and out of active work sites and staging areas. The staging area at the parking lot off of Genesee for Marian Bear Park will be used during the day when segments nearby, such as Genesee south of Appleton, are active. This parking lot only has access for northbound traffic – and will require the trucks and equipment to enter the roadway, and head north prior to making a u-turn to head south. This will be disruptive to traffic and the impacts could be significant. C4-12
- The DEIR fails to address impacts to traffic as people have to drive through construction zones, coned off, or with steel plates. This will reduce speeds and slow traffic. This impact was not studied or discussed. C4-13
- The DEIR seems to dismiss traffic impacts at intersections and roadway segments that are already an LOS E or F. These segments and intersections are already under tremendous pressure and the construction of the Morena Pipeline will worsen them. C4-14

C4-6 This comment introduces all the following comments in the letter. Please refer to the remaining responses below.

C4-7 As discussed in mitigation measure MM-HAZ-4 in Section 6.9.5.3 of the Draft EIR/EIS, all applicable procedures outlined in the City of San Diego's "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances, will be followed (City of San Diego 2015b) to ensure that appropriate investigation, sampling and remedial actions are taken where the potential to encounter hazardous substances or recognized environmental conditions. Compliance with these procedures would adequately mitigate any potential risk and would ensure that at risk groups such as seniors and children are not exposed to contaminated soil and/or vapors.

The City has adequately disclosed potential impacts resulting from vapor intrusion in the Draft EIR/EIS in Section 6.9.5. As cited in the Draft EIR/EIS, Phase I Environmental Site Assessments (ESAs) were prepared for the Morena Pump Station, WW Force Main and Brine Conveyance (Allied Geotechnical

	Engineers Inc. 2015a); Miramar Pipeline/Pump Station (Allied Geotechnical Engineers Inc. 2015b); and the North City to San Vicente Reservoir Pipeline Project (Allied Geotechnical Engineers Inc. 2016). The conclusions of the Phase I ESAs are consistent with those found in the Draft EIR/EIS as they related to potential vapor intrusion. **C4-8** Comment noted. Please refer to response C4-11 below. Section 6.16 of the Draft EIR/EIS acknowledges that the construction of the Morena Pipelines would result in temporary significant and unavoidable traffic impacts. **C4-9** Mitigation measure MM-HAZ-4 in Section 6.9.5.3 of the Draft EIR/EIS requires compliance with specific procedures and regulations. It is entirely appropriate to have the contractor be responsible for proper handling of contaminated soil as disclosed in the mitigation measure, since they are the one in the field at the time of construction. MM-HAZ-4 provides proper protocol to notify and assess for any hazardous materials encountered during construction.

	C4-10	The City has designed the forcemain to avoid any risk of failure and does not believe that alternative alignments would provide any substantial reduction in risk of forcemain failure. The entire alignment of the wastewater forcemain would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity. The City has provided this additional clarification of forcemain design within Chapter 3 of the Final EIR/EIS. As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater

	Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. Additionally, in the unlikely event of pipe breakage, the City has in place a Sewer Overflow Response and Tracking Plan

		(described in Section 5.9, Health and Safety/Hazards, of the Draft EIR/EIS), in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014).
	C4-11	Proposed construction work hours for the Morena Pipeline are detailed in Table 5.16-1 of the Draft EIR/EIS. As shown in the table, the commenter is correct in noting that the identified roadways will have segments with daytime construction work hours. However, the commenter is incorrect in noting that potential impacts from construction lane closures are not analyzed within the Draft EIR/EIS. For the traffic impact analysis during construction of the Morena Pipelines, please refer to Table 6.16-6 of the Draft EIR/EIS, which displays Near-Term roadway traffic volumes with and without construction traffic. Note that Table 6.16-6 includes a column labeled "Functional Classification," which accounts for lane closures. Therefore, the Draft EIR/EIS

	properly analyzed traffic impacts resulting from lane closures from the Morena Pipelines.
	C4-12 Trip distribution and assignment for construction staging areas is discussed in Section 6.16, Transportation, Circulation, and Parking, of the Draft EIR/EIS. As stated in Section 6.16, trip distribution and assignment for the construction of the Morena Pipelines is based on the alignment and staging locations. Pipeline staging areas are proposed to be located within developed parking lots or other developed areas to minimize traffic and road disruptions and would move frequently as construction progresses along the alignment. The commenter indicates the potential staging area of the parking lot off Genesee Avenue for Marian Bear Park. This parking lot is on Genesee Avenue between SR-52 WB Ramps and SR-52 EB Ramps. As indicated Table 5.16-1, this segment of Genesee Avenue would have nighttime construction work hours within the public right-of-way. Therefore, construction egress/ingress from this potential staging area would not disrupt daytime traffic.

	C4-13	The North City Project Traffic Impact Study (provided as Appendix I to the Draft EIR/EIS) and Sections 5.16 and 6.16, Transportation, Circulation, and Parking, of the Draft EIR/EIS have been prepared consistent with the City of San Diego Traffic Impact Study Manual Guidelines and standard traffic engineering practice for the San Diego region. The impact analysis addresses potential impacts to the level of service (LOS) and roadway volumes from construction. The analysis of potential traffic impacts concerns itself with the capacity of the circulation system, which, in part, is affected by reduced speeds and slow traffic. Therefore, the Draft EIR/EIS adequately analyzes traffic impacts.
	C4-14	The existing LOS for roadway and intersection affected by the construction of the Morena Pipelines are shown on Tables 5.16-8 and 5.16-9 of the Draft EIR/EIS. These tables include roadways and intersections currently operating at an LOS E or F. All roadways and intersections listed in Tables 5.16-8 and 5.16-9, including those currently operating at an LOS E or F, are analyzed for potential construction impacts in Tables 6.16-6 and 6.16-8. Therefore,

	the Draft EIR/EIS analyzed potential traffic impacts to roadways and intersections currently operating at LOS E or F.

- The DEIR does not address the impacts from lane closures during daytime construction. C4-15
- The construction schedule suggests an overly optimistic schedule of the construction period. The DEIR suggests the section along Genesee from Governor Drive to Nobel will take 71 days. A presentation at the UCPG meeting, on October 11, suggests it will be 195 days. Construction on Genesee, the only surface street between the south UC neighborhood and UTC to the north will have a huge impact on the community, emergency services and emergency response times, etc. Yet the traffic analysis does not address this. C4-16

Noise

The DEIR underestimates the noise impact of a major project being performed in residential neighborhoods. C4-17

- The assumption of equipment use is not correct.
  - Backhoes are mentioned in the DEIR. This work will be done with much larger excavators, which have a substantially larger noise output.
  - The amount of equipment assumed is too light. Multiple trucks and excavators will be required to excavate and remove the large amount of spoil, place the bedding, and recompact the soil.
  - Welded steel pipe is mentioned as the preferred pipeline material but no allowance is made for the noise impact of welding machines.
  - No light stands are included in the equipment count. Many will require generator power, which is not included in the noise impact.
  - No pavement breaking machines are included. A large hydraulic breaker will be required to remove pavement and base. C4-18
- Significant noise sources are not included in the analysis.
  - Backup alarms are mentioned but not tabulated. All of the equipment will have these alarms.
  - Handling of steel trench plate. The trenches will have to be plated, which involves extra equipment and loud noises from the slamming of trench plates on the ground.
  - Loading of spoil into trucks: besides the equipment noise there is a large amount of noise generated from dropping spoils into dump trucks. C4-19
- No study has been performed to test the effects of the local topography and structures in concentrating the noise. Many areas, such as Genessee north of Governor Drive are in canyon like situations which will result in significant echoing and concentration of the noise. No attempt has been made to truly analyze how far significant noise impacts will travel. No consideration has been given to atmospheric conditions in this area that frequently impact noise transmission. C4-20
- The mitigation measures proposed have a lot of "wishful" thinking.
  - Item 1 is to avoid night time work. Yet a significant portion of the project will be done at night.
  - Item 2 is noise barriers which will be impractical for the chosen work areas. An effective noise barrier would have to be set in place every night then removed at the end of the work period. This is quite impractical for the proposed street work and would involve additional equipment and noise generated during set up and removal of the noise barriers.
  - Item 5: movement of idling equipment. There is no way to move idling equipment somewhere else while working on the street, it will be congested. C4-21

C4-15 Please refer to response C4-11.

C4-16 The construction schedule disclosed within the Draft EIR/EIS was determined through discussions between City of San Diego traffic engineers, pipeline engineers, and the traffic consultants based on typical construction practices and feasibility, as well as from feedback from the UCPG. The Draft EIR/EIS used a standard production rate of 75 feet per day for all pipelines. The construction schedule shown at the presentation at the UCPG meeting displayed a more general construction schedule including initial traffic control noticing, pavement markings, utility field locating, and site preparation. Actual road closures are anticipated to align with the construction schedule disclosed in the Draft EIR/EIS.

Emergency access and response is discussed Section 6.14, Public Services, of the Draft EIR/EIS. Emergency access would be maintained at all times. As discussed in Section 6.14, in all cases, pipeline construction within roadways would result only in temporary partial closures, with movement along the roadway and access to surrounding properties

	maintained at all times. Prior to pipeline construction that requires encroachment into public roadways, a traffic control plan would be prepared by the City in conformance with the City's traffic control regulations. The TCP would be prepared to ensure that all access, including emergency access, would not be restricted. Additionally, all construction contracts have conditions mandating emergency access into and through the site at all times. Additionally, as described in Section 3.4.2 and detailed in Section 6.16 of the Draft EIR/EIS, nighttime work hours would be implemented within certain high traffic roadways to avoid peak traffic times. **C4-17** The comment makes the general statement that noise impacts were underestimated. Subsequent comments provide details that are meant to substantiate this claim. The detailed comments are provided with detailed responses. **C4-18** The comment states that equipment usage assumptions were incorrect. Among other assertions, the comment states that the amount of equipment assumed was too light.

	The construction equipment assumptions used were the same as used for the Air Quality/Greenhouse Gas impacts analysis, which were developed in coordination and discussion with City design engineers. The equipment mix assumptions were based on Project design documents, review of related projects conducted in the Southern California area, and California Emissions Estimator Model (CalEEMod) default equipment, where appropriate. The equipment mix is meant to represent a reasonably conservative estimate of construction activity.
	C4-19 The comment states the significant noise sources are not included in the analysis, including backup alarms, handling of steel plates, and loading of spoils onto trucks. Please see response to comment C4-22, below. Additionally, with regard to outdoor warning devices such as backup alarms (on construction equipment outfitted with them) are mandated by the Code of Federal Regulations, Title 29, Part 1926.601(b)(4), which requires "a reverse signal alarm audible above surrounding noise level," but only when the

	motor vehicle has "an obstructed view to the rear." Mitigation measure MM-NOI-3 specifies that nighttime construction work shall be planned so as to minimize the movement of equipment and noise from back-up alarms adjacent to noise-sensitive receivers.
	C4-20 The comment states that no study was conducted to test the effects of local topography and structures in concentrating the noise, or in atmospheric conditions that frequently impact noise transmission. Because the noise impacts analysis focused on worst-case receivers (i.e., the closest distance from the work area to the receiver), potential "amplification effects" from local topography or structures would be negligible, because the noise received at the receiver from the direct path (i.e., source-to-receiver) would be substantially greater than any indirect path, rendering the indirect contribution insignificant.
	C4-21 The comment states that the mitigation measures represent a lot of "wishful" thinking, including the avoidance of nighttime construction work, and the use of noise barriers. To the contrary, the provided

- Item 6: Electrical power. All the equipment required for this type of work is much too large to be powered electrically, and is not even made. Even the light towers required for night work will be diesel powered.

- The basic assumptions of noise levels studies do not really consider the effects to people trying to sleep. You can have a backup alarm that only sounds for 5 seconds every minute that would result in a time weighted average below an acceptable threshold, but it will still not let you get to sleep. All of this equipment will produce various noise levels, generally not synchronized in any fashion. What will matter as an impact to the neighborhoods is the peak sound levels. These will occur randomly as multiple pieces of equipment operate at their peaks and other impacts (Item 2, above) chime in. That is what will prevent people from sleeping, even if it only happens for brief periods.

C4-21 Cont.

C4-22

Cumulative UC/UTC Projects contributing to Cumulative Adverse Impacts

- MidCoast Trolley: Alignment and construction began early 2016 and will continue until service begins 2021. Disruption along Genesee south to Nobel. DEIR acknowledges, related to Trolley project: *"The Refined Build Alternative would result in long-term adverse and/or significant and unavoidable impacts on transportation (traffic). Adverse and significant impacts to communities and businesses in UCSD and University City may occur due to concurrent construction activity."* These words capture exactly what the UC neighborhoods would have to look forward to, **but these impacts are not unavoidable**. An alternative route of the Morena Pipeline would avoid these impacts.

C4-23

- It is our understanding construction of the pipeline is anticipated to take 195 days along Genesee from Governor to Nobel. Restriction of the flow of traffic on that section of Genesee to one lane only northbound during the peak morning rush hours added to the continuing Trolley construction will create unspeakable traffic issues for workers and students that cannot be reduced merely to the language of *"adverse and significant."* That work, which will be directly in front of University City High School, will create traffic dangers, adversely affecting access to the sidewalks along Genesee for the students walking to and from school, as well as disrupting automobile access to the school for student, parent and faculty drivers. UC High School traffic dangers were not addressed in the DEIR.

C4-24

- Redevelopment of Westfield/UTC and MTS Transit Center: Work on this large project began in mid-2015 and is still continuing. Some of the stores have opened and the Transit Center opened on or about October 27, 2016. As the work on UTC along Genesee is being completed, the work on the northeast/Sears quadrant of the center, at Towne Centre Drive, is just beginning. The effects of the noise and construction equipment traffic continue to affect the neighborhood and businesses throughout the UC community.

C4-25

- Construction of the 23 story Westfield luxury apartments at the corner of Nobel and Genesee. Construction began in mid-2016 with work on the street alignment on westbound Nobel and earth-removal and actual construction on the apartments began soon thereafter. This area is exactly where the North City Project proposes to tear up Nobel, along the north side--just where the work for the new right-turn lane from Nobel westbound to Genesee northbound is progressing and where the residents along the block of Nobel from Genesee east to Towne Centre Drive would once again be subjected to heavy construction equipment traffic, more traffic disruption, dust and excessive noise. The DEIR's phrase, *"significant and unavoidable cumulative impacts"* does not excuse the immeasurable distress and negative impact the approval of this alignment of the North City Project through the University City neighborhoods as presented in this DEIR would cause.

C4-26

- The cumulative impact analysis failed to include projects in the area being completed by UCSD. The Mesa housing project and a new residential tower are both scheduled by UCSD

C4-27

mitigation measures represent the current state of the practice in noise control. Effectiveness of these mitigation measures would vary from several decibels (which in general is a relatively small change) to 10 or more decibels (dB) which subjectively would be perceived as a substantial change, depending upon the specific equipment and the original condition of that equipment, the specific locations of the noise sources and the receivers, etc. Installation of a noise barrier, for example, would vary in effectiveness depending upon the degree to which the line-of-sight between the source and receiver is broken, and typically ranges from 5 dB to 10 dB. Installation of more effective silencers could range from several dB to well over 10 dB. Reduction of idling equipment could reduce overall noise levels from barely any reduction to several dB. Cumulatively, however, these measures would result in substantial decreases in the noise from construction.

C4-22 The comment states that the basic assumptions of noise studies do not fully consider the effects on people trying to sleep, including the effects of short-term,

	intermittent noises such as backup alarms. This appears to be a general comment regarding the standard of the practice for community noise studies. The current noise analysis does follow the accepted methodologies and standards for community noise impacts generally, and specifically as applied to the impacts specified by CEQA. It is acknowledged in the noise impacts analysis that even with implementation of mitigation measures MM-NOI-1 through MM-NOI-3, the temporary noise impacts within 200 feet of the North City Pure Water Pipeline construction and portions of the Morena Pipelines would be substantially higher than the ambient noise levels; these impacts are therefore considered significant and unavoidable under CEQA and an unavoidable adverse effect under NEPA. With this acknowledgment, however, it should also be recognized that for the most part, construction work along the pipeline alignment would be relatively brief at any one location. As stated in Section 5.4.1, Mitigation Measures, of the Noise Technical Report for the North City Project EIR/EIS, "Temporary

		noise impacts (typically, two to three days at any one location) would occur at noise sensitive receivers within 200 feet during construction of the North City and San Vicente Pipelines during trenched and trenchless construction and the Morena Pipeline during trenched construction." Because the pace of pipeline alignment work is generally quite rapid, any particular residence would only experience significant noise impacts for a period of several days.
	C4-23	Comment regarding the cumulative significant and unavoidable impacts on transportation resulting from the MidCoast Trolley project are noted and disclosed in the North City Draft EIR/EIS in Section 7.2.2. Refer to response C4-2 regarding alternative alignments for the Morena Pipelines.
	C4-24	Please refer to response C4-16. Comment regarding the significant and unavoidable traffic impacts is noted. Section 6.16 of the Draft EIR/EIS adequately discloses these impacts and provides mitigation in compliance with CEQA. Section 3.4.6 of the Draft EIR/EIS discloses that the City would prepare traffic control plans for

	pipeline construction to specifically address construction traffic within the City's public rights-of-way. The traffic control plans would include provisions for construction times, and for allowance of bicyclists, pedestrians, and bus access throughout construction. The traffic control plans would also include provisions to ensure emergency vehicle passage at all times, and include signage and flaggers when necessary to allow the heavy equipment to utilize surrounding streets. *The traffic control plans would include provisions for coordinating with local school hours and emergency service providers regarding construction times* (italics added for emphasis). Additionally, all construction contracts have conditions mandating emergency access into and through the site at all times. Also, Section 6.14.3 discloses that "In all cases, pipeline construction within roadways would result only in temporary partial closures, with movement along the roadway and access to surrounding properties maintained at all times." Last, the portion of the pipeline within Genesee Avenue adjacent to University City High School would be constructed at night,

	outside of school pick up/drop off times.
	C4-25 The Final EIR/EIS has been updated, in Section 7.2, to include the Westfield University Town Center (UTC) Redevelopment Project and the MTS Transit Center. The MTS Transit Center was completed in 2017. The redevelopment of Westfield is anticipated to be completed in 2018, prior to commencement of the North City Project construction. As such, the projects would not result in overlapping construction effects that would result in new impacts not currently identified in the Draft EIR/EIS. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.
	C4-26 The Final EIR/EIS has been updated, in Section 7.2, to include the Westfield UTC Redevelopment Project, including the 23-story luxury apartment building. Construction of the residential tower is anticipated to be completed at the end of 2019. Inclusion of this project would not result in new impacts not already provided in the Draft EIR/EIS. Minor revisions made do not affect the

and will add construction impacts of noise, traffic disruption, and stress to the community during the same time as the Morena pipeline construction. C4-27 Cont.

Air Quality

In section 6.3, mitigation MM-AQ-3 it states *"Air/vacuum relief valves at high points along the wastewater forcemain: ferric chloride and/or High Purity Oxygen injection"*. The location of these relief valves are not specified in the DEIR. The next paragraph suggests that caustic solutions could be added to reduce the amount volatilized into gas. This suggests that either caustic solutions, or gases from raw sewage might be a side effect of the forcemain at these relief valves. More details are needed to address this impact and whether this is adequate mitigation. C4-28 C4-29

This DEIR failed to provide alternatives to the pipeline alignments and failed to seek community input. The SDG&E alignment, while more costly, mitigates the majority of the impacts for the Morena Pipeline, but was not presented in this DEIR. These alternative alignments must be included in the Final Environmental Impact Report. C4-30

Janay Kruger,
Chair of University Community Planning Group

conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies or makes insignificant modifications does not require recirculation.

C4-27 The Final EIR/EIS has been updated, in Section 7.2, to include proposed University of California San Diego (UCSD) projects, including the Mesa Housing Nuevo West and East Project and the North Torrey Pines Living and Learning Neighborhood Project. Inclusion of these projects would not result in new impacts not already provided in the Draft EIR/EIS. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

C4-28 During preparation of the Draft EIR/EIS, the specific locations of the air/vacuum relief valves were not confirmed. Since release of the Draft EIR/EIS, the 60% Design Submittal for the Morena Pump Station and Conveyance System Project (KEH 2017) has become available which

		shows a more precise location of these valves. The valve locations have been added to Figures 3-6A through 3-6C of the Final EIR/EIS. Revisions made to the Final EIR/EIS are for clarification purposes only and do not result in any substantial changes in the analysis or changes to the significance conclusions presented in the document. Further, mitigation measure MM-AQ-3 within the Draft EIR/EIS requires an odor control system, such as the addition of ferric chloride and/or High Purity Oxygen injection, to prevent such odors.
	C4-29	Section 6.3.6 of the Draft EIR/EIS identifies the potential for odors associated with the Morena Wastewater Forcemain. These odors would be particularly noticeable at air/vacuum relief valves located at high points along the wastewater forcemain. The odors have been identified due to their potential to cause a nuisance, and not because they would pose any sort of risk or hazard. Mitigation measure MM-AQ-3 requires an odor control system, such as the addition of ferric chloride and/or High Purity Oxygen injection, to prevent such odors.
	C4-30	Please refer to responses C4-2 and C4-5. The

	City does not concur that the proposed alternate alignments would substantially lessen the environmental impacts of the Project, and in some cases are infeasible; therefore, the City has determined that no clarification or revisions are required to the Draft EIR/EIS as a result of this comment.

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Comment Letter C5

From: barry
To: DSD EAS
Subject: Fwd: Pure Water pipeline alignment
Date: Wednesday, November 15, 2017 11:23:09 AM

-----Original Message-----
From: barry <apdrfn@aol.com>
To: purewatersd <purewatersd@sandiego.gov>
Cc: barbarabry <barbarabry@sandiego.gov>; johnleeevans <johnleeevans@aol.com>; janay_kruger <janay_kruger@msn.com>
Sent: Wed, Nov 15, 2017 11:09 am
Subject: Pure Water pipeline alignment

TO: San Diego City Water Dept.
FROM: University City Community Association
SUBJECT: Pure Water Project Pipe Alignment
DATE: November 15, 2017

TO WHOM THIS MAY CONCERN:

The University City Community Association supports the University Community Planning Group's efforts in supporting consideration of alternative alignments for the proposed "Pure Water" project. C5-1

The currently proposed alignment would create very challenging traffic circulation problems to an already congested thoroughfare. C5-2 The possible health issues created by tunneling/trenching near the Governor Drive/ Genesee "gas station complex" is of major concern. C5-3 The impact on our schools located near the proposed pipeline would create unreasonable expectations for transporting students to and from their locations. The allowance for emergency/first responders to provide services would be seriously impeded, particularly during the morning and late afternoon commuting hours, being that Genesee is the only north/south access within our community. C5-4

We, the University City Community Association Board, realize the need and purpose of the Pure Water Project. However the impact upon our community, which is already inundated with various building/street work, deserves that there be consideration for an alternative sewer pipeline alignment. Thank you, C5-5

Respectfully,

Response to Comment Letter C5

University City Community Association
Barry Bernstein
November 15, 2017

C5-1 Comment noted.

C5-2 Comment noted. Potential impacts of the North City Project on traffic circulation are fully analyzed in Section 6.16, Transportation, Circulation, and Parking of the Draft EIR/EIS. As discussed in the Draft EIR/EIS, construction of proposed pipeline alignments would consist of daytime, nighttime, modified/reduced, or weekend work hours based on surrounding land uses and to avoid peak hour traffic to the extent feasible. Please refer to Section 5.16.2 for a detailed discussion of proposed construction and work hours within roadways.

C5-3 As discussed in Section 6.9, Health and Safety Hazards, of the Draft EIR/EIS, mitigation measure MM-HAZ-4 would reduce potential impacts related to encountering hazardous materials to less than significant. Per MM-HAZ-4, all applicable procedures outlined in the City of San Diego's "Whitebook" Part 1 – General

Barry Bernstein, President University City Community Association	Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances ,will be followed (City of San Diego 2015b). **C5-4** Refer to response C5-2. As discussed in Section 6.14, Public Services, of the Draft EIR/EIS, construction of pipelines would have the potential to temporarily and partially affect emergency access. In all cases, pipeline construction within roadways would result only in temporary partial closures, with movement along the roadway and access to surrounding properties maintained at all times. Additionally, as discussed in Section 6.16, Transportation, Circulation, and Parking, of the Draft EIR/EIS, a traffic control plan/permit will be submitted per the City of San Diego requirements for all roadway segments where construction will occur. As per the requirements of the traffic control plan/permit, the contractor shall notify police and fire departments 5 working days prior to starting work. Additionally, all construction contracts have conditions mandating emergency access into and through the site at all times. **C5-5** Comment noted.

Comment Letter C6

Richard Quasarano, AICP CEP
Principal Planner
Environmental Project Permitting
8315 Century Park Court
San Diego, CA 92123
rquasarano@semprautilities.com

November 21, 2017

Mark Brunette, Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501,
San Diego, CA 92101
Via email: DSDEAS@sandiego.gov

Subject: **Comments on the Pure Water San Diego North City Project Draft Environmental Impact Report/Environmental Impact Statement**

Dear Mr. Brunette,

San Diego Gas & Electric Company (SDG&E) appreciates the opportunity to comment on the Pure Water San Diego North City Project Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (Proposed Project) and the coordination with SDG&E that has occurred to date. SDG&E is submitting this comment letter to inform the City of San Diego (City) of potential conflicts with existing and planned underground and aboveground electrical and gas infrastructure maintained and operated by SDG&E. C6-1

SDG&E provides electric and natural gas services to over three million people in San Diego County and southern Orange County. SDG&E's service territory covers approximately 4,100 square miles and includes approximately 250 miles of natural gas transmission pipelines and approximately 14,600 miles of distribution pipelines and a similar amount of underground electric lines. Many of the existing assets are within City streets and in close proximity to the Proposed Project (as shown in Figures 3-12 and 3-22 of the Draft EIR/EIS).

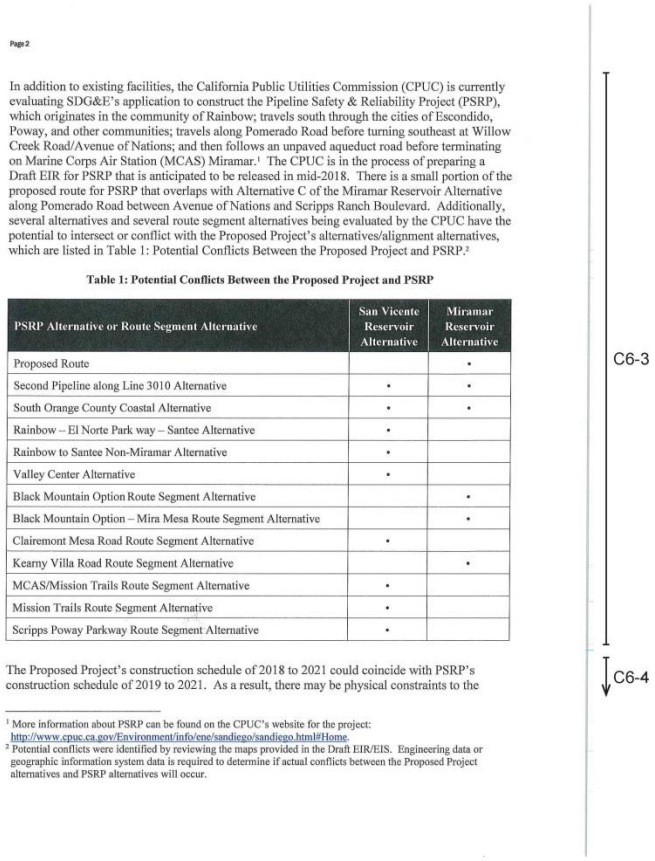
SDG&E has been in contact with the City about potential conflicts with existing gas and electrical infrastructure located along the Miramar Reservoir Alternative of the Proposed Project, and provided a comparison check summary sheet to the City on October 4, 2017. The comparison check describes the locations of existing SDG&E infrastructure in relation to the Proposed Project's 90-percent design route, potential conflicts, and measures to be taken during construction to protect existing infrastructure. If the San Vicente Reservoir Alternative is chosen, a similar review will be necessary to ensure there are no conflicts with the San Vicente Reservoir route. C6-2

Response to Comment Letter C6

SDG&E
Richard Quasarano
November 21, 2017

C6-1 This comment is noted and will be included in the administrative record for the Project.

C6-2 The City concurs that coordination has occurred with SDG&E about potential conflicts between Project facilities and pipelines and existing gas and electric infrastructure. The City acknowledges that additional review would be necessary if the San Vicente Reservoir Alternative is chosen. This information will be included in the administrative record for the Project as part of the Final EIR/EIS. The comment does not raise specific issues related to the adequacy of the environmental analysis in the EIR/EIS; therefore, no additional response is provided or required.



Page 2

In addition to existing facilities, the California Public Utilities Commission (CPUC) is currently evaluating SDG&E's application to construct the Pipeline Safety & Reliability Project (PSRP), which originates in the community of Rainbow; travels south through the cities of Escondido, Poway, and other communities; travels along Pomerado Road before turning southeast at Willow Creek Road/Avenue of Nations; and then follows an unpaved aqueduct road before terminating on Marine Corps Air Station (MCAS) Miramar.[1] The CPUC is in the process of preparing a Draft EIR for PSRP that is anticipated to be released in mid-2018. There is a small portion of the proposed route for PSRP that overlaps with Alternative C of the Miramar Reservoir Alternative along Pomerado Road between Avenue of Nations and Scripps Ranch Boulevard. Additionally, several alternatives and several route segment alternatives being evaluated by the CPUC have the potential to intersect or conflict with the Proposed Project's alternatives/alignment alternatives, which are listed in Table 1: Potential Conflicts Between the Proposed Project and PSRP.[2]

Table 1: Potential Conflicts Between the Proposed Project and PSRP

PSRP Alternative or Route Segment Alternative	San Vicente Reservoir Alternative	Miramar Reservoir Alternative
Proposed Route		•
Second Pipeline along Line 3010 Alternative	•	•
South Orange County Coastal Alternative	•	•
Rainbow – El Norte Park way – Santee Alternative	•	
Rainbow to Santee Non-Miramar Alternative	•	
Valley Center Alternative	•	
Black Mountain Option Route Segment Alternative		•
Black Mountain Option – Mira Mesa Route Segment Alternative		•
Clairemont Mesa Road Route Segment Alternative	•	
Kearny Villa Road Route Segment Alternative		•
MCAS/Mission Trails Route Segment Alternative	•	
Mission Trails Route Segment Alternative	•	
Scripps Poway Parkway Route Segment Alternative	•	

The Proposed Project's construction schedule of 2018 to 2021 could coincide with PSRP's construction schedule of 2019 to 2021. As a result, there may be physical constraints to the

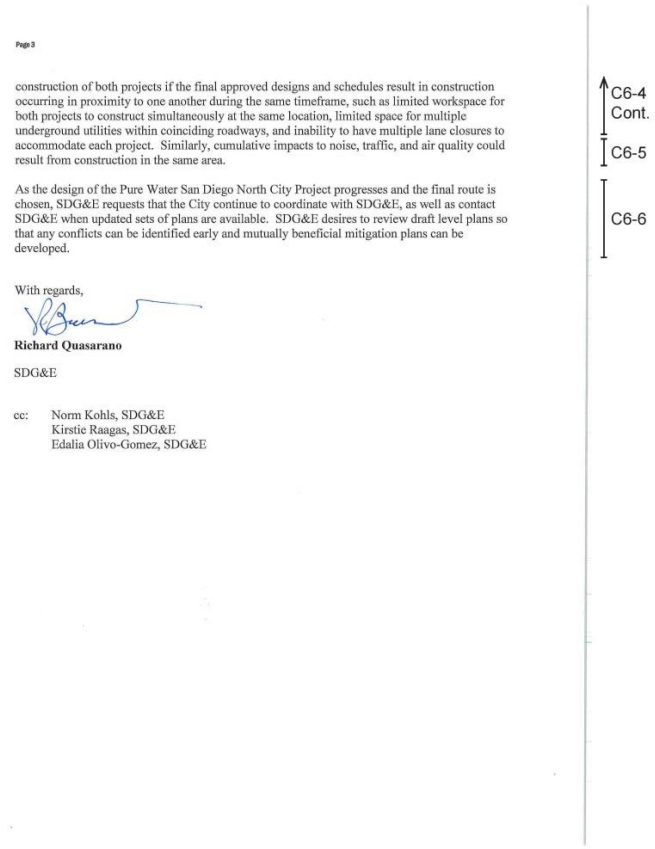
[1] More information about PSRP can be found on the CPUC's website for the project: http://www.cpuc.ca.gov/Environment/info/ene/sandiego/sandiego.html#Home.
[2] Potential conflicts were identified by reviewing the maps provided in the Draft EIR/EIS. Engineering data or geographic information system data is required to determine if actual conflicts between the Proposed Project alternatives and PSRP alternatives will occur.

C6-3

C6-4

C6-3 The City is aware of SDG&E's proposed Pipeline Safety & Reliability Project (PSRP) and acknowledges the potential conflicts between the North City Project and the PSRP. The City has coordinated with SDG&E previously and per mitigation measure MM-PU-1 in Section 6.15, Public Utilities, of the Draft EIR/EIS, the City will continue to consult with other utility providers, including SDG&E, to avoid interference with facilities.

C6-4 The City acknowledges the potential for the PSRP construction schedule to overlap with that of the proposed Project. Please refer to response C6-3.



Page 3

construction of both projects if the final approved designs and schedules result in construction occurring in proximity to one another during the same timeframe, such as limited workspace for both projects to construct simultaneously at the same location, limited space for multiple underground utilities within coinciding roadways, and inability to have multiple lane closures to accommodate each project. Similarly, cumulative impacts to noise, traffic, and air quality could result from construction in the same area.

As the design of the Pure Water San Diego North City Project progresses and the final route is chosen, SDG&E requests that the City continue to coordinate with SDG&E, as well as contact SDG&E when updated sets of plans are available. SDG&E desires to review draft level plans so that any conflicts can be identified early and mutually beneficial mitigation plans can be developed.

C6-4 Cont.

C6-5

C6-6

With regards,

Richard Quasarano

SDG&E

cc: Norm Kohls, SDG&E
Kirstie Raagas, SDG&E
Edalia Olivo-Gomez, SDG&E

C6-5 A cumulative analysis is included in Chapter 7, Cumulative Impacts, of the Draft EIR/EIS and reflects a hybrid approach which relies primarily on adopted planning documents consistent with Section 15130(b)(1)(B) of the CEQA Guidelines, in addition to relevant and reasonably foreseeable projects. While the City believes the approach to the cumulative impact analysis is appropriate and in compliance with CEQA, the Final EIR/EIS has been revised to include the PSRP in Chapter 7, Cumulative Impacts. Revisions made to the Final EIR/EIS are for clarification purposes only and do not result in any substantial changes in the analysis or changes to the significance conclusions presented in the document.

C6-6 The City will continue coordination with SDG&E and provide updated sets of design plans as available.

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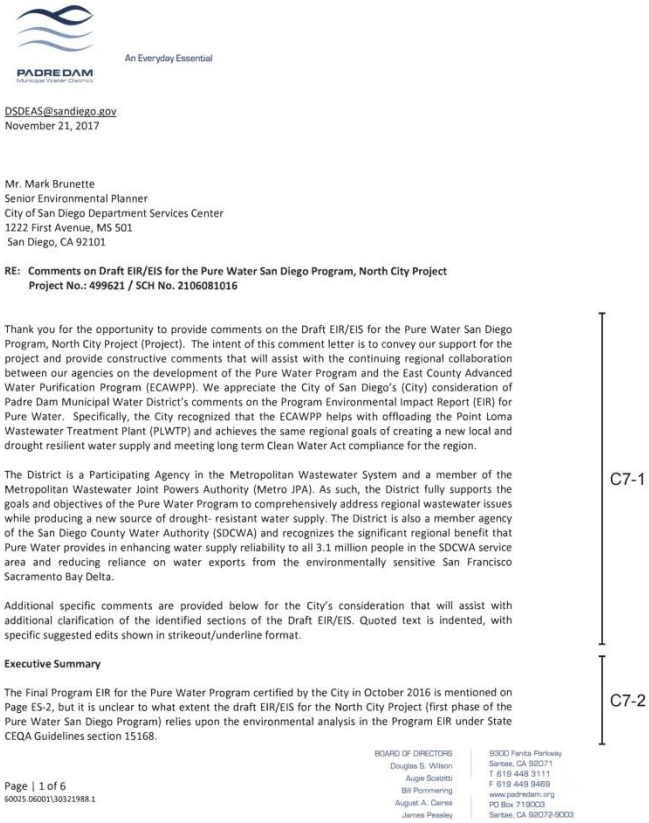
Comment Letter C7



PADRE DAM
Municipal Water District

An Everyday Essential

DSDEAS@sandiego.gov
November 21, 2017

Mr. Mark Brunette
Senior Environmental Planner
City of San Diego Department Services Center
1222 First Avenue, MS 501
San Diego, CA 92101

RE: Comments on Draft EIR/EIS for the Pure Water San Diego Program, North City Project
Project No.: 499621 / SCH No. 2106081016

Thank you for the opportunity to provide comments on the Draft EIR/EIS for the Pure Water San Diego Program, North City Project (Project). The intent of this comment letter is to convey our support for the project and provide constructive comments that will assist with the continuing regional collaboration between our agencies on the development of the Pure Water Program and the East County Advanced Water Purification Program (ECAWPP). We appreciate the City of San Diego's (City) consideration of Padre Dam Municipal Water District's comments on the Program Environmental Impact Report (EIR) for Pure Water. Specifically, the City recognized that the ECAWPP helps with offloading the Point Loma Wastewater Treatment Plant (PLWTP) and achieves the same regional goals of creating a new local and drought resilient water supply and meeting long term Clean Water Act compliance for the region.

The District is a Participating Agency in the Metropolitan Wastewater System and a member of the Metropolitan Wastewater Joint Powers Authority (Metro JPA). As such, the District fully supports the goals and objectives of the Pure Water Program to comprehensively address regional wastewater issues while producing a new source of drought- resistant water supply. The District is also a member agency of the San Diego County Water Authority (SDCWA) and recognizes the significant regional benefit that Pure Water provides in enhancing water supply reliability to all 3.1 million people in the SDCWA service area and reducing reliance on water exports from the environmentally sensitive San Francisco Sacramento Bay Delta.

Additional specific comments are provided below for the City's consideration that will assist with additional clarification of the identified sections of the Draft EIR/EIS. Quoted text is indented, with specific suggested edits shown in strikeout/underline format.

Executive Summary

The Final Program EIR for the Pure Water Program certified by the City in October 2016 is mentioned on Page ES-2, but it is unclear to what extent the draft EIR/EIS for the North City Project (first phase of the Pure Water San Diego Program) relies upon the environmental analysis in the Program EIR under State CEQA Guidelines section 15168.

BOARD OF DIRECTORS
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C7-1

C7-2

Response to Comment Letter C7

Padre Dam Municipal Water District
Albert C. Lau
November 21, 2017

C7-1 The City appreciates Padre Dam Municipal Water District's (District) review of the Draft EIR/EIS and acknowledges the District's role as a member of the Metropolitan Wastewater Joint Powers Authority (Metro JPA) and San Diego County Water Authority. The District's support of the Project is noted and will be included in the administrative record. Please refer to additional responses below.

C7-2 The Program EIR for the Pure Water Project was used as a reference document for the EIR/EIS and is cited where appropriate; the Draft EIR/EIS did not tier from the Program EIR. The Draft EIR/EIS conducted site-specific evaluations and performed new analysis for the proposed Project and is a stand-alone analysis.

Chapter 1 - Introduction, Section 1.1 Background

The Draft EIR/EIS should more specifically identify the relationship between the modified permit for PLWTP, the Pure Water Program, and the proposed Project. The link between the Pure Water Program and offloading PLWTP should be clearly stated. Also, the concept of 'secondary equivalency' should be specifically defined as a proposed conceptual strategy for Clean Water Act compliance. It is important for the public to clearly understand such a key proposal that relates to the project's purpose and need. The suggested revisions are as follows:

Page 1-2, under the third paragraph

In 2014, the City negotiated a second Cooperative Agreement with Coastkeeper, Surfrider, the Coastal Environmental Rights Foundation, and the San Diego Audubon Society (collectively referred to as the environmental stakeholders) for purposes of ~~supporting potable reuse of wastewater and secondary equivalency.~~ diverting 100 mgd of sewer flows from Point Loma WWTP to reduce total suspended solids and biochemical oxygen demand discharged at the Point Loma ocean outfall to the same or lower levels as would be achieved by implementing secondary treatment at the full plant capacity and production of 83 mgd of purified water for potable reuse by 2035.

C7-3

Page 1-2, under the fourth paragraph

On November 18, 2014, the City Council unanimously supported the application to renew the National Pollutant Discharge Elimination System permit for the Point Loma WWTP; ~~the application included key elements of the City's Pure water Program to implement potable reuse~~. The City has submitted a modified NPDES permit application for the 2015 permit renewal that commits to the goal of implementing a potable reuse program (Pure Water Program) and obtaining legislative actions such that the reduced volume of remaining advanced primary flows being discharged through the Point Loma ocean outfall is recognized as equivalent to secondary treatment for purposes of the Metro System's compliance with the Clean Water Act (a.k.a. secondary equivalency).

C7-4

Chapter 1 - Introduction, Section 1.2 Purpose and Need

The Draft EIR/EIS is not specific enough as to the purpose and need for the proposed Project. A quantitative purpose should be provided. The suggested revisions are as follows:

Page 1-3, under the first paragraph

The purpose of the North City Project is to plan, design, construct and operate the treatment and conveyance facilities necessary to divert an annual average of XX mgd << please fill in with the correct value>> of sewer flows from Point Loma WWTP and eliminate a similar volume of ocean outfall discharges and produce an annual average of 30 MGD of purified water, thereby creating a new source of reliable, locally controlled water.

C7-5

Page 1-3, under the second paragraph

C7-6

C7-3 The commenter's preference for a clear statement regarding the link between the Pure Water Program and offloading at the Point Loma Wastewater Treatment Plant is noted. Section 1.3 of the Draft EIR/EIS identifies the objectives of the North City Project, including objective no. 4, which states "reduce flows to the Point Loma Wastewater Treatment Plant and reduce total suspended solids discharged at the Point Loma ocean outfall." The commenter's desire for secondary equivalency to be defined as a proposed conceptual strategy for Clean Water Act compliance is also noted.

The text being referred to in this comment is accurate as it reads in the Draft EIR/EIS since it correctly summarizes the actual text of the Cooperative Agreement. No clarification or revisions are required to the Draft EIR/EIS as a result of this comment since proposed revisions in this comment would not alter the Draft EIR/EIS analysis, mitigation requirements, or conclusions.

C7-4 The requested text to be added is included on Page 2-20 of the Draft EIR/EIS.

	C7-5 The City does not concur that the purpose and need as defined in the Draft EIR/EIS is not specific enough, and no clarifications or revisions have been made in response to this comment. A quantitative purpose is not required under CEQA. **C7-6** The commenter's proposed revisions are not necessary, and no clarification or revisions to the Draft EIR/EIS have been made.

The North City Project will provide increased protection of the ocean environment. The North City Project would reduce flows to the Point Loma WWTP by an annual average of XX mgd, which would reduce total suspended solids and biochemical oxygen demand discharged and recycle a valuable and limited resource that is currently discharged to the Pacific Ocean.

C7-6 Cont.

Chapter 2 – Environmental Setting, Other Agency Water Reclamation Capacity in Section 2.4.1

Page 2-9, under the first paragraph

This paragraph states that the Padre Dam Water Recycling Facility is shown on Figure 2-2. However, the Ray Stoyer WRF is not illustrated on Figure 2-2. Revise the Figure 2-2 to show the Padre Dam Water Recycling Facility location.

C7-7

Page 2-9, under the second paragraph

Include the timeline for Phase 1 of the East County AWP Program as 2023. In addition change the timeline of Phase 2 from 2023 to 2025.

C7-8

The Draft EIR/EIS briefly references the fact that the other agency reclamation plants offload flows before reaching the Metro system, but the inter-relationship of the District's activities with the Pure Water Program (including the proposed Project) are not addressed. The District requests that the Draft EIR/EIS include additional discussion on how the ECAWPP may assist the deployment of future Pure Water Program project elements. Suggested additional text at the end of the second paragraph is:

The ECAWPP, when fully implemented, could offload up to an annual average of 20 mgd of sewer flow from PLWTP by 2035, and that such a volume of diverted wastewater would reduce the amount of offload required by the City of San Diego under the Pure Water Program. The ECAWPP would achieve the same goals and objectives as the Pure Water Program, and may from a Clean Water Act compliance perspective, serve as a replacement for a portion of future project requirements for the Pure Water Program to achieve the proposed secondary equivalency standard.

C7-9

Figure 2-2

Correct "Padre Dam Irrigation District" on the map to "Padre Dam Municipal Water District". Show Padre Dam Water Recycling Facility on the figure and name it "Ray Stoyer Water Recycling Facility (Padre Dam Municipal Water District)"

C7-10

Page 2-10, under the heading Other Agency Water Reclamation Capacity:

The following revisions should be made to more accurately describe the status of the District's Comprehensive Facilities Master Plan Program EIR:

The ECAWPP received concept approval from the Division of Drinking Water to augment water supply to Lake Jennings. A Mitigated Negative Declaration was adopted in July

C7-11

Page | 3 of 6
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C7-7 Figure 2-2 has been revised to show the Padre Dam Water Recycling Facility location. Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

C7-8 In response to this comment, Chapter 2 of the Final EIR/EIS was revised to change the timeline of Phase 1 to 2023 and Phase 2 to 2025. Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

C7-9 While the East County Advanced Water Purification Project (ECAWPP) may complement the City's Pure Water Program, the City does not view it as a replacement for a portion of the Pure Water Program requirements, based on the objectives of the North City Project as stated in the Draft EIR/EIS. In the 2015 301(h) National Pollutant Discharge

	Elimination System modified permit renewal application, the City established the goal of producing 83 million gallons per day (MGD) of purified water by December 31, 2023, with interim targets of 15 MGD by December 31, 2023, and 30 MGD by December 31, 2027. Additional cumulative projects that enhance these production volumes would provide similar benefits in terms of wastewater flow reduction and additional water supply, but would not be relied upon to the meet the objectives of the Pure Water Program, including the North City Project. Hence, no revisions to the Draft EIR/EIS are necessary.
	C7-10 Figure 2-2 has been revised to reflect the changes requested in this comment. Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.
	C7-11 Chapter 2 of the Final EIR/EIS has been revised as requested in this comment. Minor revisions made do not affect the conclusions of the Draft

2015 for the first phase expansion of the Ray Stoyer WRF from 2 MGD to 6 MGD, construction of a 2.2 MGD advanced water purification facility, and upgrades at the Padre Dam influent pump station. A draft Program EIR was released in December 2016 for the Padre Dam Municipal Water District Comprehensive Facilities Master Plan. The draft Program EIR considers 173 projects identified in the Master Plan, which would meet existing and future potable water system demands. The ECAWPP Project is a key component of the Master Plan (Padre Dam Municipal Water District 2016). The Final Program EIR for the Comprehensive Facilities Master Plan was certified in May 2017.

C7-11 Cont.

Chapter 3 -Project Description/Alternatives, Section 3.3.1 Miramar Reservoir Alternative

Page 3-4

This section should also mention the planned increase in the Title 22 recycled water production along with the proposed Project and new purified water production of 30 MGD. In addition, the section (as well as Section 6.17.3 on water supply impacts) should better describe the seasonal flow variations of the non-potable recycled water as well as purified water production. The Draft EIR/EIS should provide information related to the effect of variable seasonal flows and its impact to the proposed Project components.

C7-12

Page 3-16 under San Vicente Pipeline and Pump Station Heading

The Draft EIR/EIS describes the Miramar Reservoir Alternative as the preferred project alternative; however it is not clear under what conditions will the City implement the San Vicente Reservoir Alternative. The proposed pipeline route to San Vicente Reservoir project alternative coincides with the same alignment proposed for the ECAWPP pipeline in Santee and Lakeside. If the San Vicente Reservoir project alternative is selected in the future for project implementation, it is critical that the City of San Diego coordinate the pipeline construction schedule and activities with the District and the City of Santee. In particular, City of Santee has expressed serious concerns related to significant and potentially un-mitigatable environmental impacts that the San Vicente Reservoir project alternative can cause.

C7-13

Chapter 7, Cumulative Impact Analysis

Page 7-3, Table 7-1

In Table 7-1, Plans and Programs Used for the Cumulative Analysis, the status of the Program EIR for the Comprehensive Facilities Master Plan should be updated to reflect that the Final EIR was certified in May 2017.

C7-14

Page 7-6, under Section 7.2.1 - East County Advanced Water Purification Program

Details regarding the size and length of the proposed forcemain as well as the pipeline to Lake Jennings are still in the planning stages. The Program EIR for the Comprehensive Facilities Master Plan notes that the solids handling facility could be located either at the Sycamore Landfill or at the Ray Stoyer WRF facility. Also, as noted earlier the District's Program EIR was certified in May 2017. Please make the corrections noted below to the following text.

C7-15

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EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

C7-12 The North City Project does plan to increase production of Title 22 recycled water at the North City Water Reclamation Plant. The increased production would be utilized to meet the demand of the North City Pure Water Facility in order to produce an annual average daily flow of 30 MGD of purified water and to provide non-potable water to existing and planned future recycled water customers. Additional information regarding the seasonal flow variation has been added to Section 3.3.1 of the Final EIR/EIS. Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

C7-13 The San Vicente Reservoir Alternative is considered as an alternative to the preferred Project alternative. In the event that the San Vicente Reservoir Alternative is selected, the

	City would coordinate the construction schedule and activities of the San Vicente Pure Water Pipeline with the District and the City of Santee. Additional information regarding the ECAWPP pipeline, and potential overlap with the San Vicente Pure Water Pipeline, has been added to Section 7.3.3 of the Final EIR/EIS. Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation. **C7-14** Table 7-1 of the Final EIR/EIS has been revised as requested in this comment. Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation. **C7-15** Section 7.2.1 of the Final EIR/EIS has been revised to reflect the clarifications requested in this comment.

The Padre Dam Municipal Water District's (District's) proposed ECAWPP is expected to produce up to 15.5 million gallons per day (MGD) of purified water for surface water augmentation at Lake Jennings. The goal of the project is to ultimately produce up to 30% of local and drought resilient water supply for East County and assist the region in meeting long term Clean Water Act compliance.

The ECAWPP would expand Padre Dam's influent pump station and the City of San Diego's East Mission Gorge pump station to increase conveyance of wastewater to the Ray Stoyer Water Recycling Facility (WRF). ~~A new~~ An existing 3-mile-long, 20-inch-diamater wastewater forcemain would transport wastewater flows from the Influent ~~p~~Pump ~~s~~Station (IPS) to the Ray Stoyer WRF, and a new 3.5-mile-long, 30-inch-diameter wastewater forcemain would transport wastewater flows from the East Mission Gorge pump station to the Ray Stoyer WRF. The ECAWPP would increase treatment capacity at the Ray Stoyer WRF and the addition of an adjacent advanced water purification facility. A new 24-inch-diameter advanced water purification pipeline will run 10 miles from the new advanced water purification facility to Lake Jennings to deliver purified water. A new solids handling facility ~~would be located at Sycamore Landfill~~ will also be incorporated either at the Sycamore Landfill or at the Ray Stoyer WRF facility~~; a new 6-inch-diameter sludge pipeline and a 3-inch-diameter brine pipeline, both approximately 4 miles in length, would run from the Ray Stoyer WRF to the Solids Handling Facility~~.

A Mitigated Negative Declaration was adopted in July 2015 for the first phase expansion of the Ray Stoyer WRF from 2 MGD to 6 MGD, construction of a 2.2 MGD advanced water purification facility, and upgrades at the Padre Dam influent pump station (Padre Dam Municipal Water District 2015). A draft Program EIR was released in December 2016 for the Padre Dam Municipal Water District Comprehensive Facilities Master Plan. The draft Program EIR considers 173 projects identified in the Master Plan which would meet existing and future potable water system demands. The ECAWPP is a key component of the Master Plan. The draft Program EIR identified potentially significant impacts related to aesthetics, air quality, biological resources, cultural and paleontological resources, geology, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, and transportation/traffic. All impacts would be reduced to less than significant with mitigation. The District's Comprehensive Master Plan Program EIR was certified in May 2017.

C7-15 Cont.

Page 7-7, under Section 7.3 - Cumulative Impact Analysis

While the cumulative analysis considers the Program EIR for the District's Comprehensive Facilities Master Plan and ECAWPP in the discussion of cumulative projects, there is no mention specifically of where potential cumulative impacts may occur. This information is relevant particularly in the discussion of the San Vicente Reservoir Alternative.

C7-16

For example, the District's Program EIR for the Comprehensive Facilities Master Plan recognizes that the City of San Diego's Pure Water Program (i.e. the North City Project component) may route a pipeline through Santee that would run parallel along the same roadways as portions of several Master Plan pipeline projects, including the AWP Project Phase 1 pipeline to Santee Basin or Lake Jennings. The District's Comprehensive Master Plan Program EIR included a measure, Tra-1, that requires the District

Page | 5 of 6
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Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

C7-16 Additional information regarding the ECAWPP pipeline, and potential overlap with the San Vicente Pure Water Pipeline, has been added to Section 7.3.3 of the Final EIR/EIS in the noise subsection. Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation. Prior to any pipeline construction within the jurisdiction of the City of Santee, the City will coordinate with the City of Santee and the District.

to coordinate with the agency of jurisdiction (e.g., the City of Santee) to minimize construction related impacts. We request that the EIR/EIS for the North City Project include a similar measure, which would have the effect of reducing potential construction-related noise and traffic impacts to adjacent land uses by minimizing the potential for serial construction activities from the District's Master Plan components and the Pure Water pipeline through Santee.

C7-16 Cont.

Thank you for your consideration of these comments. It is our hope that regional collaboration and efficient deployment of projects will continue to provide a comprehensive solution to achieve long term Clean Water Act compliance via secondary equivalency standard. We look forward to continuing to work with the City collaboratively in these efforts, and appreciate the opportunity to comment on the Draft EIR/EIS.

C7-17

PADRE DAM MUNICIPAL WATER DISTRICT

Albert C. Lau, P.E.
Director of Engineering and Planning

ACL:cc
cc: Allen Carlisle
Mark Niemiec, PE
Arne Sandvik, PE
Seval Sen, PE
Director James Peasley

Page | 6 of 6
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C7-17 The City appreciates the District's collaboration on this Project.

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Comment Letter C8

CITY OF SANTEE

MAYOR
John W. Minto

CITY COUNCIL
Ronn Hall
Stephen Houlahan
Brian W. Jones
Rob McNelis

November 21, 2017

Mark Brunette
DSDEAS@sandiego.gov
City of San Diego Development Services Center
RE: North City Project
1222 First Avenue MS501
San Diego, CA 92101

Sent Electronically

SUBJECT: City of Santee's Response to the Draft Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) issued by the City of San Diego related to the "Pure Water San Diego Program, North City Project" (SCH: 2016081016)

Dear Mr. Brunette:

This letter is the City of Santee's ("City") response to the City of San Diego Draft Environmental Impact Report ("EIR") for the design and construction of new advanced water treatment facilities, wastewater treatment facilities, pump stations, and pipelines (City of San Diego project 499621). The Draft EIR/EIS evaluates three alternatives: the "No Project/No Action Alternative", the "Miramar Reservoir Alternative" (Locally Preferred Alternative) and the "San Vicente Reservoir Alternative." C8-1

The "San Vicente Reservoir Alternative" includes a proposed pipeline alignment through the City of Santee. The enclosed exhibit depicts the streets that would be adversely affected by the project. The City strongly opposes this Alternative which would run through established neighborhoods and business districts. This Alternative would severely disrupt traffic on arterial and collector streets. C8-2

The City believes that the "San Vicente Reservoir Alternative" will cause significant and potentially unmitigable environmental impacts to the City. The City notes a lack of in-depth analysis of the "San Vicente Reservoir Alternative" in connection with the Recreation, Conservation, Mobility, Noise, and Safety Elements of the City of Santee's General Plan, and identification of specific/effective mitigation measures that reduce impacts to a level of insignificance. C8-3

The Conservation Element of the City of Santee General Plan includes policies to conserve and manage natural resources and open space areas by protecting areas rich in biological and cultural resources (Objectives 7.0, 8.0). In addition, the Conservation Element is closely related to the Recreation Element which addresses open space and recreational facilities. The Draft EIR/EIS must fully analyze the effects of the "San Vicente Reservoir Alternative" on surrounding residential neighborhoods, schools, and parks. C8-4

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Printed on recycled paper

Response to Comment Letter C8

City of Santee
Melanie Kush
November 21, 2017

C8-1 Comment noted. The information presented is accurately summarized from the Draft EIR/EIS.

C8-2 The City acknowledges the City of Santee's opposition of the San Vicente Reservoir Alternative. This information will be presented to City decision makers prior to a decision on the project. Potential impacts to traffic resulting from the construction of San Vicente Reservoir Alternative are analyzed in Section 6.16, specifically Table 6.16-11, of the Draft EIR/EIS.

C8-3 Potential impacts to traffic resulting from the construction of San Vicente Reservoir Alternative are analyzed in Section 6.16, specifically Table 6.16-11, of the Draft EIR/EIS. Other environmental impacts are disclosed in various sections of Chapter 6 of the Draft EIR/EIS.

	The City of Santee's comment that San Vicente Reservoir Alternative is not thoroughly analyzed in the Draft EIR/EIS is noted. Refer to responses C8-5 through C8-10 for more specific responses.
	C8-4 The Draft EIR/EIS analyzes potential impacts to residential neighborhoods, schools, and parks in Section 6.12, Noise; Section 6.16, Transportation, Circulation, and Parking; and Section 6.14, Public Services sections of the Draft EIR/EIS.

November 21, 2017
North City Project
City of Santee
Response to Draft EIR

The "San Vicente Reservoir Alternative" would require trenching and other construction along Mission Gorge Road, Carlton Oaks Boulevard, Halberns Boulevard, and Mast Boulevard which would disrupt these multi-modal corridors in the City of Santee. In the City's Mobility Element, these streets serve as Major Arterials (Mission Gorge Road, Mast Boulevard and Carlton Hills Boulevard) and Collector Roads (Halberns Boulevard). These streets provide major motor vehicle, mass transit, and cycling mobility within Santee and are heavily impacted during the morning peak period as motorists seek alternative paths to reach westbound SR-52. The discussion in the EIR regarding this alternative does not fully evaluate the construction impacts to transportation, nor are the mitigating measures sufficiently developed/addressed. For example, one traffic mitigation measure discloses the possibility of night work. However, these routes are adjacent to residential districts where residents would be subject to disruptive construction noise at night and possibly nuisance odors. C8-5

Objective 1.0 of the Noise Element of the General Plan includes controlling noise from sources adjacent to residential, institutional and other noise-sensitive receptors. A thorough analysis must be conducted on the noise impacts and mitigation measures to avoid the disruption of the quality of life of the community during construction of the pipeline and to ensure the regulations in the City's Noise Ordinance. C8-6

The Safety Element of the General Plan aims to minimize injuries, loss of life, and property damage resulting from human-induced safety hazards. Construction impacts that affect Fire Station No. 5 located at 9130 Carlton Oaks Drive include access and egress and lengthens the response times in the event of emergency and paramedic service calls. In addition, construction impacts have the potential to conflict with this overarching goal to protect the public health, welfare, and safety. The proposed water line alternative would require construction in front of one of the City's two fire stations. C8-7

In summary, the "San Vicente Reservoir Alternative" could significantly disrupt the quality of life of residents, businesses, and recreational users. The construction of the pipeline would result in closed and congested streets and detours, introduce nuisance odors, and affect noise-sensitive receptors. Instead, the City supports the "Miramar Reservoir Alternative" which has fewer/lower environmental impacts as documented in the Executive Summary. C8-8 C8-9

Thank you for the opportunity to submit these comments for consideration. The City requests notification of all proceedings related to this Application through Development Services Director Melanie Kush, at mkush@cityofsanteeca.gov C8-10

Respectfully,

Melanie Kush
Development Services Director

C: Marlene Best, City Manager

Exhibit: San Vicente Pure Water Pipeline Alignment (Santee) C8-11

2

C8-5 The City believes that the potential traffic impacts and mitigation for the San Vicente Reservoir Alternative presented in Section 6.16.4 of the Draft EIR/EIS is adequate in evaluating construction impacts, including lane closures.

Please note that the Draft EIR/EIS does not contain a mitigation measure requiring nighttime work as described by the commenter. Table 5.16-4 of the Draft EIR/EIS shows that nighttime work hours are proposed for all segments of the San Vicente Pipeline, including the portion within the City of Santee. Impacts and mitigation are adequately presented in Section 6.16.4 of the Draft EIR/EIS.

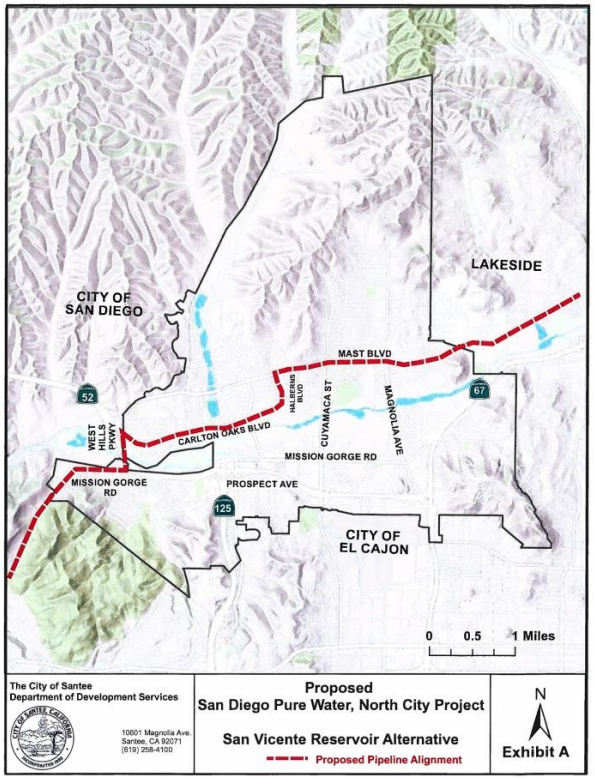
C8-6 The comment states that a thorough analysis must be conducted on the noise impacts and mitigation measures to avoid the disruption of the quality of life of the community during construction of the pipeline and to ensure compliance with the regulations in the City's Noise Ordinance.

Construction noise impacts are addressed in Section 6.12.3.2 (Impacts) of the Draft EIR/EIS,

	as well as in Section 5.0 (Project Impacts Analysis) of the Noise Technical Report for the North City Project EIR/EIS (Noise Technical Report). As stated in these documents, the nearest noise-sensitive receptors would be located along the North City Pipeline and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines). The relevant information as it relates to residents within the City of Santee is the estimated noise levels from the San Vicente Pipelines project component, in which the nearest residences would be located within approximately 50 feet from the alignment, at which time the loudest construction noise levels would be approximately 85 A-weighted decibels equivalent sound level (dBA L_{eq}). It was acknowledged in the Draft EIR/EIS and Noise Technical Report that construction noise levels could exceed the City of Santee's noise standard for construction of 75 dBA L_{eq} over an 8-hour period, and that some of the San Vicente Pipeline work is anticipated to take place during nighttime hours. This would occur under special permit in order to reduce temporary traffic congestion or avoid inconveniences to neighboring businesses.

	Noise levels during pipeline construction could therefore create temporary substantial noise increases and result in short-term exceedance of construction noise standards, thereby resulting in an adverse impact to nearby noise-sensitive receivers. It was further recognized and acknowledged (Section 6.12.4, Level of Impact After Mitigation) that even with implementation of construction noise mitigation measures MM-NOI-1 through MM-NOI-3, the noise impacts related to construction activities under both the Miramar Reservoir Alternative and San Vicente Reservoir Alternative would remain significant and unavoidable. With this acknowledgment, however, it should also be recognized that for the most part, construction work along the pipeline alignment would be relatively brief at any one location. As stated in Section 5.4.1, Mitigation Measures, of the Noise Technical Report, "Temporary noise impacts (typically, *two to three days at any one location*) would occur at noise sensitive receivers within 200 feet during construction of the North City

		and San Vicente Pipelines during trenched and trenchless construction and the Morena Pipeline during trenched construction." Because the pace of pipeline alignment work is generally quite rapid, any particular residence would only experience significant noise impacts for a period of several days.
	C8-7	Section 6.14.3.1 of the Draft EIR/EIS adequately discloses potential impacts to fire services. As noted therein, "The construction of pipelines under the San Vicente Reservoir Alternative would require additional coordination with the Santee Fire Department and Lakeside Fire Protection District for portions located within the City of Santee and the unincorporated portions of the County of San Diego to ensure compliance with local jurisdictional traffic encroachment and that adequate movement and access is maintained at all times during construction. Therefore, no adverse effects would occur." The City of San Diego will coordinate with the City of Santee should this alternative be selected.
	C8-8	Refer to response C8-2. The City disagrees with the suggestion that the Project would create



C8-11 Cont.

nuisance odors within the City of Santee. The proposed components located within the City of Santee would be related to water conveyance as opposed to wastewater. Therefore, the City believes that long-term odor would not be a concern.

C8-9 The commenter's favor of Miramar Reservoir Alternative is noted and will included in the administrative record for the Final EIR/EIS.

C8-10 The City appreciates the commenter's comment letter and coordination, and will coordinate with Melanie Kush as applicable.

C8-11 The comment displaying a figure of the proposed San Vicente Alternative pipeline alignment is noted

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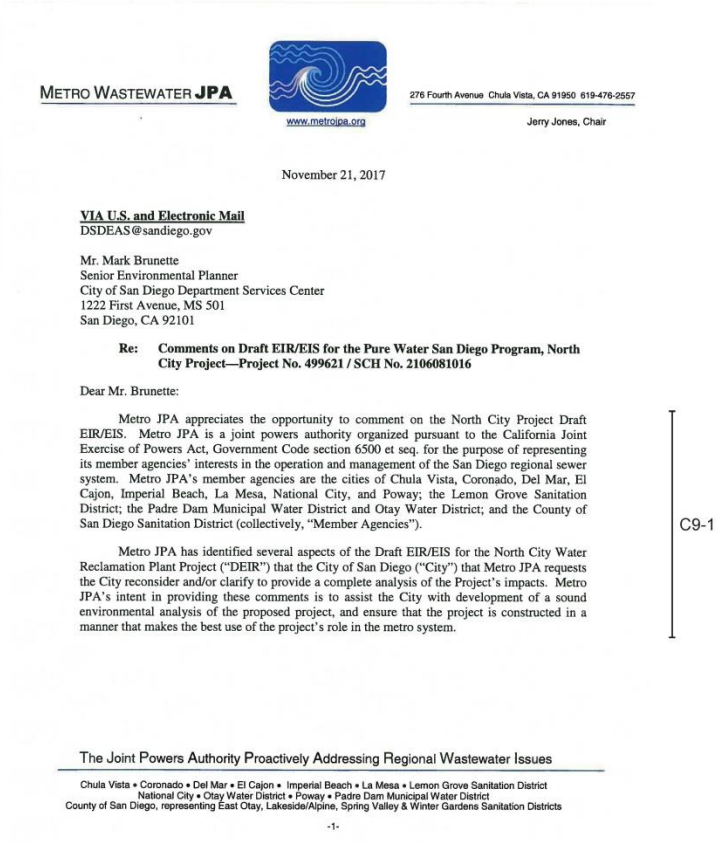
Comment Letter C9



METRO WASTEWATER JPA

www.metrojpa.org

276 Fourth Avenue Chula Vista, CA 91950 619-476-2557

Jerry Jones, Chair

November 21, 2017

VIA U.S. and Electronic Mail
DSDEAS@sandiego.gov

Mr. Mark Brunette
Senior Environmental Planner
City of San Diego Department Services Center
1222 First Avenue, MS 501
San Diego, CA 92101

Re: Comments on Draft EIR/EIS for the Pure Water San Diego Program, North City Project—Project No. 499621 / SCH No. 2106081016

Dear Mr. Brunette:

Metro JPA appreciates the opportunity to comment on the North City Project Draft EIR/EIS. Metro JPA is a joint powers authority organized pursuant to the California Joint Exercise of Powers Act, Government Code section 6500 et seq. for the purpose of representing its member agencies' interests in the operation and management of the San Diego regional sewer system. Metro JPA's member agencies are the cities of Chula Vista, Coronado, Del Mar, El Cajon, Imperial Beach, La Mesa, National City, and Poway; the Lemon Grove Sanitation District; the Padre Dam Municipal Water District and Otay Water District; and the County of San Diego Sanitation District (collectively, "Member Agencies").

C9-1

Metro JPA has identified several aspects of the Draft EIR/EIS for the North City Water Reclamation Plant Project ("DEIR") that the City of San Diego ("City") that Metro JPA requests the City reconsider and/or clarify to provide a complete analysis of the Project's impacts. Metro JPA's intent in providing these comments is to assist the City with development of a sound environmental analysis of the proposed project, and ensure that the project is constructed in a manner that makes the best use of the project's role in the metro system.

The Joint Powers Authority Proactively Addressing Regional Wastewater Issues

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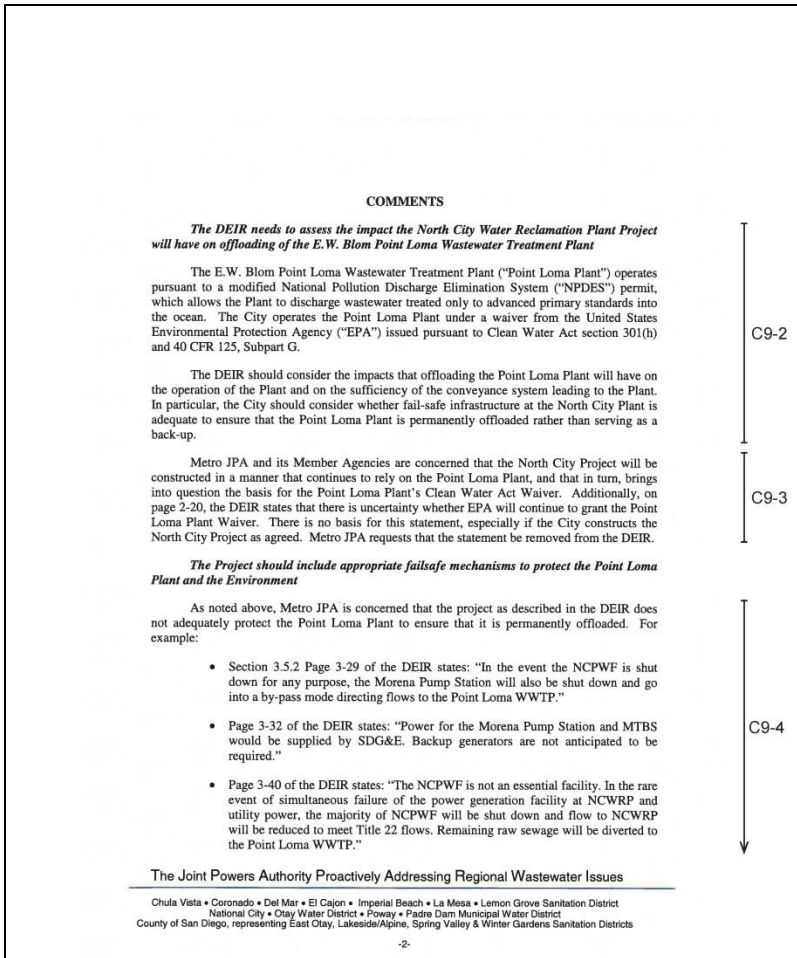
National City • Otay Water District • Poway • Padre Dam Municipal Water District
County of San Diego, representing East Otay, Lakeside/Alpine, Spring Valley & Winter Gardens Sanitation Districts

-1-

Response to Comment Letter C9

Metro Wastewater Joint Powers Authority (JPA)
Paula C.P. de Sousa Mills
November 21, 2017

C9-1 The City appreciates Metro Wastewater JPA's (Metro JPA) review of the Draft EIR/EIS and acknowledges Metro JPA's role as representing the interests of the Member Agencies. Please refer to additional responses below.



COMMENTS

The DEIR needs to assess the impact the North City Water Reclamation Plant Project will have on offloading of the E.W. Blom Point Loma Wastewater Treatment Plant

The E.W. Blom Point Loma Wastewater Treatment Plant ("Point Loma Plant") operates pursuant to a modified National Pollution Discharge Elimination System ("NPDES") permit, which allows the Plant to discharge wastewater treated only to advanced primary standards into the ocean. The City operates the Point Loma Plant under a waiver from the United States Environmental Protection Agency ("EPA") issued pursuant to Clean Water Act section 301(h) and 40 CFR 125, Subpart G.

The DEIR should consider the impacts that offloading the Point Loma Plant will have on the operation of the Plant and on the sufficiency of the conveyance system leading to the Plant. In particular, the City should consider whether fail-safe infrastructure at the North City Plant is adequate to ensure that the Point Loma Plant is permanently offloaded rather than serving as a back-up.

C9-2

Metro JPA and its Member Agencies are concerned that the North City Project will be constructed in a manner that continues to rely on the Point Loma Plant, and that in turn, brings into question the basis for the Point Loma Plant's Clean Water Act Waiver. Additionally, on page 2-20, the DEIR states that there is uncertainty whether EPA will continue to grant the Point Loma Plant Waiver. There is no basis for this statement, especially if the City constructs the North City Project as agreed. Metro JPA requests that the statement be removed from the DEIR.

C9-3

The Project should include appropriate failsafe mechanisms to protect the Point Loma Plant and the Environment

As noted above, Metro JPA is concerned that the project as described in the DEIR does not adequately protect the Point Loma Plant to ensure that it is permanently offloaded. For example:

- Section 3.5.2 Page 3-29 of the DEIR states: "In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma WWTP."
- Page 3-32 of the DEIR states: "Power for the Morena Pump Station and MTBS would be supplied by SDG&E. Backup generators are not anticipated to be required."
- Page 3-40 of the DEIR states: "The NCPWF is not an essential facility. In the rare event of simultaneous failure of the power generation facility at NCWRP and utility power, the majority of NCPWF will be shut down and flow to NCWRP will be reduced to meet Title 22 flows. Remaining raw sewage will be diverted to the Point Loma WWTP."

C9-4

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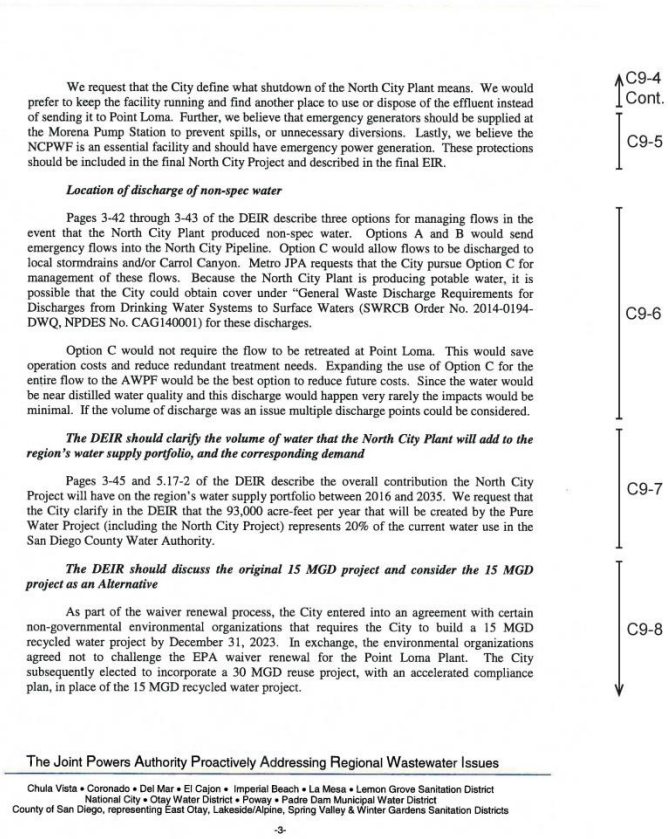
-2-

C9-2 This comment refers to the scope of the Project and does not specifically raise an issue related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

C9-3 Comment noted. The requested revision to remove text regarding uncertainty has been removed in the Final EIR/EIS. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

C9-4 This comment accurately summarizes statements from the Draft EIR/EIS. Shutdown of the North City Pure Water Facility (NCPWF) refers to ceasing production of purified water. The commenter's preference to keep the NCPWF running at all times and to avoid any diversion of raw sewage to the Point Loma Wastewater Treatment Plant (Point Loma WWTP) will be included in the administrative record. This comment does not raise an issue related to the adequacy of the environmental analysis.



We request that the City define what shutdown of the North City Plant means. We would prefer to keep the facility running and find another place to use or dispose of the effluent instead of sending it to Point Loma. Further, we believe that emergency generators should be supplied at the Morena Pump Station to prevent spills, or unnecessary diversions. Lastly, we believe the NCPWF is an essential facility and should have emergency power generation. These protections should be included in the final North City Project and described in the final EIR.

C9-4 Cont.

C9-5

Location of discharge of non-spec water

Pages 3-42 through 3-43 of the DEIR describe three options for managing flows in the event that the North City Plant produced non-spec water. Options A and B would send emergency flows into the North City Pipeline. Option C would allow flows to be discharged to local stormdrains and/or Carrol Canyon. Metro JPA requests that the City pursue Option C for management of these flows. Because the North City Plant is producing potable water, it is possible that the City could obtain cover under "General Waste Discharge Requirements for Discharges from Drinking Water Systems to Surface Waters (SWRCB Order No. 2014-0194-DWQ, NPDES No. CAG140001) for these discharges.

C9-6

Option C would not require the flow to be retreated at Point Loma. This would save operation costs and reduce redundant treatment needs. Expanding the use of Option C for the entire flow to the AWPF would be the best option to reduce future costs. Since the water would be near distilled water quality and this discharge would happen very rarely the impacts would be minimal. If the volume of discharge was an issue multiple discharge points could be considered.

The DEIR should clarify the volume of water that the North City Plant will add to the region's water supply portfolio, and the corresponding demand

Pages 3-45 and 5.17-2 of the DEIR describe the overall contribution the North City Project will have on the region's water supply portfolio between 2016 and 2035. We request that the City clarify in the DEIR that the 93,000 acre-feet per year that will be created by the Pure Water Project (including the North City Project) represents 20% of the current water use in the San Diego County Water Authority.

C9-7

The DEIR should discuss the original 15 MGD project and consider the 15 MGD project as an Alternative

As part of the waiver renewal process, the City entered into an agreement with certain non-governmental environmental organizations that requires the City to build a 15 MGD recycled water project by December 31, 2023. In exchange, the environmental organizations agreed not to challenge the EPA waiver renewal for the Point Loma Plant. The City subsequently elected to incorporate a 30 MGD reuse project, with an accelerated compliance plan, in place of the 15 MGD recycled water project.

C9-8

The Joint Powers Authority Proactively Addressing Regional Wastewater Issues

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National City • Otay Water District • Poway • Padre Dam Municipal Water District
County of San Diego, representing East Otay, Lakeside/Alpine, Spring Valley & Winter Gardens Sanitation Districts

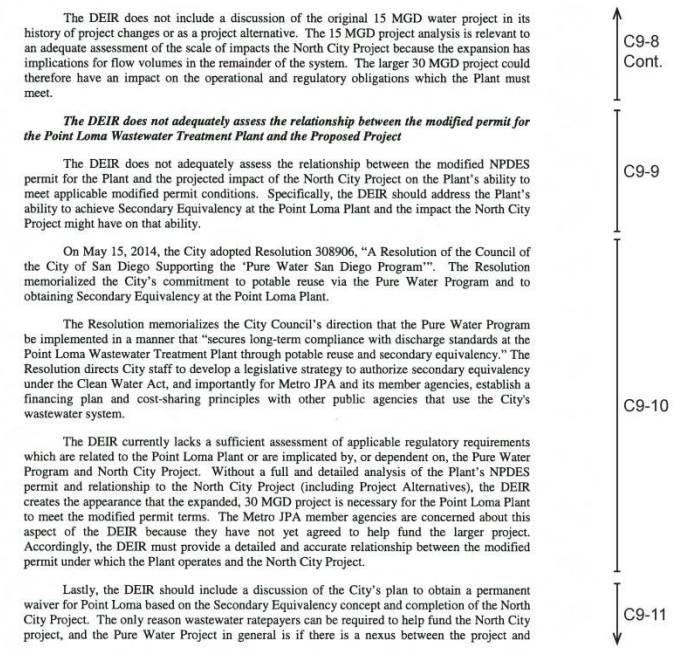
-3-

C9-5 The commenter's preference for emergency power generation at the Morena Pump Station and NCPWF is noted and will be included in the administrative record. This comment does not raise an issue related to the adequacy of the environmental analysis. Also refer to response C9-4.

C9-6 The commenter's preference for Option C in the event the NCPWF produces non-spec water is noted and will be included in the administrative record.

C9-7 The discussions of potable reuse and the contribution of this water source to the City's overall water supply as presented in the Draft EIR/EIS accurately summarize the information as presented in the documents from which the discussion is sourced. In both cases, the quantity of potable reuse refers to future supplies, and therefore, the City does not believe that the revisions as requested in this comment are accurate. No clarification or revisions are required to the Draft EIR/EIS as a result of this comment.

	C9-8	The City has elected to produce 30 million gallons per day (MGD) of purified water as part of the North City Project in order to maximize the efficiency of the system and resources. Implementation of a reduced Project alternative would only produce 15 MGD of purified water. As indicated by the "Final Draft Technical Memorandum for the Development of North City Pure Water Project," prepared by MWH Americas Inc. and Brown and Caldwell in November 2016, producing 15 MGD of purified water would require the same or similar components as the North City Project as proposed; this includes the Morena Pump Station, Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines), North City Water Reclamation Plant (NCWRP) expansion, NCPWF, and North City Pure Water Pipeline (MWH Americas and Brown and Caldwell 2016). Therefore, a 15 MGD alternative would not substantially lessen any of the significant effects of the Project or meet some of the Project objectives. No clarification or revisions are required to the Draft EIR/EIS as a result of this comment.



The DEIR does not include a discussion of the original 15 MGD water project in its history of project changes or as a project alternative. The 15 MGD project analysis is relevant to an adequate assessment of the scale of impacts the North City Project because the expansion has implications for flow volumes in the remainder of the system. The larger 30 MGD project could therefore have an impact on the operational and regulatory obligations which the Plant must meet.

The DEIR does not adequately assess the relationship between the modified permit for the Point Loma Wastewater Treatment Plant and the Proposed Project

The DEIR does not adequately assess the relationship between the modified NPDES permit for the Plant and the projected impact of the North City Project on the Plant's ability to meet applicable modified permit conditions. Specifically, the DEIR should address the Plant's ability to achieve Secondary Equivalency at the Point Loma Plant and the impact the North City Project might have on that ability.

On May 15, 2014, the City adopted Resolution 308906, "A Resolution of the Council of the City of San Diego Supporting the 'Pure Water San Diego Program'". The Resolution memorialized the City's commitment to potable reuse via the Pure Water Program and to obtaining Secondary Equivalency at the Point Loma Plant.

The Resolution memorializes the City Council's direction that the Pure Water Program be implemented in a manner that "secures long-term compliance with discharge standards at the Point Loma Wastewater Treatment Plant through potable reuse and secondary equivalency." The Resolution directs City staff to develop a legislative strategy to authorize secondary equivalency under the Clean Water Act, and importantly for Metro JPA and its member agencies, establish a financing plan and cost-sharing principles with other public agencies that use the City's wastewater system.

The DEIR currently lacks a sufficient assessment of applicable regulatory requirements which are related to the Point Loma Plant or are implicated by, or dependent on, the Pure Water Program and North City Project. Without a full and detailed analysis of the Plant's NPDES permit and relationship to the North City Project (including Project Alternatives), the DEIR creates the appearance that the expanded, 30 MGD project is necessary for the Point Loma Plant to meet the modified permit terms. The Metro JPA member agencies are concerned about this aspect of the DEIR because they have not yet agreed to help fund the larger project. Accordingly, the DEIR must provide a detailed and accurate relationship between the modified permit under which the Plant operates and the North City Project.

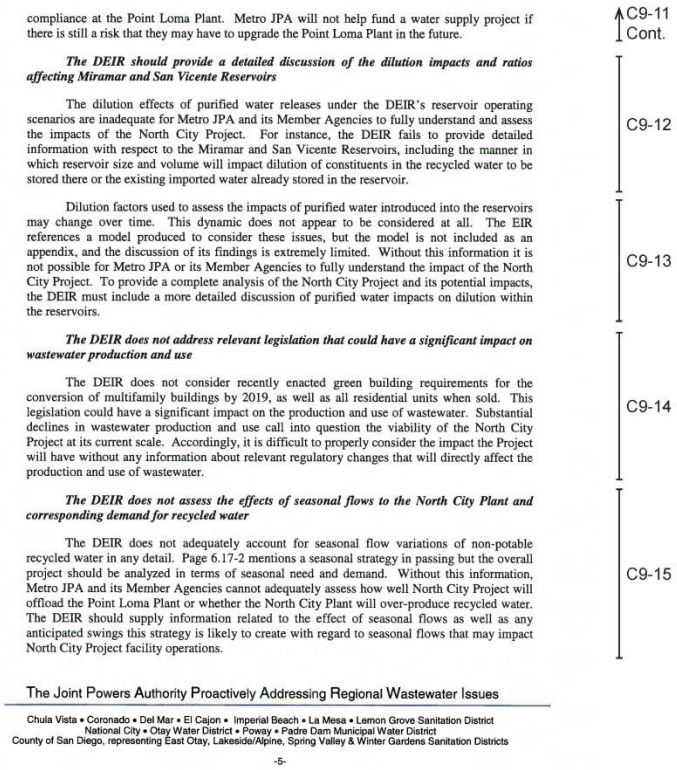
Lastly, the DEIR should include a discussion of the City's plan to obtain a permanent waiver for Point Loma based on the Secondary Equivalency concept and completion of the North City Project. The only reason wastewater ratepayers can be required to help fund the North City project, and the Pure Water Project in general is if there is a nexus between the project and

As discussed in Chapter 3, Alternatives, of the Draft EIR/EIS, CEQA requires a discussion of alternatives to the project be provided. Specifically, Section 15126.6(a) of the CEQA Guidelines states that an EIR shall, "[d]escribe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

C9-9 The commenter's request to address the ability of the Project to achieve Secondary Equivalency at the Point Loma WWTP is related to the design of the Project, and not the adequacy of the environmental analysis. The City identifies "reduc[ing] flows to the Point Loma WWTP and reduc[ing] total suspended solids discharged at the Point Loma ocean outfall" as one of the objectives of the Project in Section 1.3 of the Draft EIR/EIS.

C9-10 Chapter 2 of the Draft EIR/EIS discusses the relationship between the North City Project and the Point Loma WWTP National Pollutant

	Discharge Elimination System (NPDES) permit. It should be noted that the Point Loma WWTP NPDES permit is considered equivalent to CEQA. The analysis required for the NPDES permit is separate from the analysis required for the North City Project for compliance with CEQA and NEPA. **C9-11** This comment does not raise an issue related to the adequacy of the environmental analysis; therefore, no additional response is necessary.



compliance at the Point Loma Plant. Metro JPA will not help fund a water supply project if there is still a risk that they may have to upgrade the Point Loma Plant in the future.

The DEIR should provide a detailed discussion of the dilution impacts and ratios affecting Miramar and San Vicente Reservoirs

The dilution effects of purified water releases under the DEIR's reservoir operating scenarios are inadequate for Metro JPA and its Member Agencies to fully understand and assess the impacts of the North City Project. For instance, the DEIR fails to provide detailed information with respect to the Miramar and San Vicente Reservoirs, including the manner in which reservoir size and volume will impact dilution of constituents in the recycled water to be stored there or the existing imported water already stored in the reservoir.

Dilution factors used to assess the impacts of purified water introduced into the reservoirs may change over time. This dynamic does not appear to be considered at all. The EIR references a model produced to consider these issues, but the model is not included as an appendix, and the discussion of its findings is extremely limited. Without this information it is not possible for Metro JPA or its Member Agencies to fully understand the impact of the North City Project. To provide a complete analysis of the North City Project and its potential impacts, the DEIR must include a more detailed discussion of purified water impacts on dilution within the reservoirs.

The DEIR does not address relevant legislation that could have a significant impact on wastewater production and use

The DEIR does not consider recently enacted green building requirements for the conversion of multifamily buildings by 2019, as well as all residential units when sold. This legislation could have a significant impact on the production and use of wastewater. Substantial declines in wastewater production and use call into question the viability of the North City Project at its current scale. Accordingly, it is difficult to properly consider the impact the Project will have without any information about relevant regulatory changes that will directly affect the production and use of wastewater.

The DEIR does not assess the effects of seasonal flows to the North City Plant and corresponding demand for recycled water

The DEIR does not adequately account for seasonal flow variations of non-potable recycled water in any detail. Page 6.17-2 mentions a seasonal strategy in passing but the overall project should be analyzed in terms of seasonal need and demand. Without this information, Metro JPA and its Member Agencies cannot adequately assess how well North City Project will offload the Point Loma Plant or whether the North City Plant will over-produce recycled water. The DEIR should supply information related to the effect of seasonal flows as well as any anticipated swings this strategy is likely to create with regard to seasonal flows that may impact North City Project facility operations.

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C9-11 Cont.

C9-12

C9-13

C9-14

C9-15

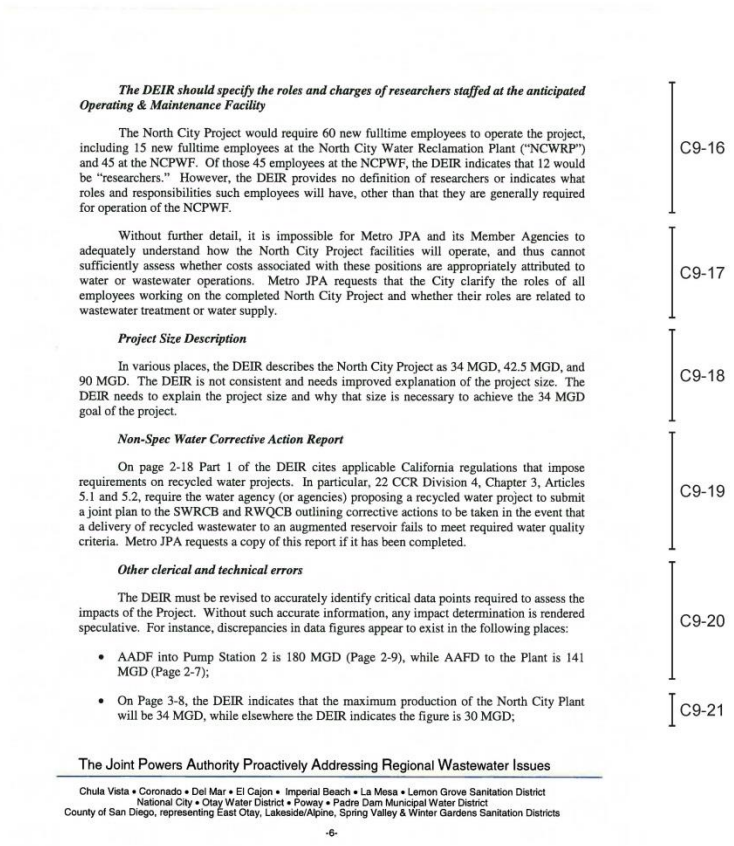
C9-12 The North City Project alternatives will comply with the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) draft criteria for potable reuse via reservoir augmentation, or revised criteria, once regulations are finalized. DDW is currently in the final stages of the process to adopt uniform water recycling criteria for surface water augmentation. Because the Miramar Reservoir Alternative would include independent treatment step providing one additional log-reduction of virus, the minimum dilution criteria is 10:1. As stated on Draft EIR/EIS pages 2-17 through 2-19, the North City Project alternatives cannot be constructed without a new or amended water supply permit from DDW, in which adequate dilution must be demonstrated.

The water quality model developed to evaluate hydrodynamic changes and dilution assumes a constant discharge of 30 MGD, and simulates dilution by a 24-hour conservative tracer. Consistent with the historical record, Miramar Reservoir is expected to be operated with a relatively constant water surface elevation of approximately 706 feet above mean sea level,

	though the model also evaluated a low lake level scenario (of 696.6 feet) to simulate an emergency withdrawal. The model tested several operating scenarios (e.g., discharge points, use of bubblers or diffusers), and found minimum dilution to vary from 14:1 (low lake level) to 29:1 (using diffusers), thus meeting the SWRCB DDW draft minimum criterion of 10:1 for advanced purified water. As stated in the Draft EIR/EIS page 6.11-21 (2nd paragraph), the project will utilize 188 diffusers positioned throughout the lake, all of which will be positioned at an elevation above the hypolimnion, so as to have minimum impacts to lake stratification and seasonal turnover. This design provides additional dilution when compared to the assumed operating scenario evaluated in the model. Appendix G of the Draft EIR/EIS included model simulations specific to water quality to further explore questions of primary productivity impacts (e.g., nutrients, chlorophyll-*a*, temperature, etc.), but does not include the earlier model report describing hydrodynamics and dilution specifically. Therefore, Appendix G will be amended in the Final EIR/EIS to include

	the earlier report. With regard to San Vicente Reservoir, similar modeling conducted in 2012 found inflows would be diluted to at least a factor of 100 to 1 (2016 Pure Water Program EIR, SCH No. 2014111068). This information does not affect the findings or significance conclusions as presented in the Draft EIR/EIS and is being added for informational purposes and for review by Metropolitan JPA.
	C9-13 See response C9-12.
	C9-14 Assumptions of potential reductions in wastewater as a result of current and future regulatory changes would be speculative in nature and are not required to be analyzed in the Draft EIR/EIS per CEQA Guidelines Section 15064(d), which states that an EIR should consider reasonably foreseeable physical changes in the environment; a change which is speculative is not considered reasonably foreseeable. It should also be noted that the City's future wastewater projections forecast reductions in sewer volume. The City adequately anticipates wastewater flows into the system and the viability of the North City Project.

	C9-15 This comment is not related to the adequacy of the environmental analysis contained in the Draft EIR/EIS; therefore, no additional response is necessary.



The DEIR should specify the roles and charges of researchers staffed at the anticipated Operating & Maintenance Facility

The North City Project would require 60 new fulltime employees to operate the project, including 15 new fulltime employees at the North City Water Reclamation Plant ("NCWRP") and 45 at the NCPWF. Of those 45 employees at the NCPWF, the DEIR indicates that 12 would be "researchers." However, the DEIR provides no definition of researchers or indicates what roles and responsibilities such employees will have, other than that they are generally required for operation of the NCPWF.

C9-16

Without further detail, it is impossible for Metro JPA and its Member Agencies to adequately understand how the North City Project facilities will operate, and thus cannot sufficiently assess whether costs associated with these positions are appropriately attributed to water or wastewater operations. Metro JPA requests that the City clarify the roles of all employees working on the completed North City Project and whether their roles are related to wastewater treatment or water supply.

C9-17

Project Size Description

In various places, the DEIR describes the North City Project as 34 MGD, 42.5 MGD, and 90 MGD. The DEIR is not consistent and needs improved explanation of the project size. The DEIR needs to explain the project size and why that size is necessary to achieve the 34 MGD goal of the project.

C9-18

Non-Spec Water Corrective Action Report

On page 2-18 Part 1 of the DEIR cites applicable California regulations that impose requirements on recycled water projects. In particular, 22 CCR Division 4, Chapter 3, Articles 5.1 and 5.2, require the water agency (or agencies) proposing a recycled water project to submit a joint plan to the SWRCB and RWQCB outlining corrective actions to be taken in the event that a delivery of recycled wastewater to an augmented reservoir fails to meet required water quality criteria. Metro JPA requests a copy of this report if it has been completed.

C9-19

Other clerical and technical errors

The DEIR must be revised to accurately identify critical data points required to assess the impacts of the Project. Without such accurate information, any impact determination is rendered speculative. For instance, discrepancies in data figures appear to exist in the following places:

C9-20

- AADF into Pump Station 2 is 180 MGD (Page 2-9), while AAFD to the Plant is 141 MGD (Page 2-7);
- On Page 3-8, the DEIR indicates that the maximum production of the North City Plant will be 34 MGD, while elsewhere the DEIR indicates the figure is 30 MGD;

C9-21

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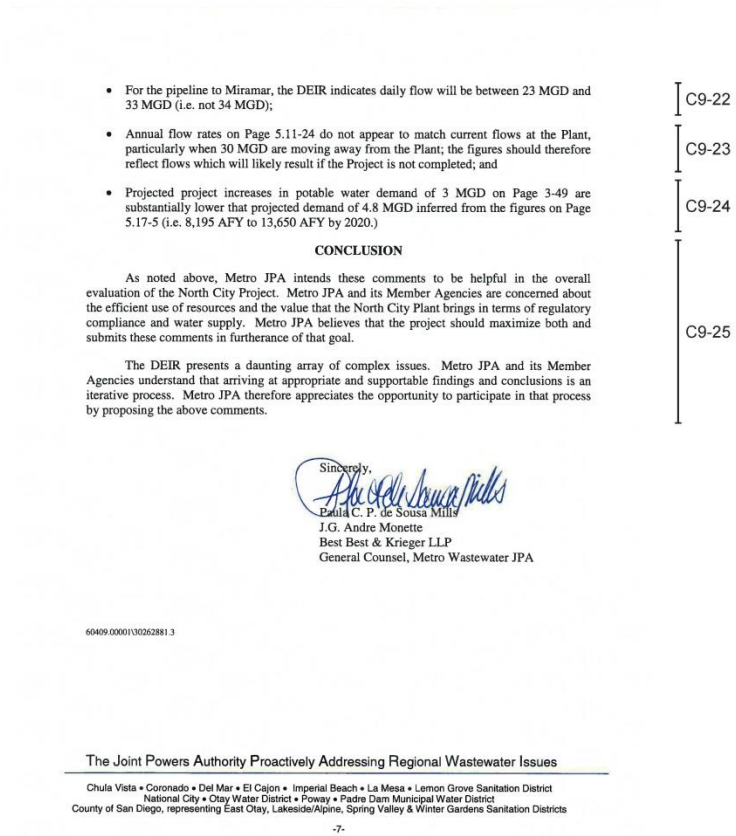
C9-16 This comment is not related to the adequacy of the environmental analysis contained in the Draft EIR/EIS; therefore, no additional response is necessary.

C9-17 This comment is not related to the adequacy of the environmental analysis contained in the Draft EIR/EIS; therefore, no additional response is necessary.

C9-18 The North City Project would ultimately supply 30 MGD annual average daily flow (AADF) of potable reuse. The NCPWF would produce 34 MGD AADF of purified water; however, approximately 4 MGD would be returned to the NCWRP to reduce the total suspended solids concentration of the disinfected tertiary treated effluent. In order to produce an AADF of 34 MGD of purified water, 42 MGD of tertiary effluent flow would be pumped from the NCWRP to the NCPWF. The 90 MGD refers to the peak daily flow of tertiary effluent produced by the NCWRP. The City believes that the discussion of these quantities of flow are clearly presented in Chapter 3, Alternatives, and that no revisions or clarification are

	necessary in response to this comment. **C9-19** Comment noted. Upon completion of the plan that will outline corrective actions to be taken in the event that off-spec water is produced, a copy will be provided to Metro JPA. **C9-20** As noted by the commenter, Page 2-7 of the Draft EIR/EIS states "[t]he AADF rate at the Point Loma WWTP in 2014 was 141 MGD." On Page 2-9, the Draft EIR/EIS states "[t]he AADF into Pump Station No. 2 is approximately 180 MGD." As noted by the in-text citations and Chapter 11, References, the reference to 141 MGD is an older value from 2014, whereas the reference to 180 MGD is a more current value. The Draft EIR/EIS does not require revision. **C9-21** Please refer to response C9-18.



- For the pipeline to Miramar, the DEIR indicates daily flow will be between 23 MGD and 33 MGD (i.e. not 34 MGD); C9-22
- Annual flow rates on Page 5.11-24 do not appear to match current flows at the Plant, particularly when 30 MGD are moving away from the Plant; the figures should therefore reflect flows which will likely result if the Project is not completed; and C9-23
- Projected project increases in potable water demand of 3 MGD on Page 3-49 are substantially lower that projected demand of 4.8 MGD inferred from the figures on Page 5.17-5 (i.e. 8,195 AFY to 13,650 AFY by 2020.) C9-24

CONCLUSION

As noted above, Metro JPA intends these comments to be helpful in the overall evaluation of the North City Project. Metro JPA and its Member Agencies are concerned about the efficient use of resources and the value that the North City Plant brings in terms of regulatory compliance and water supply. Metro JPA believes that the project should maximize both and submits these comments in furtherance of that goal. C9-25

The DEIR presents a daunting array of complex issues. Metro JPA and its Member Agencies understand that arriving at appropriate and supportable findings and conclusions is an iterative process. Metro JPA therefore appreciates the opportunity to participate in that process by proposing the above comments.

Sincerely,

Paula C. P. de Sousa Mills
J.G. Andre Monette
Best Best & Krieger LLP
General Counsel, Metro Wastewater JPA

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C9-22 Please refer to response C9-18. A portion of the purified water produced at the NCPWF would be returned to the NCWRP.

C9-23 The data presented in this section of the Draft EIR/EIS reflects future conditions, rather than current conditions under the NPDES.

C9-24 The Draft EIR/EIS uses various reports to describe the setting, baseline conditions, and future assumptions. Please note the comparison of numbers are in different sections of the Draft EIR/EIS. The section of the Draft EIR/EIS stating that potable water demand is 3 MGD referenced by the commenter is found in Section 3.7.1, Previous Water Supply Alternatives Planning, and specifically summarizes the Recycled Water Study completed by the City in 2012. The projected numbers described in Section 5.17 of the Draft EIR/EIS as referenced by the commenter pertain to the City's 2015 Urban Water Management Plan (UWMP). Therefore, the numbers are different because they are sourced from different reports and are included in the Draft EIR/EIS for different purposes. The City's 2015 UWMP is the most

	current plan to use for water projections. As such, the difference in numbers does not change the analysis or conclusions of the Draft EIR/EIS.
	C9-25 The City appreciates Metro JPA's review of the Draft EIR/EIS. Comments will be included in the administrative record for this Project.

Comment Letter D1

San Diego County Archaeological Society, Inc.
Environmental Review Committee

18 November 2017

To: Mr. Mark Brunette
Development Services Department
City of San Diego
1222 First Avenue, Mail Station 501
San Diego, California 92101

Subject: Draft Environmental Impact Report
Pure Water San Diego Program, North City Project
Project No. 499621

Dear Mr. Brunette:

I have reviewed the historical and cultural resources aspects of the subject DEIR on behalf of this committee of the San Diego County Archaeological Society. D1-1

Based on the information contained in the DEIR and its Appendices F1 and F2, we have the following comments:

Appendix F1, Historical Resources

As the structure at 5111 Private Road is outside the San Diego city limits, any landmarking evaluation would fall to the County's Historic Site Board (HSB) rather than the City's Historical Resources Board (HRB). While it would not appear to affect the conclusion of non-significance of this resource, Appendix F1 should make clear the different jurisdictions' roles. D1-2

Appendix F2, Cultural (Archaeological) Resources

Section 4.4 states unequivocally that "All artifacts collected during archaeological testing for this study…will be curated at the San Diego Archaeological Center." The City's standard wording, on page 101 and repeated in the DEIR, is less clear. While it is reported that the pipeline would be relocated to avoid impacting the two tested sites, the professional standards of the Register of Professional Archaeologists and other professional groups require that those collections be curated. We note that the material recovered shows no evidence of association with human burials or other objects which would require repatriation under NAGPRA. We also note that federal involvement in D1-3

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Response to Comment Letter D1

San Diego County Archaeological Society Inc. (SDCAS)
James W. Royle Jr.
November 18, 2017

D1-1 Comment noted.

D1-2 Pertinent regulatory language for the County of San Diego's evaluation criteria for historical resources, specifically language from the County of San Diego Ordinance No. 9493, was incorporated into Section 1.1.3 (pages 35–37) of the Historical Resources Technical Report (Appendix F1) and Section 5.10.5 of the Draft EIR/EIS in an effort to clarify the historical resource-related requirements made by the City and County jurisdictions. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

D1-3 Section 4.4 of the Cultural Resources Inventory (Appendix F2) and Section 5.10.3 of the Draft EIR/EIS state that all artifacts collected during archaeological testing for the inventory

this project requires curation in accordance with 36CFR79. Please clarify the City's intention. D1-3 Cont.

Section 4.4 also includes the statement that "Curation could also consist of interpretive displays as part of any public awareness activities." While interpretative displays, and other methods such as lectures and other programs, can be an important part of public awareness efforts, they are not curation. This is a worthwhile addition to the mitigation program and rightly belongs there. D1-4

As an editorial comment, the site trinomials in Section 5.1.1.6 are incorrectly given Riverside County numbers (CA-RIV-…) while the sites are on MCAS Miramar. They should have San Diego County trinomials (CA-SDI-…). This should be corrected in the Final EIR. D1-5

Finally, Section 1.3, Report Structure, states that Appendix F, Artifact Catalog, is non-confidential. Indeed, the report provides some detailed discussion of the recovered artifacts. However, the artifact catalog has been omitted from the copy of DEIR Appendix F2 posted on the City's website. Please update Appendix F2's Appendix F accordingly. D1-6

Draft EIR

We agree with the site significance recommendations in both Appendices F1 and F2, with the carry-over of any changes in the DEIR's wording regarding curation resulting from our comments above. D1-7

Thank you for the opportunity to offer our comments on the environmental documents for this important project. D1-8

Sincerely,

James W. Royle, Jr., Chairperson
Environmental Review Committee

cc: Dudek
SDCAS President
File

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(Section 5) will be curated at the San Diego Archaeological Center. Section 7.3 describes the mitigation measures developed to reduce the potential adverse effect/significant impact to previously undiscovered cultural resources during construction of the Pure Water San Diego Program, North City Project.

D1-4 The statement that "Curation could also consist of interpretive displays" has been removed from Section 4.4 of the Cultural Resources Inventory and Section 5.10.3 of the Final EIR/EIS. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

D1-5 In Sections 5.1.1.6 and 5.1.3.1 of the Cultural Resources Inventory and Sections 5.10.4.1 and 6.10.3 of the Final EIR/EIS, two cultural resources were mislabeled using Riverside County trinomial prefix "CA-RIV-." This typographic error has been corrected and the resources are properly labeled using the appropriate San Diego County trinomial prefix

	"CA-SDI-." Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.
	D1-6 The requested catalog (Appendix F of the Cultural Technical Report) is not listed as "confidential." The City will provide to SDCAS.
	D1-7 Comment noted.
	D1-8 Comment noted.

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Comment Letter D2

California Native Plant Society

San Diego Chapter of the California Native Plant Society
P O Box 121390
San Diego CA 92112-1390
conservation@cnpssd.org | www.cnpssd.org

November 21, 2017

Mark Brunette
Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501, San Diego, CA 92101
By e-mail to DSDEAS@sandiego.gov

RE: Pure Water San Diego Program, North City Project, Project No.: 499621/SCH No. 2106081016

Dear Mr. Brunette,

Thank you for the opportunity to comment on the draft of the City of San Diego ("City") Pure Water Program, North City Project ("Project") and its associated Draft Environmental Impact Report and Environmental Impact Statement ("DEIR/S"). CNPS promotes sound plant science as the backbone of effective natural areas protection. We work closely with decision-makers, scientists, and local planners to advocate for well informed and environmentally friendly policies, regulations, and land management practices. Our focus is on California's native plants, the vegetation they form, and climate change as it affects both. D2-1

In this letter, I will also add comments that do not reflect CNPS's areas of expertise, but reflect my experience. Thus, "we" in this letter refers to comments from CNPSSD, while "I" refers to personal comments that do not represent CNPS. Since they intertwine, I have put them together

While there is much conceptually to like about reclaiming water, the devil is in the details and lack thereof. We (CNPSSD) believe that this document is incomplete, and so we cannot advocate for an option on this project. **It is missing critical details in the biology section. Ideally, the DEIR/S should be corrected and recirculated.** D2-2

The biggest biological problem is that Appendix C, the Biological Technical Report, is missing all its own appendices, specifically Appendices A, B, I, J, L, M, and especially P, Q, and R. **Why were these not included?** Without subappendices P, Q, and R, there is no way for us to determine whether the proposed mitigation is sufficient, and we have to assume it is not. **Therefore we recommend that all missing appendices be included in a revised DEIR/S, and that this document be circulated for an additional 30 days, so that it meets CEQA guidelines.** We will be happy to comment on them during that time, and hopefully we can form a more positive opinion on the Project and advocate for one alternative. D2-3

Dedicated to the preservation of California native flora

Response to Comment Letter D2

California Native Plant Society (CNPS) San Diego.
Letter 1
Frank Landis
November 21, 2017

D2-1 Comment noted. The City appreciates CNPS's review of the Draft EIR/EIS.

D2-2 No new significant environmental impacts are identified as a result of revisions made to the Draft EIR/EIS in response to the comments in this letter. Therefore, the City, as lead CEQA agency, has concluded that the environmental issues addressed in the Draft EIR/EIS have been fully analyzed in accordance with CEQA. The Draft EIR/EIS provides all pertinent information necessary to allow for meaningful public and agency review.

D2-3 As stated in the City's Public Notice of a Draft EIR, technical reports and documents, including appendices, were available to the public by request. =The City did not receive a request from the commenter for the appendices. The City, as lead CEQA agency, has concluded that the Draft EIR/EIS provides all

	pertinent information necessary to allow for meaningful public and agency review and does not agree that recirculation is required.

Page 2 of 4

Second, we believe the rare plant search was incomplete. According to CNDDB (element PDPGN040G0) there is (was?) an occurrence of the endangered Orcutt's spineflower (*Chorizanthe orcuttiana*) in an area that overlaps the Metro Biosolids site and possible pipeline route. Unfortunately, we found no evidence in the DEIR/S that a survey was conducted for this plant. **Why was Orcutt's spineflower not surveyed for?** D2-4

The greenhouse gas issue arises from the landfill gas pipeline (LFG). As we have learned from Los Angeles' experience[1], methane readily leaks out of pipes (see also below). Methane can also kill plant roots, either by displacing oxygen in the soil or by feeding methanotrophic bacteria which use up the oxygen in the soil, again to the detriment of local plant roots. Thus, a methane leak in soil under sensitive plants is a concern. D2-5

We do appreciate the subsurface tunneling that will allow the LFG pipeline to be constructed without trenching the surface through a fairly sensitive ecosystem, we are concerned about the long-term viability of the pipeline and the problems it might cause if it leaks. Thus we have questions: **What is it the pipeline's design lifetime? How will leaks be detected and repaired, and how will this impact the sensitive wildlife species in the immediate vicinity? How will it be decommissioned, and will the decommissioning be safe for the sensitive plants that grow atop it?** These questions need to be answered as part of the DEIR/S. Some of the plants impacted, such as the Nuttall's scrub oaks (*Quercus dumosa*, CRPR list 1B.1), live for centuries, longer than the lifespan of the proposed Project. The impacts of the entire lifecycle of the Project need to be analyzed and mitigated appropriately to protect the plants and vegetation. D2-6

These are the CNPSSD comments. To provide background on the personal comments, I have a PhD in botany and am a resident of Rancho Peñasquitos, so I apparently live in the area served by the Project. My mother, Betsey Landis, is a long-term member and current chair of the Los Angeles County Integrated Waste Management Task Force. Unlike her, I am not an engineer, but we have talked extensively about the issues the Task Force faces and specifically about the Project. I relay my concerns and her thoughts below. D2-7

First, the scariest part of the Project is the proposed waterline ("pipeline") that runs between the North City Pure Water Facility (NCPWF) and Miramar Lake. This line unfortunately will intersect the already-permitted 230-kilovolt Sycamore-Peñasquitos Transmission Line ("powerline") at the busy intersection of Miramar Road and Kearny Villa Road[2]. Both the pipeline and powerline both turn north under Kearny Villa Road for about a block before they separate. Since there is no mention of the powerline project in the DEIR/S, I can but hope that project engineers are aware of it. **Are they? If so, what are the potential impacts of a water leak that hits the electrical line? What are the potential impacts of stray voltage from the powerline on the Project? What steps are being taken to avoid these impacts for the lifetime of both systems? What steps will be taken to mitigate impacts if these measures fail and electricity and water mix?** Possible impacts—a major blackout, damage to the north City water system, or theoretically a steam explosion under that busy street—really should be D2-8 D2-9

[1] http://www.latimes.com/local/lanow/la-me-ln-methane-gas-leaks-20150514-story.html, accessed 11/19/2017.
[2] The water line layout can be seen on page 214 of the DEIR/S. The powerline project alignment can be seen in http://www.cpuc.ca.gov/Environment/info/panoramaenv/Sycamore_Penasquitos/PDF/MMCRP_AppendixA.pdf, with the problem area on P. 27.

D2-4 Surveys for sensitive plants were conducted in March/April, May/June, and October of 2016 and 2017 to capture species during their respective blooming periods, as discussed in Section 2.3.1 of Appendix C of the Draft EIR/EIS. Orcutt's spineflower (*Chorizanthe orcuttiana*) was a target species during the plant surveys but was not observed during the April survey pass for either year. The potential for Orcutt's spineflower to occur within the Project area is discussed in Appendix L of Appendix C and is not further discussed in Appendix C because no direct, indirect, or cumulative impacts are expected. Furthermore, there are no California Natural Diversity Database locations near the Metro Biosolids Center, and this area is not a possible pipeline route; all impacts would occur within the existing Metro Biosolids Center (see Figure 4-3D in Appendix C). The occurrence referred to by the commenter is from the Recovery and Management of Orcutt's Spineflower Final Report (Bauder 2000), and is based on 1967 collection, in which Bauder (2000) determines the site to be "presumably lost to the I-805/Clairemont Mesa Boulevard interchange."

	D2-5 After a review of the Los Angeles Times article mentioned in the comment, it appears that most of the leaks are coming from older, unprotected steel pipes that have not been upgraded to plastic pipe. The article also states that the Southern California Gas Company, when conducting their own measurements, found that 40% to 50% of the methane detected was not correlated to a pipe leak but was the result of another source, such as a natural seep or field of gas. The Landfill Gas (LFG) Pipeline would use polyethylene pipes, which do not corrode and would therefore minimize the chance of leaking. Additionally, all impacts to sensitive vegetation communities and sensitive plant species along the LFG Pipeline are temporary and would be appropriately restored to pre-impact conditions. **D2-6** The LFG Pipeline would use high-density polyethylene (HDPE) pipes, which do not corrode and would therefore minimize the chance of leaking. Impacts to sensitive species are not anticipated. The existing and future pipeline will be made of the same material. A recent test conducted on the existing 10-inch pipeline show no leaks at 57

	pounds per square inch (psi). The pipeline's operating pressure is expected to be below this value. The design lifetime is 75 years to 100 years. Any leaks would be detected via pressure and material loss. Pipelines are repaired in a number of ways depending on the type of failure or defect, depth of pipeline and pipe material. A number of options would be investigated for the repair including spot repairs, patching, pipeline replacement, and lining. Regarding decommissioning, the existing pipe will likely continue to be used, so no decommissioning is anticipated in the near future. The existing pipe is intact based on the recent test, which showed no leaks at 57 psi. A complete condition assessment will be performed. The decommissioning of a gas main involves purging the line to remove all combustible gases and then likely being abandoned in place. Hence, no impacts to species or habitats are anticipated. **D2-7** The City recognizes the personal interests and background of the commenters. Please refer to responses below.

	D2-8 Section 6.15, Public Utilities, of the Draft EIR/EIS analyzes the potential for conflicts between the Project and other utilities, especially in roadway rights-of-way that are heavily congested with utilities, and identifies a potentially significant impact. Mitigation measure MM-PU-1 requires the City to consult with other utility service providers to avoid potential interference and to implement special design considerations to ensure protection of all utility lines. **D2-9** Please refer to response D2-8. The City believes that potential conflicts with other utilities are adequately mitigated in the Draft EIR/EIS; no revisions are required.

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treated as serious potential impacts, analyzed, and mitigated appropriately. **I strongly urge that analysis of this potential impact and its fix be included in the DEIR/S.** D2-9 Cont.

Second, While this potential problem may make the San Vicente alternative more preferable, I should note that the only reason I know about the powerline project is because I commented on its DEIR two years ago. I have no other knowledge of what major powerlines or other hazards are buried under either route. **Has any survey been done of the underground hazards along both routes? If not, why not, and if so, what are they hazards, and how will they be avoided or mitigated?** I strongly urge the Project proponents to deal with these problems in advance as much as possible. Los Angeles Metrolink expansion has been beset by years of delays and cost over-runs due in large part to unexpected problems encountered while digging the tunnel.[3] We do not need that to happen in San Diego. D2-10

Third, according to Ms. Landis, there are three problems with using landfill-generated methane as a power source (as in the LFG system), and I did not see any of them addressed in the DEIR/S. Before I detail them, my general question is, **can the Project be run on renewable electricity generated on or off-site? If not, can it be converted to do so, and what are the costs of the conversion?** The reason for this question will become obvious. D2-11

Here are the concerns Ms. Landis raised: D2-12

1. In her experience, collector pipes inside a landfill, whether they are for gas or leachate, tend to bend, crack, and/or break in response to normal settling as the landfill decomposes. When collector pipes are built into the landfill structure, they are difficult to repair or replace. Because of this, collection systems in some older Los Angeles landfills have become inoperable and had to be shut down. **Is this a (potential) problem at Miramar?**
2. The gas emitted from landfills is not just methane. It contains a wide variety of other chemicals, and it may need to be purified substantially to produce usable natural gas. In Los Angeles' landfills, at least one methane collection system had to be shut down because the quality of the gas being collected was so low that the costs of purifying it for sale were far greater than the sale price of the methane. **At Miramar, what is the quality of the landfill gas being emitted? How does gas quality vary over time? Is the gas useful as is, or does it need to be treated before it can be used by the Project? Is treatment and use cost-effective for the Project?** D2-13
3. As noted in the DEIR/S, California and especially CalRecycle want all green waste diverted from landfills by 2020 if possible (or it will be treated as waste disposal). Unfortunately, green waste appears to be the major source of methane through anaerobic decomposition within the landfill, so it appears that landfill methane emissions will decline over time. **Has this been modeled or calculated for Miramar? What is the projected lifespan of the Project? Will the Project be able to obtain enough landfill methane throughout the life of the Project? Can the Project run if there is insufficient LFG?** D2-14

This is why it may be wise to consider using renewable electricity to power the Project in its entirety, either initially or as a planned retrofit. Burning landfill gas is not a bad idea, but if the D2-15

[3] http://www.latimes.com/local/lanow/la-me-ln-regional-connector-20171109-story.html and http://www.latimes.com/local/lanow/la-me-regional-connector-20151112-story.html, accessed 11/19/2017.

D2-10 As described in Section 6.15 of the Draft EIR/EIS, existing utilities were identified using the SanGIS database and all utilities equal to and greater than 8 inches, as well as high-pressure gas lines, were included in the plan and profile sheets for the pipeline designs. Please also refer to response D2-8.

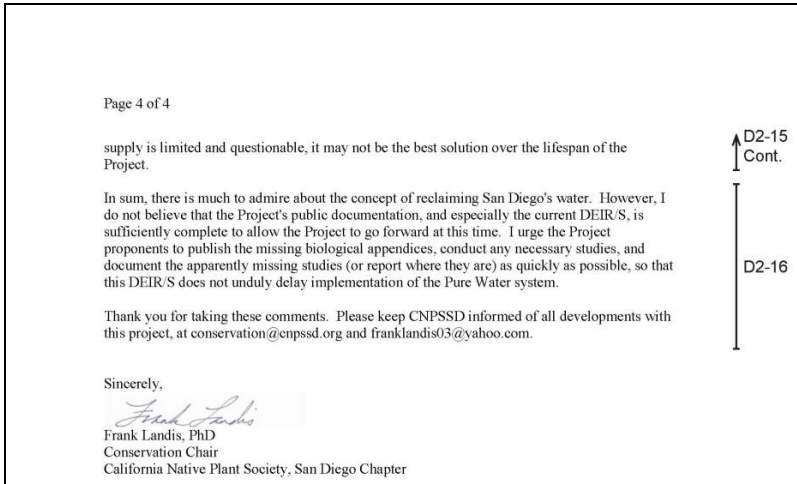
D2-11 Refer to responses D2-12, D2-13, and D2-14 below. The City intends to run the Project on LFG as proposed in the Draft EIR/EIS.

D2-12 Refer to response D2-6.

D2-13 The quality of LFG is expected to change over time due to the reduction in organics in the landfill. The current gas was measured to have a lower heating value or about 450 BTU/cf (British thermal units per cubic foot). Gas-cleaning units (e.g., activated carbon) will be employed to remove siloxane, sulfur, nitrogen, and volatile organic compounds from the LFG prior to introducing to the power-generating units. The City has determined that use of LFG is cost-effective for the Project.

D2-14 The current planning horizon for the landfill is 2048. City projections show that gas will

	continue to be generated up to this time, but at a lower rate. Natural gas or green gas will supplement the available LFG when needed to produce the power needed. **D2-15** Please refer to responses D2-11 and D2-14.



Page 4 of 4

supply is limited and questionable, it may not be the best solution over the lifespan of the Project.

In sum, there is much to admire about the concept of reclaiming San Diego's water. However, I do not believe that the Project's public documentation, and especially the current DEIR/S, is sufficiently complete to allow the Project to go forward at this time. I urge the Project proponents to publish the missing biological appendices, conduct any necessary studies, and document the apparently missing studies (or report where they are) as quickly as possible, so that this DEIR/S does not unduly delay implementation of the Pure Water system.

Thank you for taking these comments. Please keep CNPSSD informed of all developments with this project, at conservation@cnpssd.org and franklandis03@yahoo.com.

Sincerely,

Frank Landis, PhD
Conservation Chair
California Native Plant Society, San Diego Chapter

D2-15 Cont.

D2-16

D2-16 The City, as lead CEQA agency, has concluded that the Draft EIR/EIS provides all pertinent information necessary to allow for meaningful public and agency review and does not agree that recirculation is required.

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Comment Letter D3

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November 21, 2017

VIA OVERNIGHT MAIL & EMAIL

Mark Brunette, Senior Environmental Planner
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Re: Comments on the Draft Environmental Impact Report/ Environmental Impact Statement for the North City Project, Pure Water San Diego Program (SCH #2016081016 / PTS #499621)

We are writing on behalf of California Unions for Reliable Energy ("CURE") to provide comments on the Draft Environmental Impact Report and Draft Environmental Impact Statement ("DEIR/EIS") prepared by the City of San Diego and by the U.S. Bureau of Reclamation, pursuant to the California Environmental Quality Act, and its regulations ("CEQA"),[1] and the National Environmental Policy Act, and its regulations ("NEPA"),[2] respectively, for the Pure Water San Diego Program, North City Project (SCH #201608101/ PTS #499621) ("Project").

The Project is being proposed by the City of San Diego, Public Utilities Department ("City" or "Applicant") and will include expanding the existing North City Water Reclamation Plant and constructing an adjacent North City Pure Water Facility with a purified water pipeline to Miramar Reservoir.[3] A Project alternative would install a longer pipeline to deliver product water to the San Vicente Reservoir.[4] Federal assistance for the Project is authorized by the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992, which directs the

D3-1

[1] California Public Resources Code, §§ 21000 et seq.
[2] National Environmental Policy Act, 42 U.S.C. 4321 et seq.
[3] DEIR/EIS, ES-1-2.
[4] DEIR/EIS, ES-1-2.
3907-017acp

Response to Comment Letter D3

Adams Broadwell Joseph & Cardozo
Linda Sobczynski
November 21, 2017

D3-1 Comment noted.

Secretary of Interior, in cooperation with the City of San Diego, to participate in planning, designing, and constructing demonstration and permanent facilities to reclaim and re-use water in the San Diego metropolitan service area.[5] This authority is delegated to the Bureau of Reclamation.[6]

The North City Project, which includes a variety of facilities, will be located throughout the central coastal areas of San Diego County in the North City geographic area of the University, Mira Mesa, Scripps Miramar Ranch, Clairemont Mesa, Linda Vista, Mission Valley, Kearny Mesa, Tierrasanta, and Navajo Community Plan Areas.[7] A new pure water facility, expanded water reclamation facility, and three pump stations would be located within the corporate boundaries of the City of San Diego.[8] Proposed pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside and other areas in unincorporated San Diego County, as well as federal lands within the Marine Corps Air Station Miramar.[9]

Other project components include: a new pump station and forcemain to deliver additional wastewater to the North City Water Reclamation Plant, a brine discharge pipeline, and upgrades to the existing Metropolitan Biosolids Center.[10] A new North City Renewable Energy Facility is proposed, and would be constructed at the North City Water Reclamation Plant to receive landfill gas from the City's Miramar Landfill gas collection system via a new gas pipeline, providing power to the North City Project components.[11] The landfill gas line would cross Marine Corps Air Station Miramar and will require approval by the United States Marine Corps.[12]

Based on our review of the DEIR/EIS, we conclude that it fails to comply with CEQA and NEPA and must be withdrawn. The document lacks substantial evidence to support its conclusions with respect to air quality, and it does not provide an accurate environmental setting against which to compare the Project's

D3-1 Cont.

D3-2

[5] DEIR/EIS, ES-1-2.
[6] DEIR/EIS, ES-1-2.
[7] DEIR/EIS, ES-1-2.
[8] DEIR/EIS, ES-1-2.
[9] DEIR/EIS, ES-1-2.
[10] DEIR/EIS, ES-1-2.
[11] DEIR/EIS, ES-1-2.
[12] DEIR/EIS, ES-1-2.
3907-017acp

D3-2 The comment is noted. The comment is acknowledged as an introduction to specific comments that follow.

environmental impacts. With respect to construction-related emissions, it fails to properly evaluate, analyze, and mitigate the Project's significant environmental impacts on air quality, public health and odor. Finally, it fails to disclose, analyze and mitigate significant impacts from exposure to Valley Fever. The DEIR/EIS, therefore, fails as an information disclosure document.

Pursuant to CEQA Guidelines, section 15088.5, the City of San Diego must revise the DEIR/EIS for public review, consistent with these comments. The revisions will result in significant new information. Therefore the EIR/EIS must be recirculated to allow the public a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect.[13]

These comments were prepared with the assistance of air quality expert, Phyllis Fox, Ph.D., P.E.. Dr. Fox's technical comments are attached hereto and submitted to the City and Bureau of Reclamation, in addition to the comments in this letter. Accordingly the City and Bureau of Reclamation must address and respond to Dr. Fox's comments separately.[14]

I. STATEMENT OF INTEREST

CURE is a coalition of labor organizations whose members encourage sustainable development of California's energy and natural resources. CURE has an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for the members that they represent. Environmental degradation destroys cultural and wildlife areas, consumes limited fresh water resources, causes air and water pollution, and imposes other stresses on people and the environmental carrying capacity of the State. This in turn jeopardizes future development by making it more difficult and more expensive for industry to expand in San Diego, and by making it less desirable for businesses to locate and people to live and recreate in the City, including the Project vicinity. Its organizations' members live, recreate and work in the communities and regions that suffer the impacts of projects that are detrimental to human health, public safety,

[13] 14 Cal. Code Regs., § 15088.5 ("CEQA Guidelines").
[14] Letter from P. Fox to L. Sobczynski (Nov. 20, 2017) Comments on the Draft Environmental Impact Report/Draft Environmental Impact Statement for the North City Project Pure Water San Diego Program, San Diego, California (hereinafter, "Fox Comments"), **Exhibit A** (Dr. Fox's letter and CV are provided in hard copy and her references are enclosed on a USB).
3907-017acp

D3-2 Cont.

D3-3

D3-4

D3-3 The comment is noted. The comment does not specify what significant new information will be presented that would justify recirculation; therefore, no additional response is provided or required.

D3-4 This comment is noted.

and the environment, including in the San Diego regions that will be negatively impacted by the Project's environmental impacts. CURE therefore has a direct interest in enforcing planning, zoning, land use, and environmental laws to minimize the adverse impacts of projects that would otherwise degrade the environment and threaten public health and safety.

Individual members of CURE's affiliates live, work, recreate and raise their families in the City of San Diego, County of San Diego and the surrounding counties, including the areas in and around where the Project is proposed. Accordingly, they will be directly affected by the Project's environmental and health and safety impacts. Individual members of CURE's affiliates may also work on the Project itself. They will, therefore, be first in line to be exposed to any hazardous materials, air contaminants or other health and safety hazards that exist onsite.

D3-4 Cont.

II. THE DEIR/EIS FAILS TO COMPLY WITH NEPA AND CEQA.

The DEIR/EIS must comply with NEPA's and CEQA's procedural and substantive requirements. As set out in further detail in the following sections, the DEIR/EIS fails to comply with NEPA and CEQA. The DEIR/EIS does not describe the existing setting necessary to adequately analyze potentially significant impacts. Also, the DEIR/EIS fails to disclose potentially significant impacts. Where the DEIR/EIS does discuss impacts, it lacks substantial evidence to support its conclusions and otherwise fails to adequately disclose, analyze, and mitigate those impacts. Consequently, those environmental effects are new or more severe than they are reported. Due to the significant revisions that will be required to adequately analyze undisclosed, potentially significant environmental and public health impacts, and propose all necessary and feasible mitigation to reduce significant impacts, the City and Bureau of Reclamation must revise and recirculate the DEIR/EIS.

D3-5

a. National Environmental Policy Act ("NEPA")

NEPA is "our basic national charter for protection of the environment."[15] Its purpose is "to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance

D3-6

[15] 40 C.F.R. § 1500.1(a).

D3-5 The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

D3-6 The comment is noted regarding the intent of NEPA and EISs.

the environment."[16] NEPA therefore requires federal agencies to take a "hard look at [the] environmental consequences" of their proposed actions.[17] In so doing, NEPA makes certain "that environmental concerns will be integrated into the very process of agency decision-making."[18]

NEPA requires all agencies of the federal government to prepare a "detailed statement" that discusses the environmental effects of, and reasonable alternatives to, all "major Federal actions significantly affecting the quality of the human environment."[19] This statement is commonly known as an EIS. An EIS must describe: (1) the "environmental impact of the proposed action"; (2) any "adverse environmental effects which cannot be avoided should the proposal be implemented"; and (3) any "alternatives to the proposed action."[20] It further requires that "the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth" therein.[21] The environmental "effects" that must be considered in an EIS include both "direct effects which are caused by the action" and "indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."[22]

D3-6
Cont.

Pursuant to the Administrative Procedures Act ("APA"), a reviewing court will set aside a federal administrative agency's decision if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[23] An agency's decision made pursuant to NEPA is reviewed under this standard.[24] Although, the standard is deferential to the judgment and expertise of the agency, the agency must support its conclusions with studies that the agency deems reliable.[25] "The agency will have acted arbitrarily and capriciously when 'the record

[16] *Id.*, § 1500.1(c).
[17] *Robertson v. Methow Valley Citizens Council* (1989) 490 U.S. 332, 350.
[18] *Andrus v. Sierra Club* (1979) 442 U.S. 347, 350.
[19] 42 U.S.C. § 4332(2)(C).
[20] *Id.*
[21] *Id.*
[22] 40 C.F.R. § 1508.8(a), (b).
[23] 5 U.S.C. § 706(2)(A)
[24] *Northern Plains Resource Council, Inc. v. Surface Transp. Bd.* (9th Cir. 2011) 668 F.3d 1067, 1074-1075 (citing *City of Sausalito v. O'Neill* (9th Cir. 2004) 386 F.3d 1186, 1205–06).
[25] *Northern Plains Resource Council, Inc., supra*, 668 F.3d at p. 1075 (citing *Lands Council* (9th Cir. 2006) 537 F.3d 981, 994).
3907-017acp

plainly demonstrates that [the agency] made a clear error in judgment in concluding that a project meets the requirements' of NEPA."[26]

D3-6 Cont.

b. California Environmental Quality Act

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR (except in certain limited circumstances).[27] The EIR is the very heart of CEQA.[28] "The foremost principle in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language."[29]

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project.[30] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'"[31] The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."[32]

D3-7

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures.[33] The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced."[34] If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or

[26] *Northern Plains Resource Council, Inc., supra*, 668 F.3d at p. 1074-1075.
[27] *See, e.g.*, Pub. Resources Code, § 21100.
[28] *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.
[29] *Communities. for a Better Env. v. Cal. Res. Agency* (2002) 103 Cal. App.4th 98, 109 ("*CBE v. CRA*").
[30] CEQA Guidelines, § 15002(a)(1).
[31] *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.
[32] *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[33] CEQA Guidelines, § 15002, subd. (a)(2), (3); *see also Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley, supra*, 52 Cal.3d at p. 564.
[34] CEQA Guidelines, §15002, subd. (a)(2).
3907-017acp

D3-7 The comment is noted regarding the intent of CEQA and EIRs.

substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."[35]

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. *A clearly inadequate or unsupported study is entitled to no judicial deference.*"[36] As the courts have explained, "a prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision making and informed public participation, thereby thwarting the statutory goals of the EIR process."[37]

D3-7 Cont.

III. THE DEIR/EIS FAILS TO PROVIDE AN ADEQUATE DESCRIPTION OF THE ENVIRONMENTAL SETTING.

The DEIR/EIS fails to provide an accurate environmental setting of the Project. The DEIR/EIS omits relevant information regarding high wind (Santa Ana) events and Valley Fever in the region.

D3-8

According to NEPA, an environmental review document must "succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration."[38] Without a description of the areas to be affected by a proposal, the potentially significant effects resulting from a proposal cannot be determined.[39] CEQA requires the lead agency to include an accurate description of the environmental setting to establish the baseline physical conditions against which a lead agency can determine whether an impact is significant.[40]

D3-9

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[35] Pub. Resources Code, § 21081; CEQA Guidelines, § 15092, subd. (b)(2)(A) & (B).
[36] *Berkeley Jets, supra*, 91 Cal. App. 4th 1344, 1355 (emphasis added) (quoting *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 391 409, fn. 12).
[37] *Berkeley Jets, supra*, 91 Cal.App.4th at 1355; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal.App.4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946.
[38] 40 C.F.R., § 1502.15.
[39] *Half Moon Bay Fishermans' Marketing Ass'n v. Carlucci* (9th Cir.1988), 857 F.2d 505, 510.
[40] CEQA Guidelines, § 15024, subd. (a).
3907-017acp

D3-8 The comment is noted regarding the Draft EIR/EIS not including high wind events and Valley Fever in the region. The comment is acknowledged as an introduction to specific comments that follow.

D3-9 The comment is noted regarding the discussion of NEPA.

a. The DEIR/EIS fails to provide an adequate description of the environmental setting because it does not describe high wind events.

The description of the environmental setting in the DEIR/EIS is inadequate as it omits highly relevant information regarding reasonably foreseeable high wind events.[41] Dr. Fox writes that the DEIR/EIS assumed a wind speed of 5.8 mph.[42] However, she adds that Santa Ana winds occur regularly and are capable of reaching 30 to 50 mph.[43]

Omitting these high wind events from the DEIR/EIS's description of the setting is a severe flaw because the proposed Project will involve significant amounts of excavation, thus exposing soil surfaces in freshly graded areas and storage piles.[44] Dr. Fox writes that the DEIR/EIS should have included a separate air quality analysis based on the fugitive dust generated by high wind events over the land and storage piles.[45] Without doing so, Dr. Fox states that the DEIR/EIS has not accounted for significant amounts of PM10, PM2.5 and Valley Fever spores, which would be dispersed by wind during the Project's grading, cut and fill, or soil movement, or from bare graded soil surface.[46]

For example, the DEIR/EIS states that PM10 emissions and PM2.5 emissions are below the significance threshold.[47] The significance threshold for PM10 emissions is 100 lb/day.[48] The significance threshold for PM2.5 emissions is 67

D3-10

[41] Fox Comments, p. 13.
[42] Fox Comments, p. 14 (citing DEIR/EIS, Appx. A to Appx. B and Appx. B to Appx. B, 3, 31, 54, *passim*.)
[43] Fox Comments, p. 14; *see also* Fox Comments, p. 6 ("[Windblown dust] must be separately calculated using methods in AP-42 and added to the CalEEMod total."), p. 13 ("The CalEEMod model that the DEIR/DEIS used to calculate construction emissions does not include 'fugitive dust generated by wind over land and storage piles.' Thus, these emissions were not included in the DEIR/DEIS's construction emissions inventory, underestimating emissions of PM10 and PM2.5.")
[44] *See* Fox Comments, p. 13.
[45] Fox Comments, pp. 6, 13.
[46] Fox Comments, p. 14 ("Wind erosion emissions are typically calculated using methods in AP-42, which require detailed information on site topography, wind profiles, and dispersion modeling . . . Generally, wind erosion impacts are estimated using AERMOD.")
[47] DEIR/EIS, Appx. B, pp. 71-72 (Table 7.2-20), pdf. p. 82-83.
[48] DEIR/EIS, Appx. B, pp. 71-72 (Table 7.2-20), pdf. p. 82-83.
3907-017acp

D3-10 Please refer to Response to Comment D3A-27 for a complete response to this topic.

lb/day.[49] The DEIR/EIS reports that daily PM10 emissions for the Miramar Reservoir Alternative are 70.03 lb/day for PM10 and 36.13 lb/day for PM2.5.[50] However, this conclusion — that the PM10 and PM2.5 emissions are below significance thresholds — is not supported by substantial evidence because the Project's emissions are underestimated. Dr. Fox explains that:

> A Santa Ana wind event could easily significantly increase total PM10 and PM2.5 emissions, which increase with increasing wind velocity[.] [I]ncluding the omitted windblown dust emissions could increase PM10 and PM2.5 emissions over significance thresholds, resulting in significant unmitigated impacts that require all feasible mitigation.[51]

Not only does the DEIR/EIS fail to consider high wind events, as described above, but it also fails to accurately calculate windblown dust from graded areas and storage piles. The DEIR/EIS solely relies on outdated CalEEMod modeling, which does not include fugitive dust generated by wind over land and storage piles.[52] Consequently, Dr. Fox provides substantial evidence that once windblown dust is correctly accounted for,[53] PM2.5 and PM10 could be significant, unmitigated, and require all feasible mitigation.[54]

Accurately describing existing high wind events is critical to evaluating the Project's potentially significant impacts on air quality and public health.[55] The City and the Bureau of Reclamation are required to gather the relevant data and provide an adequate description of the existing environmental setting in a revised DEIR/EIS. Only with a complete description of the existing environmental setting

D3-10 Cont.

D3-11

D3-12

[49] DEIR/EIS, Appx. B, pp. 71-72 (Table 7.2-20), pdf. p. 82-83.
[50] DEIR/EIS, Appx. B, pp. 71-72 (Table 7.2-20), pdf. p. 82-83.
[51] Fox Comments, p. 15.
[52] Fox Comments, p. 6; *id.*, at p. 4 ("Construction emissions should be revised to use [the latest] version [2016.3.2.")
[53] Dr. Fox explains that the DEIR/EIS fails to include emissions from off-road travel, which also increases emissions of PM10 and PM2.5. This is discussed in Section IV.a.i.
[54] Fox Comments, p. 15 ("If Santa Ana winds occurred during grading, cut and fill, or soil movement; or from bare graded soil surfaces, even if periodically wetted, significant amounts of PM10, PM2.5, and associated Valley Fever spores would be released. These emissions could result in public health impacts from Valley Fever spores and/or violations of PM10 and PM2.5 CAAQS and NAAQS.").
[55] CEQA Guidelines, § 15125, subd. (a); *see also Communities For A Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 321.
3997-017acp

D3-11 Please refer to Response to Comment D3A-29 for a complete response to this topic.

D3-12 Please refer to Response to Comment D3A-27 for a complete response to this topic.

can the DEIR/EIS accurately analyze and mitigate the environmental effects of the project.

b. The DEIR/EIS discussion of the environmental setting is flawed because it fails to disclose that Valley Fever is endemic in San Diego.

The DEIR/EIS fails to disclose that San Diego County (and thus the City) is endemic for Valley Fever, meaning it is native and common to the region.[55] The County had 649 cases between 2007 and 2011.[57] From 2011 to 2016, that number rose to 728 cases.[58]

The DEIR/EIS fails to disclose Valley Fever in the Project region. Therefore, the DEIR/EIS failed to evaluate the Project's public health impacts and mitigation measures to reduce the impact, as required by CEQA.[59] As discussed in further detail in Section IV.b. below, Dr. Fox provides substantial evidence that the Project's earthmoving activities may expose people to Valley Fever, a significant public health impact that requires mitigation.[60]

IV. THE DEIR/EIS FAILS TO ADEQUATELY ANALYZE THE PROJECT'S ENVIRONMENTAL EFFECTS.

The DEIR/EIS fails as an informational document under NEPA and CEQA by not having substantial evidence to support its conclusions regarding construction emissions, health impacts and odor. Most notably, and despite a federal agency calling for this analysis, the DEIR/EIS also fails to discuss the risk that the Project may expose people to Valley Fever.

NEPA requires a full and fair discussion of every significant impact, as well as disclosure to the decision makers and the public of reasonable alternatives, which would avoid or minimize adverse impacts.[61] CEQA requires that an agency

D3-12 Cont.

D3-13

[55] Fox Comments, p. 29.
[57] Fox Comments, p. 30.
[58] Fox Comments, p. 30 (Table 3: Reported Cases of Valley Fever in San Diego County).
[59] Fox Comments, p. 35.
[60] Fox Comments, p. 35; *see generally* Fox Comments, section 2.
[61] 40 C.F.R. § 1502.
3907-017acp

D3-13 The comment is acknowledged as an introduction to specific comments that follow.

analyze potentially significant environmental impacts in an EIR.[62] The courts may not look for "perfection" but would expect "adequacy, completeness, and a good faith effort at full disclosure [in an EIR]."[63] Incomplete information in an environmental review document will skew the environmental consequences analysis and prevent informed public input.

a. The DEIR/EIS fails to adequately analyze impacts from construction emissions, which, when recalculated, are significant.

The DEIR/EIS failed to adequately support its analysis, and accurately analyze the environmental effect from the Project's construction emissions. Dr. Fox determined that the Project will have significant PM10 emissions, cumulatively significant health impacts from construction equipment emissions, and significant odor impacts on nearby sensitive receptors.

i. The DEIR/EIS underestimates PM10 emissions, which are significant, by omitting emissions from all construction sources.

The DEIR/EIS contains numerous flaws in its construction emission analysis, rendering the analysis unreliable and underestimated. First, the DEIR/EIS does not explain how construction emissions were estimated.[64] Rather, it directs the public to thousands of pages of data and does not explain how to transition that information to emission summaries used for the air quality analysis.[65] To understand and verify the DEIR/EIS's construction emissions, a technical expert must back-calculate emission factors and discern what assumptions the air quality analysis considered in its modeling.[66]

Second, the DEIR/EIS only uses CalEEMod modeling to estimate construction emissions.[67] As Dr. Fox explains in her letter, "this model does not

D3-13 Cont.

D3-14

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[62] *See* Pub. Resources Code, § 21000; CEQA Guidelines, § 15002.
[63] CEQA Guidelines, § 15151.
[64] Fox Comments, p. 5.
[65] Fox Comments, p. 5.
[66] Fox Comments, p. 5.
[67] Fox Comments, p. 6 ("The DEIR/DEIS exclusively used the CalEEMod model to estimate construction emissions.").
3907-017acp

D3-14 Please refer to Response to Comment D3A-9 for a complete response to this topic.

D3-15 Please refer to Response to Comments D3A-27 and D3A-30 for a complete response to this topic.

include all sources of PM10 and PM2.5 construction emissions. It omits windblown dust from graded areas and storage piles and *fugitive dust from off-road travel.*"[68] Thus, the City and Bureau of Reclamation lack substantial evidence to support their conclusion that PM10 and PM2.5 construction emissions would be less than significant.[69]

D3-15 Cont.

Dr. Fox provides substantial evidence that the Project would actually result in significant air quality impacts during construction. Dr. Fox calculated the PM10 emissions from off-road travel.[70] To calculate the off-road PM10 emissions from construction, Dr. Fox used the AP-42, section 13.2.2, emissions equation.[71] The equation includes fugitive dust from off-road travel generated by the Project's heavy construction equipment.[72] She found that "the emissions from construction equipment working on site are large enough, when combined with emissions estimated using the CalEEMod model, to result in significant daily PM10 impacts for both [Miramar and San Vicente] alternatives."[73]

Dr. Fox calculated that, even assuming mitigation, on-site daily PM10 emissions remain significant for both the Miramar Reservoir and the San Vicente Reservoir alternatives.[74] Thus, daily PM10 emissions from both alternatives "are significant and unavoidable, requiring all feasible mitigation for PM10."[75] Dr. Fox recommended additional, feasible mitigation measures to reduce PM10, which are discussed in further detail below in Section V.a.i.

D3-16

When the PM2.5 emissions from off-road travel are added to the Project's CalEEMod modeling, they do not exceed the significance threshold, as they do for PM10. However, as discussed earlier, windblown dust is a critical component in evaluating PM10, PM2.5, and Valley Fever and excluding high wind events from

[68] Fox Comments, p. 5.
[69] *See generally* DEIR/EIS, ES-5, *id.*, section 6.3-14-20.
[70] *See generally* Fox Comments, section 1.
[71] Fox Comments, p. 6.
[72] Fox Comments, p. 6.
[73] Fox Comments, p. 7.
[74] Fox Comments, p. 9.
[75] Fox Comments, p. 9.
3907-017acp

D3-16 Please refer to Response to Comments D3A-13 and D3A-14 for a complete response to this topic.

the air quality analysis has resulted in a flawed DEIR/EIS.[76] According to Dr. Fox, high wind events may result in significant PM2.5 emissions.[77]

The City and Bureau of Reclamation must revise the DEIR/EIS to add in all emissions sources — windblown dust and fugitive dust from off-road travel — consistent with these comments.[78] The agencies will consequently need to recirculate the revised EIR/EIS to ensure that the public is not deprived of a meaningful opportunity to comment upon the significant PM10 emissions and proposed mitigation measures to reduce this air quality impact.

D3-16 Cont.

ii. The DEIR/EIS does not adequately analyze health impacts caused by construction equipment.

Despite the well-known public health impact that construction is known to have on surrounding communities, the DEIR/EIS does not evaluate health impacts from Project construction equipment emissions.[79] According to Dr. Fox, the Project will use diesel-fueled, off-road equipment such as "heavy-duty trucks, cranes, bulldozers, excavators, and graders."[80] Not only will the equipment emit large amounts of diesel particulate matter ("DPM"), but it will also emit other hazardous air pollutants, such as benzene, which can cause cancer and other acute and chronic health impacts.[81] As Dr. Fox writes in her comments, construction is well known to result in significant health impacts in surrounding communities.[82] And, for this Project, there are sensitive receptors that are very close to construction sites, within 10 feet in some places.[83]

D3-17

Even though the Project's emissions of DPM and other hazardous air pollutants will be near sensitive receptors, the DEIR/EIS did not include an

D3-18

[76] High wind events may result in significant PM10 and PM2.5 emissions. Fox Comments, p. 15.
[77] Fox Comments, p. 15 ("Including the omitted windblown dust emissions could increase PM10 and PM2.5 emissions over these significance thresholds, resulting in significant unmitigated impacts that require all feasible mitigation.").
[78] *See, supra*, Section III.a.; *see also* Fox Comments, p. 14 (The added emissions during Santa Ana winds must be included in the Project emissions.).
[79] Fox Comments, p. 15; *see generally* Fox Comments, section 1.7.
[80] Fox Comments, p. 15.
[81] Fox Comments, p. 15.
[82] Fox Comments, p. 15.
[83] Fox Comments, pp. 18, 22 ("[T]here are many nearby sensitive receptors located within 10 to 70 feet from active construction areas.").
3907-017acp

D3-17 Please refer to Response to Comment D3A-31 for a complete response to this topic.

D3-18 Please refer to Response to Comments D3A-31 and D3A-37 for a complete response to this topic.

evaluation of health impacts from Project construction emissions.[84] Moreover, Dr. Fox comments that the DEIR/EIS failed to evaluate cumulative health impacts of construction:

> [T]he DEIR/DEIS fails to recognize that the substantial diesel engine exhaust emissions typically associated with construction equipment, particularly heavy-duty diesel-powered equipment, would occur concurrently with and subsequent to countless other construction projects elsewhere in the County and in the adjacent South Coast Air Basin.[85]

Consequently, she writes, these health impacts are likely cumulatively significant.[86] To reduce these potentially significant health impacts, Dr. Fox recommends that the Project should require a construction vehicle fleet that includes all Tier 4 equipment.[87] Alternatively, if an all Tier 4 fleet is not available, diesel particulate traps should be used to control DPM.[88]

The City and Bureau of Reclamation must revise and recirculate the DEIR/EIS to include an adequate analysis of, and require all feasible mitigation to reduce, the potentially significant cumulative health impacts from construction equipment emissions.[89]

iii. The DEIR/EIS does not adequately analyze the odor impacts from construction emissions.

Rather than conduct an adequate analysis of odor impacts from construction, the DEIR/EIS claims that impacts would be "temporary" or "intermittent" and also that there is no method to evaluate odor impacts.[90] The DEIR/EIS is legally

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D3-19

D3-20

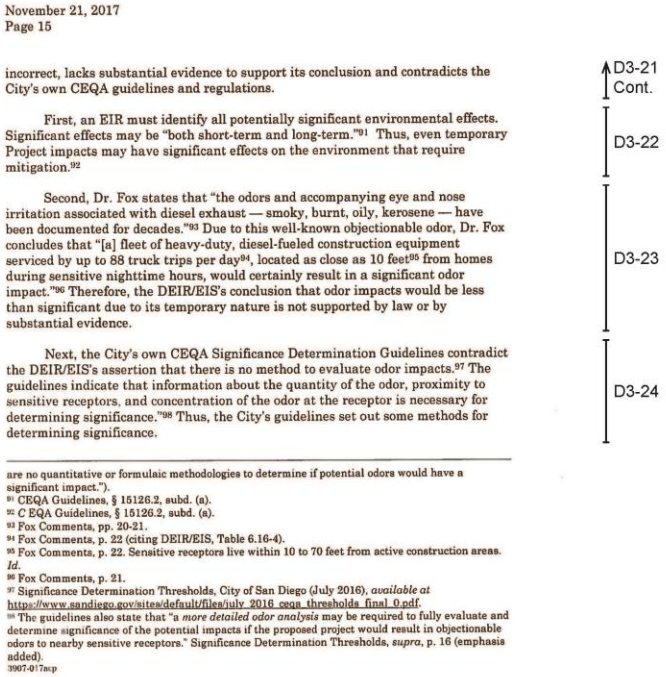
D3-21

[84] Fox Comments, p. 18.
[85] Fox Comments, pp. 16-18; *id.*, at p. 16 (Figure 2).
[86] Fox Comments, p. 19.
[87] Fox Comments, p. 20.
[88] Fox Comments, p. 20.
[89] *See* Fox Comments, p. 20.
[90] Fox Comments, p. 20 ("The DEIR/DEIS claims there is no method to evaluate odor impacts. However, this is not true. The analysis of odor is no different than the analysis of air quality impacts."); DEIR/EIS, section 5.3-7 ("Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there

D3-19 Please refer to Response to Comments D3A-31, D3A-37, and D3A-40 for a complete response to this topic.

D3-20 Please refer to Response to Comment D3A-46 for a complete response to this topic.

D3-21 Please refer to Response to Comment D3A-42 for a complete response to this topic.



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incorrect, lacks substantial evidence to support its conclusion and contradicts the City's own CEQA guidelines and regulations.

First, an EIR must identify all potentially significant environmental effects. Significant effects may be "both short-term and long-term."[91] Thus, even temporary Project impacts may have significant effects on the environment that require mitigation.[92]

Second, Dr. Fox states that "the odors and accompanying eye and nose irritation associated with diesel exhaust — smoky, burnt, oily, kerosene — have been documented for decades."[93] Due to this well-known objectionable odor, Dr. Fox concludes that "[a] fleet of heavy-duty, diesel-fueled construction equipment serviced by up to 88 truck trips per day[94], located as close as 10 feet[95] from homes during sensitive nighttime hours, would certainly result in a significant odor impact."[96] Therefore, the DEIR/EIS's conclusion that odor impacts would be less than significant due to its temporary nature is not supported by law or by substantial evidence.

Next, the City's own CEQA Significance Determination Guidelines contradict the DEIR/EIS's assertion that there is no method to evaluate odor impacts.[97] The guidelines indicate that information about the quantity of the odor, proximity to sensitive receptors, and concentration of the odor at the receptor is necessary for determining significance."[98] Thus, the City's guidelines set out some methods for determining significance.

D3-21 Cont.
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D3-24

are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact.").
[91] CEQA Guidelines, § 15126.2, subd. (a).
[92] *C* EQA Guidelines, § 15126.2, subd. (a).
[93] Fox Comments, pp. 20-21.
[94] Fox Comments, p. 22 (citing DEIR/EIS, Table 6.16-4).
[95] Fox Comments, p. 22. Sensitive receptors live within 10 to 70 feet from active construction areas. *Id.*
[96] Fox Comments, p. 21.
[97] Significance Determination Thresholds, City of San Diego (July 2016), *available at* https://www.sandiego.gov/sites/default/files/july_2016_ceqa_thresholds_final_0.pdf.
[98] The guidelines also state that "a *more detailed odor analysis* may be required to fully evaluate and determine significance of the potential impacts if the proposed project would result in objectionable odors to nearby sensitive receptors." Significance Determination Thresholds, *supra*, p. 16 (emphasis added).
3907-017acp

D3-22 The comment is acknowledged and it is noted that it does not appear to relate to any physical effect on the environment. The comment will be included as part of the Final EIR/EIS for review and consideration by the decision-makers prior to a final decision on the project. No further response is required because the comment does not raise an environmental issue.

D3-23 Please refer to Response to Comment D3A-42 for a complete response to this topic.

D3-24 Please refer to Response to Comment D3A-44 for a complete response to this topic.

Separately, the San Diego Municipal Code provides a proximity-based regulation, which states that odors should not be permitted to emanate beyond the boundaries of the premises upon which the use emitting the contaminants is located.[99] Dr. Fox adds her expert opinion that analyzing odor is no different than analyzing air quality impacts. She explains that the agency can quantify odor by identifying the odiferous compounds, estimating their emission rates, and using modeling to estimate the concentration of those odiferous compounds at the location of sensitive receptors.[100] The DEIR/EIS's conclusion that there is no method to evaluate odor impacts is not supported by the City's guidelines, by municipal code, or by Dr. Fox's expert opinion.

D3-25

Dr. Fox provides substantial evidence, based on her expert experience, that odor impacts will be significant.[101] Mitigation is available and should be required to reduce the significant odor impact from all construction within at least 1,000 feet of sensitive receptors.[102] For example, the construction equipment can be equipped with diesel oxidation catalysts, which eliminate odors.[103] The DEIR/EIS must be revised and recirculated to adequately address and mitigate the Project's significant odor impact.

b. The DEIR/EIS fails to disclose and analyze significant impacts due to exposure to Valley Fever.

D3-26

According to Dr. Fox, the Project will have a significant health impact as a result of disturbing soils that may contain Valley Fever spores.[104] Yet, the

[99] San Diego Municipal Code Chapter 14: General Regulations, §142.0710 (Air Contaminant Regulations), *available at* http://docs.sandiego.gov/municode/MuniCodeChapter14/Ch14Art02Division07.pdf.
[100] Fox Comments, pp. 21-22.
[101] Fox Comments, pp. 21-22.
[102] Fox Comments, p. 23.
[103] Fox Comments, p. 23; *see also* Fox Comments, p. 23 (discussing Santa Maria Rail Terminal and agency's finding of significant odor impact).
[104] Fox Comments, p. 28.
3907-017acp

D3-25 Please refer to Response to Comments D3A-43, D3A-44, and D3A-45 for a complete response to this topic.

D3-26 Please refer to Response to Comment D3A-27 for a complete response to this topic.

DEIR/EIS failed to disclose this health impact,[106] despite the U.S. EPA's scoping comments advising the City to include a discussion on the disease.[106]

In her letter, Dr. Fox describes the disease and those who are most at-risk.[107] Coccidiodomycosis, also known as Valley Fever, is contracted by inhaling spores of the dimorphic fungus *Coccidioides spp.* (*Coccidioides immitis and Coccidioides posadasii*) from soil or airborne dust. [108] The fungus lives in the top 2 to 12 inches of soil.[109] When soil containing the fungus is disturbed during earth moving activities, such as digging or construction, the fungal spores become air borne.[110] The spores are too small to be seen by the naked eye and there is no reliable way to test the spores before working in a particular area.[111] However, some areas carry higher risk because they are native and common, or endemic, to the disease. The Project is in an endemic zone for Valley Fever.[112]

"Typical symptoms of Valley Fever include fatigue, fever, cough, headache, shortness of breath, rash, muscle aches, and joint pain. Symptoms of advanced Valley Fever include chronic pneumonia, meningitis, skin lesions, and bone or joint infections."[113] As Dr. Fox writes, no vaccine or known cure exists for the disease.[114] The disease is debilitating particularly to construction and agricultural workers as it prevents them from working.[115]

Additionally, infection rates generally spike during the hot summer months.[116] This means that in California the majority of Valley Fever cases occur

D3-26 Cont.

D3-27

[105] Fox Comments, p. 35.
[106] DEIR/EIS, at Appendix A (Scoping Letter, NOP/NOI, and NOP Comments), pdf. pp. 76-77 (U.S. EPA Detailed Scoping Comments on the Pure Water Project, San Diego County, California, September 6, 2016, pp. 6-7); *see also* Fox Comments, p. 36.
[107] *See* Fox Letter, section 2.
[108] Fox Comments, p. 28.
[109] Fox Comments, p. 28.
[110] Fox Comments, p. 28.
[111] Fox Comments, p. 28.
[112] Fox Comments, p. 29.
[113] Fox Comments, p. 34.
[114] Fox Comments, p. 34.
[115] Fox Comments, p. 32 ("The longest period of disability from occupational exposure in California is to construction workers, with 62% of the reported cases resulting in over 60 days of lost work.").
[116] Fox Comments, p. 34.
3907-017acp

D3-27 The comment is acknowledged and it is noted that it does not appear to relate to any physical effect on the environment. The comment will be included as part of the Final EIR/EIS for review and consideration by the decision-makers prior to a final decision on the project. No further response is required because the comment does not raise an environmental issue.

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during the months of June through December.[117] These months are typically periods of peak construction activity.[118]

Dust exposure is one of the primary risk factors.[119] Construction workers, alongside agricultural workers, are the most at-risk populations.[120] In particular, construction workers, who are in close contact with soil are at greater risk, especially if the work involves digging operations.[121]

Other people are also at risk from contracting Valley Fever from construction sites.[122] As Dr. Fox writes, an individual does not need to have direct soil contact to contract Valley Fever.[123] Here, sensitive receptors live within 10 to 70 feet from the Project's active construction areas.[124] In addition, spores can travel as much as 500 miles from their point of origin.[125] Therefore, Project construction may expose people who live, work or travel within 500 miles of the Project's active construction areas.[126]

The Project site will be located in an endemic area and will require extensive earthmoving activities. Dr. Fox provides substantial evidence that construction activities could create a significant health risk to workers and nearby residents. In light of the substantial evidence that Dr. Fox provides, the DEIR/EIS will require significant revisions to address this undisclosed, potentially significant public health impact, and propose all necessary and feasible mitigation to reduce this impact.[127] The City and Bureau of Reclamation will need to recirculate the revised DEIR/EIS to enable meaningful public review and comment.

D3-27 Cont.

D3-28

[117] Fox Comments, p. 34.
[118] Fox Comments, p. 34.
[119] Fox Comments, p. 34.
[120] Fox Comments, p. 32.
[121] Fox Comments, p. 32; *see* DEIR/EIS, section 6.3-9 (construction timeline indicating some construction will occur in summer months).
[122] Fox Comments, pp. 32-33.
[123] Fox Comments, p. 33.
[124] Fox Comments, p. 22.
[125] Fox Comments, p. 33.
[126] Fox Comments, p. 33.
[127] DEIR/EIS, *passim*; *see also* Fox Comments, p. 35.
3007-017acp

D3-28 Please refer to Response to Comment D3A-27 for a complete response to this topic.

V. THE DEIR/EIS FAILS TO REQUIRE ALL FEASIBLE MITIGATION TO REDUCE SIGNIFICANT IMPACTS.

The DEIR/EIS fails to require all feasible mitigation to reduce impacts from construction emissions, and the DEIR/EIS must include mitigation measures to reduce the public health impact from exposure to Valley Fever spores to less than significant.

Pursuant to NEPA, an EIS must include a discussion of "appropriate mitigation measures not already included in the proposed action or alternatives."[128] Mitigation includes "minimizing impacts by limiting the degree or magnitude of the action and its implementation."[129] Under CEQA, an EIR is inadequate unless it includes "a detailed statement setting forth . . . mitigation measures proposed to minimize [the project's] significant effects on the environment."[130] An EIR may conclude an impact is significant and unavoidable only if all available and feasible mitigation measures have been proposed, but are inadequate to reduce the impact to a less than significant level.[131] Mitigation measures must be fully enforceable through permit conditions, agreements or other legally binding instruments.[132] A CEQA lead agency may not rely on mitigation measures of uncertain efficacy or feasibility.[133] This approach helps "insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug."[134]

D3-29

a. Construction emissions are significant and require all feasible mitigation measures.

The DEIR/EIS must include all feasible mitigation measures to reduce impacts from PM10 and NOx emissions from off-road vehicles to less than significant levels.

D3-30

[128] 40 C.F.R., § 1502.14(f).
[129] 40 C.F.R., § 1508.20(b).
[130] Pub. Resources Code, § 21100, subd. (b)(3); CEQA Guidelines, § 15126, subd. (e).
[131] Pub. Resources Code. § 21081; CEQA Guidelines, § 15092, subd. (b)(2)(A) & (B).
[132] CEQA Guidelines. § 15126.4, subd. (a)(2).
[133] *Kings County Farm Bur. v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).
[134] *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.
3907-017acp

D3-29 Please refer to Response to Comments D3A-50 and D3A-51 for a complete response to this topic.

D3-30 Please refer to Response to Comments D3A-14 and D3A-49 for a complete response to this topic.

***i.* Mitigation Measure MM-AQ-1 is not adequate to mitigate significant off-road PM10 impacts.**

The DEIR/EIS includes some *on-site* particulate fugitive dust control measures in Mitigation Measure MM-AQ-1[135] However, as Dr. Fox writes, none of those mitigation measures would reduce particulate matter from *off-road equipment travel* to less than significant levels. At most, MM-AQ-1 would reduce particulate matter by 40%, which Dr. Fox accounted for in her revised PM10 calculations.[136]

D3-31

Dr. Fox explains that there are seven reasons for why MM-AQ-1 would not reduce particulate matter from *off-road equipment travel* to less than significant levels.[137] Mitigation Measure MM-AQ-1 states[138]:

> The following best management practices shall be implemented during construction to comply with applicable San Diego Air Pollution Control District (SDAPCD) rules and regulations and to further reduce daily construction emissions:
>
> Best management practices that could be implemented during construction to reduce particulate emissions and reduce soil erosion and trackout include the following:
>
> - Cover or water, as needed, any on-site piles of debris, dirt, or other dusty material.
>
> - Use adequate water and/or other dust palliatives on all disturbed areas in order to avoid particle blow-off. Due to current drought conditions, the contractor shall consider use of a SDAPCD-approved dust suppressant where feasible to reduce the amount of water to be used for dust control. Use of recycled water in place of potable water shall also be considered provided that the use is approved by the City of San Diego and other applicable regulatory agencies prior to initiation of construction

D3-32

[135] DEIR/EIS, section 6.3-21-22.
[136] Fox Comments, pp. 9-10 (discussing her calculations, which assumed 40% reductions of PM10).
[137] Fox Comments, pp. 9-10.
[138] DEIR/EIS, section 6.3-21-22; DEIR/EIS, Appendix B, p. 74.
3907-017acp

D3-31 Please refer to Response to Comment D3A-16 for a complete response to this topic.

D3-32 This comment is acknowledged that it is an introduction to specific comments that follow.

activity. Use of recycled water shall be in compliance with all applicable City of San Diego Rules and Regulation for Recycled Water (City of San Diego 2016a), particularly for the protection of public health per the California Code of Regulations, Title 22, Division 4.

- Wash down or sweep paved streets as necessary to control track out or fugitive dust.
- Cover or tarp all vehicles hauling dirt or spoils on public roads if sufficient freeboard is not available to prevent material blow-off during transport.
- Use gravel bags and catch basins during ground disturbing operations.
- Maintain appropriate soil moisture, apply soil binders, and plant stabilizing vegetation.[139]

First, the DEIR/EIS contains no discussion of who would be responsible to develop these measures or oversee their implementation.[140]

Second, MM-AQ-1 requires covering or watering stockpiles.[141] As Dr. Fox explains, watering stockpiles does not eliminate off-site, unpaved road dust from flat surfaces, unpaved roadways, and active working areas.[142] Relatedly and third, water or dust palliatives do not control dust from active working areas where excavators, and other equipment, are operating.[143] Dr. Fox estimates that this measure, coupled with moisture control, would control at most 40% of the dust.[144]

Fourth, according to Dr. Fox, washing and sweeping paved streets does not control dust from either on-site or off-site unpaved areas.[145] Fifth, covering trucks

[139] DEIR/EIS, section 6.3-21-22; *id.*, Appendix B, p. 74.
[140] Fox Comments, p. 9.
[141] Fox Comments, pp. 9-10.
[142] Fox Comments, p. 10.
[143] Fox Comments, p. 10.
[144] Fox Comments, p. 10.
[145] Fox Comments, p. 10.
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D3-32 Cont.
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D3-33 Please refer to Response to Comment D3A-17 for a complete response to this topic.

D3-34 Please refer to Response to Comment D3A-18 for a complete response to this topic.

D3-35 Please refer to Response to Comment D3A-19 for a complete response to this topic.

D3-36 Please refer to Response to Comment D3A-20 for a complete response to this topic.

D3-37 Please refer to Response to Comment D3A-21 for a complete response to this topic.

does not control dust raised by truck wheels on unpaved surfaces.[146] Sixth, gravel bags and catch basins are storm water management controls and do not control dust raised by equipment wheels and active construction equipment.[147] Seventh, soil moisture control is redundant with the use of water for dust control.[148]

Based on these flaws, construction PM10 impacts would remain significant. Therefore, the City and Bureau of Reclamation do not have substantial evidence to support their conclusion that MM-AQ-1 is adequate to reduce PM10 impacts to less than significant levels.[149] Rather, Dr. Fox provides substantial evidence that additional feasible mitigation is required. Dr. Fox identifies feasible mitigation measures that are necessary to reduce the significant PM10 construction emissions.[150] These measures include installing windbreaks on the windward side of actively disturbed areas of construction, [151] and requiring that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines, [152] among others. [153] These measures must be included in a revised DEIR/EIS and evaluated to determine if they will reduce PM10 construction emission[154] to less than significant levels.

ii. **All feasible NOx mitigation is required for the San Vicente Reservoir Alternative.**

The DEIR/EIS concluded that the San Vicente Reservoir Alternative would have a significant and unavoidable air quality impact due to daily NOx emissions.[155] Most of the emissions would arise from the Mission Trails Booster

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[146] Fox Comments, p. 10.
[147] Fox Comments, p. 10.
[148] Fox Comments, p. 10.
[149] DEIR/EIS, section 6.3-13-26.
[150] Fox Comments, p. 10.
[151] Fox Comments, p. 11.
[152] Fox Comments, p. 11.
[153] Fox Comments, pp. 11-12.
[154] Fox Comments, p. 12 (noting that further fugitive PM10 mitigation measures, designed to protect against Valley Fever spores, should be required).
[155] DEIR/EIS, 6.3-21 ("[D]aily construction emissions for the San Vicente Reservoir Alternative would exceed the threshold for NOx and PM10 during construction of the North City Project in 2019 and 2020, resulting in a significant impact under CEQA . . . the San Vicente Reservoir Alternative would exceed the annual significance threshold for NOx during the 2019 construction year, resulting in a significant impact under CEQA.").
3907-017acp

D3-38 Please refer to Response to Comment D3A-22 for a complete response to this topic.

D3-39 Please refer to Response to Comment D3A-23 for a complete response to this topic.

D3-40 Please refer to Response to Comment D3A-25 for a complete response to this topic.

D3-41 This comment is acknowledged that it is an introduction to specific comments that follow.

Station, which requires a substantial amount of excavation work and significant haul trips.[156]

As required by law, the DEIR/EIS proposed mitigation measure MM-AQ-2[157] to reduce significant NOx emissions.[158] MM-AQ-2 states:

> The following measures shall be adhered to during construction activities associated with the North City Project to reduce oxides of nitrogen (NOx):
>
> a. All diesel-fueled construction equipment shall be equipped with Tier 3 or better (i.e., Tier 4 Interim or Tier 4 Final) diesel engines.
>
> b. The engine size of construction equipment shall be the minimum size suitable for the required job.
>
> c. Construction equipment shall be maintained in accordance with the manufacturer's specifications.[159]

MM-AQ-2 does not account for all feasible mitigation for three reasons, as explained by Dr. Fox.[160] First, subsection (a) of MM-AQ-2, which states that all diesel-fuel construction equipment shall be equipped with Tier 3 or better, is meaningless.[161] According to Dr. Fox, the CalEEMod model already assumes that all construction equipment will use Tier 3 engines. Thus, Tier 3 engines are the existing, "base case."[162] The DEIR/EIS therefore improperly relies on measures that are not enforceable mitigation, but merely part of the Project description.[163]

D3-41 Cont.

D3-42

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[156] DEIR/EIS, 6.3-26 ("The exceedance in daily maximum NOx emissions is driven by the Mission Trails Booster Station phase of the San Vicente Reservoir Alternative, which requires a substantial amount of excavation work. The haul trips associated with the excavation work comprise the majority of the NOx emissions for that phase in 2019.").
[157] DEIR/EIS, section 6.3-23.
[158] *See* Pub. Resources Code, § 21002.
[159] DEIR/EIS, section 6.3-23.
[160] Fox Comments, section 1.9.
[161] Fox Comments, p. 24.
[162] Fox Comments, p. 24.
[163] CEQA Guidelines, § 15126.4, subd. (a)(2); *Kings County Farm Bur. v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28; *see also Lotus v. Department of Transportation* (2014) 223 Cal.App.4th 645, 650 (applicant erroneously included mitigation measures that were "part of the project").
3907-017acp

D3-42 Please refer to Response to Comment D3A-47 for a complete response to this topic.

Second, the same subsection defines "or better" as "Tier 4 Interim" or "Tier 4 Final" diesel engines.[164] As Dr. Fox writes, Tier 4 Interim NOx limits are identical to Tier 3 limits.[165] Once again this mitigation measure does nothing.[166]

Third, the measure mentions Tier 4 Final engines as an option, but does not *require* them.[167] Dr. Fox suggests that the measure should be modified to require that all diesel-fueled off-road construction of more than 50 hp be equipped with Tier 4 Final engines.[168] If Tier 4 Final engines are not available, then additional NOx mitigation must be required.[169] Therefore, the City and Bureau of Reclamation lack substantial evidence to support their conclusion that all feasible mitigation measures have been included in the DEIR/EIS for the significant NOx emissions.

Dr. Fox identifies additional feasible mitigation measures to control NOx emissions from construction.[170] These measures include, for example, maintaining all construction equipment in proper tune according to manufacturer's specifications,[171] modifying engines with CARB verified retrofits,[172] and requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx.[173]

Although most of the emissions would arise from the Mission Trails Booster Station,[174]the DEIR/EIS asserts that evaluating other options — *i.e.* redesigning the facility footprint, reducing associated grading — is "outside the scope of this EIR/EIS."[175] The law not only permits, but actually requires this type of evaluation

D3-43

D3-44

D3-45

[164] *See* Fox Comments, p. 24.
[165] Fox Comments, p. 24.
[166] *See* CEQA Guidelines, § 15126.4, subd. (a)(2).
[167] *See* Fox Comments, p. 25.
[168] Fox Comments, p. 25.
[169] Fox Comments, p. 25.
[170] Fox Comments, pp. 25-27.
[171] Fox Comments, p. 26.
[172] Fox Comments, p. 27.
[173] Fox Comments, p. 27 (in addition to reducing particulate matter).
[174] DEIR/EIS, section 6.3-26.
[175] DEIR/EIS, section 6.2-7 ("In order to reduce the impact, the MTBS would need to be redesigned to reduce the facility footprint (and reduce associated grading), reshape cuts and fills to appear as natural forms, retain trees to screen earthwork contrasts, or be relocated to an area with less slope where less excavation would be required, the feasibility and analysis of which is outside the scope of this EIR/EIS.").
3907-017acp

D3-43 Please refer to Response to Comment D3A-48 for a complete response to this topic.

D3-44 Please refer to Response to Comment D3A-49 for a complete response to this topic.

D3-45 Please refer to Response to Comments D3A-49 and D3A-50 for a complete response to this topic.

when determining the scope of imposing mitigation for a significant and unavoidable impact.[176] The DEIR/EIS must be revised to include additional feasible construction mitigation measures to reduce the significant NOx emissions to below 250 lb/day.[177] The City must then recirculate the revised DEIR/EIS for public review.

D3-45 Cont.

b. Public health impacts from Valley Fever are significant and require all feasible mitigation measures.

As discussed above, the DEIR/EIS did not disclose, or analyze significant health impacts from exposure to Valley Fever spores.[178] Dr. Fox provides substantial evidence that the public health impacts are significant and require mitigation. Although the DEIR/EIS includes a conventional dust control measure to address construction impacts on air quality (Mitigation Measure MM-AQ-1),[179] Dr. Fox writes that the measure is inadequate to address the health risk posed by exposure to Valley Fever spores.[180] Therefore, the DEIR/EIS must be revised and recirculated to include mitigation measures that specifically mitigate the public health impact from exposure to Valley Fever spores.

D3-46

Dr. Fox explains that conventional dust control measures are not adequate to address Valley Fever because those measures "largely focus on visible dust or large dust particles — the PM10 fraction — not the very fine particles where the Valley Fever spores are found."[181] Even after applying dust control measures, and observing that the air appears relatively clear and dust free,[182] the spores, can remain aloft for long periods and be carried hundreds of miles from their point of

D3-47

[176] Pub. Resources Code, § 21002. ("the policy of the state that public agencies *should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures* available which would substantially lessen the significant environmental effects of such projects [italics added].")
[177] DEIR/DEIS, Appx. B, Table 7.2-29.
[178] Fox Comments, p. 35.
[179] Dr. Fox identifies flaws in MM-AQ-1, which she describes on pp. 41-42 of her comment letter. For example, "the DEIR/DEIS contains no discussion of who would be responsible to develop these measures or oversee their implementation." *Id.*
[180] Fox Comments, pp. 36, 41.
[181] Fox Comments, p. 36 (discussing Mitigation Measures MM-AQ-1).
[182] Fox Comments, p. 37 ("Spores of *Coccidioides ssp.* have slow settling rates in air due to their small size (0.002 mm) and low terminal velocity, and possibly also due to their buoyancy, barrel shape, and commonly attached empty hyphae cell fragments.").
3907-017acp

D3-46 Please refer to Response to Comment D3A-51 for a complete response to this topic.

D3-47 Please refer to Response to Comments D3A-54 and D3A-66 for a complete response to this topic.

origin.[183] Thus, in the lead agencies' response to these comments, the City and Bureau of Reclamation may not claim that the DEIR/EIS's conventional dust control measures[184] will adequately address the significant health impact from Valley Fever.[185]

Consequently, Dr. Fox provides several recommended measures that go beyond conventional dust control measures[186] and that specifically address Valley Fever, such as:[187]

(1) Re-evaluating and updating the Project's Injury and Illness Prevention Program and ensuring that safeguards to prevent Valley Fever are included[188]
(2) Training all employees about Valley Fever[189]
(3) Controlling dust exposure by providing high-efficiency particulate-filtered, air conditioned enclosed cabs on heavy equipment[190]
(4) Preventing transport of cocci outside endemic areas by thoroughly cleaning equipment[191]
(5) Improving medical surveillance for employees by ensuring that employees have prompt access to medical care[192]
(6) Positioning workers upwind, when possible, when they are digging a trench or performing other soil-disturbing tasks.[193]

D3-47
Cont.

[183] Fox Comments, p. 37.
[184] *See* DEIR/EIS, section 6.3-21-22; *id.*, Appendix B, p. 74 (Mitigation Measures MM-AQ-1).
[185] Fox Comments, p. 43 ("In sum, construction mitigation measures in the DEIR/DEIS are not adequate to control Valley Fever. Projects that have implemented conventional PM10 dust control measures, such as those proposed in the DEIR/DEIS, have experienced fugitive dust issues and reported cases of Valley Fever.").
[186] Fox Comments, p. 37 ("The recommended measures go far beyond the conventional dust control measures recommended in the DEIR/DEIS to control construction emissions, which primarily control PM10."); *id.* p. 41 (describing additional reasons why MM-AQ-1 is inefficient and inadequate).
[187] Fox Comments, section 2.6.
[188] Fox Comments, p. 38.
[189] Fox Comments, p. 38.
[190] Fox Comments, pp. 38-39.
[191] Fox Comments, p. 39 ("Thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations.").
[192] Fox Comments, pp. 39-40.
[193] Fox Comments, p. 42.
3907-017acp

November 21, 2017
Page 27

Dr. Fox concludes that "[e]ven if all the [recommended] measures are adopted, a recirculated DEIR/EIS is required to analyze whether these [recommended] measures are adequate to reduce [the Valley Fever] significant impact to a level below significance."[194] The lead agencies must propose mitigation measures that go beyond conventional dust control measures and that are specifically designed to reduce the significant health impacts due to Valley Fever and then analyze their effectiveness. D3-48

VI. CONCLUSION

The DEIR/EIS contains legal errors and lacks substantial evidence to support its conclusions. Instead, substantial evidence shows that the Project will result in significant, unmitigated air quality and public health impacts. Therefore, the City and Bureau of Reclamation must prepare a revised DEIR/EIS. The agencies must then recirculate the revised DEIR/EIS to ensure that the public is not deprived of a meaningful opportunity to comment on the significant impacts and feasible ways to mitigate or avoid those impacts. D3-49

Sincerely,

Linda Sobczynski

LTS: acp

Attachments

[194] Fox Comments, pp. 43-44.
3997-017acp

D3-48 Please refer to Response to Comment D3A-68 for a complete response to this topic.

D3-49 This comment is acknowledged that it is a summary to specific comments that preceded it.

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Comment Letter D3A

EXHIBIT A

Response to Comment Letter D3A

Adams Broadwell Joseph & Cardozo
Linda Sobczynski
November 21, 2017

Comments

on the

Draft Environmental Impact Report/
Draft Environmental Impact Statement

for the

North City Project
Pure Water San Diego Program

San Diego, California

November 21, 2017

Phyllis Fox, PhD, PE
745 White Pine Ave.
Rockledge, FL 32955

The City of San Diego proposes to modify its existing water delivery system to create up to 30 million gallons per day (MGD) of locally controlled recycled water by 2021, treated to meet drinking water standards. The Project would include:

- expansion of North City Water Reclamation Plant;
- construction of adjacent North City Pure Water Facility;
- one of two purified water pipelines to either the Miramar or San Vicente Reservoirs;
- pump station and force main to deliver additional wastewater to the NCWRP;
- brine/centrate discharge pipeline;
- upgrades to existing Metro Biosolids Center;
- new North City Renewable Energy Facility at NCWRP; and
- new Landfill Gas Pipeline between Miramar Landfill gas collection system and NCWRP.

D3A-1

I reviewed the air quality section of the state Draft Environmental Impact Report (DEIR) and federal Draft Environmental Impact Statement (DEIS) (DEIR/DEIS) and supporting appendices for this Project.[1] The public review period of 77days granted by the City of San Diego (City), the lead agency, is not adequate to review a document as technically complex and long as this DEIR/DEIS.

The DEIR/DEIS consists of a 1,758-page summary, nine technical appendices consisting of many subparts, and appendices within appendices, where all the support for the conclusions in the summary is found. The total number of pages encompassed by the "summary" (1,758 pages) and its nine supporting appendices is 5,809 pages. In addition, the DEIR/DEIS is supported by nine additional reports that contain thousands of pages of complex analyses.

The "summary" does not contain sufficient information to support its conclusions nor citations to where the support can be found, requiring the review of the supporting technical appendices to understand and confirm the DEIR/DEIS's conclusions. For example, if an affected party wished to discover the potential impacts at her nearby property, she would have to review thousands of pages of highly complex

D3A-2

[1] City of San Diego, North City Project Pure Water San Diego Program, Public Review Draft, Environmental Impact Report/Environmental Impact Statement, September 2017 (DEIR/DEIS); available at https://www.sandiego.gov/water/purewater/purewatersd/reports.

1

D3A-1 Comment noted regarding the general description of the North City Project, which is consistent with the information presented in the Draft EIR/EIS.

D3A-2 The comment is acknowledged as an introduction to specific comments that follow. The City strongly believes the summary and all elements of the Draft EIR/EIS are adequate for purposes of complying with both CEQA and NEPA.

calculations and model output and even then, would be unlikely to find the risk at her property. D3A-2 Cont.

The allotted review period—September 6, 2017 to November 21, 2017—contains 77 days, of which 20 are weekend days. Assuming a reviewer worked every week day of the review period, she would have to read 198[2] pages of dense technical material every single day to just read the DEIR/DEIS and its supporting appendices, leaving no time to review the nine additional reports or critically evaluate and reverse engineer the many unsupported calculations and then write comments. The reading alone is equivalent to reading a full-length novel every single day of the review period. Few people could devote entire days to doing nothing but reading this DEIR/DEIS, and even fewer are speed readers with the training to figure out how emissions were calculated without inputs and equations to review. D3A-3

The analyses in the appendices supporting the conclusions in the DEIR/DEIS are highly technical, poorly supported, and contain many inconsistencies, requiring that key assumptions be teased out of hundreds of pages of complex calculations and pdf versions of model inputs and outputs by reverse engineering. This is beyond the ability of members of the public and technical experts, especially without supporting electronic files and cited sources that were not publicly available, in 77 days. D3A-4

I requested electronic files to support the air quality section of the DEIR/DEIS to facilitate my review, which was limited to air quality due to the short review time. However, the City initially declined the request to provide all electronic files,[3] a routine matter in hundreds of similar cases that I have worked on, thus further complicating the review of this DEIR/DEIS. After a second request, input and output modeling files were privately provided on November 14, 2017 and published to the public on November 17, 2017[4], too late to allow meaningful review. The produced documents included 96 separate health risk assessment and air quality modeling files. D3A-5

In sum, based on the available material and limited review time, in my opinion the DEIR/DEIS is substantially deficient and does not fulfill its mandate as an informational document under CEQA to inform the public of potential impacts. It has omitted sources of emissions and underestimated others including: D3A-6

[2] Number of pages to review, assuming 7 day/week = (1,758 + 5,809)/77 = 98 pages/day.

[3] Excel spreadsheets were provided on October 30, 2017.

[4] Request #17-3304; available at: https://sandiego.nextrequest.com/requests/17-3304.

2

D3A-3 The comment is noted regarding the length of the review period and length of the Draft EIR/EIS. The public review period is consistent with the CEQA Guidelines.

D3A-4 The comment is acknowledged as an introduction to specific comments that follow. Also refer to response D3A-3. As stated in the Public Notice of a Draft EIR, all technical reports and documents referenced in the Draft EIR/EIS were available to the public by request. Only reports prepared specifically to support the analysis in the Draft EIR/EIS were included as technical appendices.

D3A-5 The comment is acknowledged as an introduction to specific comments that follow.

Refer to responses D3A-3 through D3A-5. The City strongly disagrees that the Draft EIR/EIS is "substantially deficient and does not fulfill its mandate as an information document under CEQA to inform the public of potential impacts."

D3A-6 The comment is acknowledged as an introduction to specific comments that follow.

- GHG, criteria pollutants, and TAC emissions from construction equipment were underestimated by assuming 100% Tier 3 construction equipment.
- PM10 and PM2.5 dust emissions from off-road construction activities were omitted.
- PM10 and PM2.5 dust emissions from wind erosion were omitted.
- The impact of Santa Ana winds on PM10 and PM2.5 emissions, and associated Valley Fever spores, were omitted.
- The increases in PM10 emissions for both alternatives are significant and unmitigated when omitted emission sources are included.
- The DEIR/DEIS failed to evaluate health impacts of Project construction, which occurs within 10 feet of sensitive receptors.
- The DEIR/DEIS failed to include all feasible mitigation for the significant increase in NOx emissions during construction of the San Vicente Reservoir alternative.

The DEIR/DEIS also failed to evaluate other impacts of Project construction and operation and fails to require adequate mitigation for these impacts, including:

- Valley fever impacts during Project construction and operation were not disclosed, are significant, and will not be mitigated by construction mitigation measures.
- The impacts of Project construction and operational emissions of NOx and VOC on ambient ozone concentrations and on the ozone attainment status of San Diego Air Basin were not evaluated.
- The impacts of Project construction and operational emissions of criteria pollutants on ambient air quality, to determine if a NAAQS or CAAQS would be violated, were not evaluated.

The DEIR/DEIS concluded that mitigated NOx emissions from construction of the San Vicente Reservoir Alternative would be significant. I also demonstrate that mitigated PM10 impacts from construction of the San Vicente Reservoir Alternative would be significant. The DEIR/DEIS fails to evaluate the impact of these mitigated significant emission increases on ambient air quality. The DEIR/DEIS should have, but did not, conduct ambient air quality modeling to determine if the Project's construction and operational emissions would violate public health standards and any National Ambient Air Quality Standard (NAAQS) or California Air Quality Standard (CAAQS).

My resume is included in Exhibit 1 to these Comments. I have over 40 years of experience in the field of environmental engineering, including air emissions and air

D3A-6 Cont.

D3A-7

3

D3A-7 The comment is noted regarding Dr. Fox's resume and relevant experience.

pollution control; greenhouse gas (GHG) emission inventory and control; water quality and water supply investigations; hazardous waste investigations; hazard investigations; risk of upset modeling; environmental permitting; nuisance investigations (odor, noise); environmental impact reports (EIRs), including CEQA/NEPA documentation; risk assessments; and litigation support. I have M.S. and Ph.D. degrees in environmental engineering from the University of California at Berkeley. I am a licensed professional engineer in California.

I have prepared comments, responses to comments and sections of CEQA and NEPA documents on air quality, greenhouse gas emissions, water supply, water quality, hazardous waste, public health, risk assessment, worker health and safety, odor, risk of upset, noise, land use, and other areas for well over 500 CEQA and NEPA documents. This work includes EIRs, EISs, Negative Declarations (NDs), and Mitigated Negative Declarations (MNDs). My work has been specifically cited in two published CEQA opinions: *Berkeley Keep Jets Over the Bay Committee, City of San Leandro, and City of Alameda et al. v. Board of Port Commissioners* (2001) 111 Cal. Rptr. 2d 598, and *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal. 4th 310; and has supported the record in many other CEQA and NEPA cases.

D3A-7 Cont.

1. CONSTRUCTION IMPACTS ARE UNDERESTIMATED, SIGNIFICANT, AND NOT MITIGATED

1.1. Construction Emissions Are Not Adequately Supported

The unmitigated and mitigated daily and annual criteria pollutant (NOx, SOx, CO, PM10, PM2.5) emissions from construction of both Project alternatives are summarized in tables in Appendix B to the DEIR/DEIS.[5] These emissions were estimated using default and other assumptions found in the California Emissions Estimator Model (CalEEMod), version 2016.3.1.[6,7] This model has been updated since these analyses were prepared. The most recent version is 2016.3.2.[8] Construction emissions should be revised to use this version. The CalEEMod outputs for the Miramar and San Vicente alternatives are located in Appendices A and B to Appendix B

D3A-8

[5] DEIR/DEIS, Appx. B, Air Quality Technical Report for the North City Project, Tables 7.2-20/22 (Miramar) and 7.2-27/30 (San Vicente).

[6] CAPCOA, California Emissions Estimator Model, User's Guide, Version 2016.3.2, September 2016 (CAPCOA 2016: Exhibit 2)

[7] DEIR/DEIS, Appx. A (Miramar) and B (San Vicente) to Appx. A (AQTR).

[8] CAPCOA, California Emissions Estimator Model, User's Guide, Version 2016.3.2, October 2017 (CAPCOA 2017); available at http://www.caleemod.com/.

4

D3A-8 The Draft EIR/EIS was released for public review on September 6, 2017, and the latest version of the California Emissions Estimator Model (CalEEMod; 2016.3.2) wasn't released until October 16, 2017. The following is a list of the revisions and additions that are included in CalEEMod 2016.3.2 version (CAPCOA 2017):

1. The 2016 update to Title 24 (building efficiency % reduction - CEC 2015) was incorporated.
2. A new interactive logging and tracing feature to capture and report errors was implemented to provide technical support.
    - For a handled error (e.g., when CalEEMod encounters an error and recognizes the error), a specific error message will appear on the screen.
    - For an unhandled error (e.g., when CalEEMod encounters an error, but does not recognize the error), a pop-up window will appear on the screen that offers an option for the user to contact the development team.

	3. A new and more stable installer wizard, Windows Installer XML (WiX), has replaced InstallShield. 4. The installation folder was separated from the working folder to allow the user to instantaneously close or exit CalEEMod. 5. A new screen reminder has been added to the fleet mix screen that will alert the user if fleet mix total for each Land Use SubType is above or below 100%. 6. The rolling calendar for construction phases was corrected. 7. The process of loading/opening an existing project file was corrected so that the user-defined fleet mix and user-defined operational year will be preserved. 8. The presentation of the mitigated consumer product emissions in the summer and winter reports was corrected when Parking Land Use Type is defined in the project. 9. Issues with generating a report when carbon dioxide equivalent (CO_2E) greenhouse gas (GHG) is selected or

	user-defined Phase Name is provided, were fixed. 10. Several issues associated with the comparison of user-defined values against CalEEMod defaults were corrected. 11. Several issues with the checking/_unchecking the "Default" button were corrected. 12. Fixed miscalculation of the annual fugitive dust emissions for PM_{10} and $PM_{2.5}$ (bug caused emissions to be overestimated for projects with multiple construction years). All the updates made to CalEEMod 2016.3.2 that affect emission results would result in lower emissions for the Project. Therefore, the current emission estimates using the CalEEMod 2016.3.1 are more conservative.

of the DEIR/DEIS. To avoid confusion in citations, the Air Quality Technical Report is cited as Appx. B (AQTR) to distinguish it from Appx. B to the Air Quality Technical Report, which contains the San Vicente CalEEMod output.

The DEIR/DEIS does not summarize and explain how construction emissions were estimated. Instead, it provides 1,298 pages of pdf output from runs of the CalEEMod model for the Miramar Reservoir Alternative in Appendix A to Appendix B (AQTR)[9] and 1,207 pages of pdf output from runs of the CalEEMod model for the San Vicente Reservoir Alternative in Appendix B to Appendix B (AQTR) of the DEIR/DEIS.[10] The DEIR/DEIS does not explain how to transition from the detailed CalEEMod output to the emission summaries. It does not cite to any page number(s) or headings where the results in the summary tables may be found, summarize the key inputs in an annotated table, or present any method to calculate them from the 2,505 pages of CalEEMod output.

Instead, to understand and verify the DEIR/DEIS's construction emission calculations, the reviewer must master the CalEEMod User's Guide,[11] a 67-page document with six appendices; dig through thousands of pages of hardcopy pdf printout to search for inputs; back-calculate emission factors and compare them with options included in the CalEEMod User's Guide to figure out what the DEIR/DEIS's emission summaries assumed; and figure out which of thousands of outputs were used to categorize and summarize the construction emission summaries. This is beyond the reach of most members of the public who would be impacted by the Project. Further, it cannot be completed by anyone in the 77-day review time, especially without the input and output modeling files, which were only disclosed to the public five days before these comments were due. Thus, the DEIR/DEIS fails as an informational document under CEQA. Due to the lack of time to review the supporting files produced at the last minute, these comments are based on the record that was publicly available for the duration of the review period.

1.2. Construction PM10 and PM2.5 Emissions Are Underestimated

The DEIR/DEIS exclusively used the CalEEMod model to estimate construction emissions. However, this model does not include all sources of PM10 and PM2.5

[9] DEIR/DEIS, Appx. A to Appx. A.

[10] DEIR/DEIS, Appx. B to Appx. A.

[11] CAPCOA 2016.

5

D3A-8 Cont.

D3A-9

D3A-10

D3A-11

D3A-12

D3A-9 The general approach and calculation methodology used for the Project is summarized in the Air Quality Technical Report (Appendix B to the Draft EIR/EIS). It clearly states what input assumptions were used to run the CalEEMod emissions model. The detailed calculation methodology within CalEEMod can be found within Appendix A to the CalEEMod User's Guide, Calculation Details for CalEEMod (CAPCOA 2017). The CalEEMod is referenced throughout the Air Quality Technical Report where applicable.

The detailed CalEEMod output files provided in Appendices A and B to the Air Quality Technical Report are the calculation details for estimating emissions for the Project. They were used to populate the emissions summary tables within the Air Quality Technical Report. The CalEEMod output files provide summary tables indicating daily and annual emissions for each year of construction and for operation.

D3A-10 As discussed in detail in Comment D3A-9, the detailed inputs used for calculating emissions with CalEEMod was provided and the

	CalEEMod internal methodology can be found within its User's Guide. **D3A-11** The comment is acknowledged, and it is noted that it does not appear to relate to any physical effect on the environment. The comment will be included in the administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue. **D3A-12** The comment is acknowledged as an introduction to specific comments that follow.

construction emissions. It omits windblown dust from graded areas and storage piles and fugitive dust from off-road travel:[12]

> Fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads. (Fugitive dust from wind blown sources such as storage piles and inactive disturbed areas, as well as fugitive dust from off-road vehicle travel, are not quantified in CalEEMod, which is consistent with approaches taken in other comprehensive models.)

D3A-12 Cont.

These emissions must be separately calculated using methods in AP-42[13] and added to the CalEEMod total. The DEIR/DEIS did not calculate these emissions. As demonstrated below, when these emissions are added to the total PM2.5 and PM10 reported in the DEIR/DEIS, PM2.5 and PM10 impacts are significant and unmitigated, requiring all feasible mitigation.

1.3. Off-Road Travel PM10 Emissions Are Significant

The DEIR/DEIS does not contain any estimate of off-road travel PM10/PM2.5 emissions from construction equipment. These emissions are calculated from the following equation:[14]

$$E=k(s/12)^a(W/3)^b$$

where

E = size-specific emission factor in lb/VMT

k = particulate size (PM2.5, PM10) constant from AP-42, Table 13.2.2-2 (1.5 for PM10 and 0.15 for PM2.5)

s = surface material silt content (%) from AP-42, Table 13.2.2-1 (8.5% for construction sites)

W = mean vehicle weight (tons)

a = constant from AP-42 Table 13.2.2-2 (0.9 for PM10 and PM2.5)

D3A-13

[12] CAPCOA 2016, pdf 8. This same language appears in CAPCOA 2017, pdf 7.

[13] U.S. EPA, Compilation of Air Pollutant Emission Factors, Report AP-42, available at https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors#Proposed.

[14] AP-42, Section 13.2.2 Unpaved Roads.

6

D3A-13 The Draft EIR/EIS used CalEEMod to calculate PM_{10}/$PM_{2.5}$ emissions from construction equipment. The following is described in Section 4.3, Dust from Material Movement, in Appendix A of the CalEEMod Users Guide:

> Fugitive dust is generated by the various source activities occurring at a construction site. This dust contributes PM_{10} and $PM_{2.5}$ emissions and for detailed emission breakdowns are distinguished from exhaust particulate matter emissions. The program calculates fugitive dust associated with the site preparation and grading phases from three major activities: haul road grading, earth bulldozing, and truck loading. As recommended by SCAQMD, the fugitive dust emissions from the grading phase are calculated using the methodology described in USEPA AP-42.

All input information used for the emissions estimations for the Draft EIR/EIS are provided in the Air Quality Technical Report and its appendices. The CalEEMod output files include all detailed information needed to input into

b = constant from AP-42, Table 13.2.2-2 (0.45 for PM10 and PM2.5)

Further, the DEIR/DEIS also does not contain any of the information required to estimate these emissions: including vehicle weight and distance traveled off road per day or per year for the equipment working a site, site surface silt content; nor a detailed construction schedule, which could be used to figure out these inputs. Thus, the DEIR/DEIS fails as an informational document under CEQA.

D3A-13 Cont.

My calculations indicate that the emissions from construction equipment working on site are large enough, when combined with emissions estimated using the CalEEMod model, to result in significant PM10 impacts for both alternatives. My calculations assume eight pieces of heavy construction equipment working a given site, consisting of five loaded dump trucks;[15,16] a bulldozer;[17] an excavator;[18] and a grader.[19] This equipment weighs an average of 44 tons.[20] Otherwise, I rely on inputs from AP-42 as follows:

k = 1.5 for PM10 (AP-42, Table 13.2.2-2)

s = 8.5% (AP-42, Table 13.2.2-1)

W = 44 tons

a = 0.9 for PM10 (AP-42 Table 13.2.2-2)

b = 0.45 for PM10 (AP-42, Table 13.2.2-2)

D3A-14

[15] DEIR/DEIS, pdf 1003 ("five haul trucks per day would be required for backfill/slurry deliveries and soil export.") Two vendor trucks also would be required.

[16] Maximum loaded truck weight in California is 40 tons. *See* FHA, Compilation of Existing State Truck Size and Weight Limit Laws, Report to Congress, May 2015, p. 28 and http://fleetowner.com/management/feature/truck-weight-limit-debate-0409.

[17] Bulldozer operating weight ranges from 49 to 104 tons. *See* https://www.google.com/search?q=weight+of+bulldozer&oq=weight+of+bulldozer&aqs=chrome..69i57j0l5.9001j0j7&sourceid=chrome&ie=UTF-8.

[18] Excavator operating weight ranges from 14 to 89 tons. *See* https://www.construction equipmentguide. com/charts/excavators.

[19] Grader operating weight ranges from 14 to 24 tons. *See* https://www.cat.com/en_US/products/new/equipment/motor-graders.html.

[20] Average weight = [5 trucks + median dozer + median excavator + median grader]/8 = [(5 x 40) + 77 + 52 + 19]/8 = 44.

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CalEEMod. Therefore, all information needed to estimate these emissions were included.

Furthermore, the CalEEMod and thus the Draft EIR/EIS does account for off-road emissions from construction equipment. No further response is required.

D3A-14 As stated in response to D3A-13, the Draft EIR/EIS does include off-road emissions from construction equipment as provided in CalEEMod. Further, the calculations provided by Dr. Fox would be duplicative and over-estimating for the activity and emissions already accounted for within CalEEMod and the Draft EIR/EIS.

As discussed in mitigation measure MM-AQ-1, the following best management practices will be implemented during construction to comply with San Diego Air Pollution Control District (SDAPCD) rules and regulations:

- Best available control measures that could be implemented during construction to reduce particulate emissions and reduce soil erosion and trackout include

	the following: o Cover or water, as needed, any on-site stockpiles of debris, dirt, or other dusty material. o Use adequate water and/or other dust palliatives on all disturbed areas in order to avoid particle blow-off. Due to current drought conditions, the contractor shall consider use of a SDAPCD-approved dust suppressant where feasible to reduce the amount of water to be used for dust control. Use of recycled water in place of potable water shall also be considered provided that the use is approved by the City of San Diego and other applicable regulatory agencies prior to initiation of construction activity.[1] Use of recycled water shall be

[1] The use of recycled water for construction purposes requires approval of the City and other regulatory agencies on a case-by-case basis. The permit shall be obtained prior to beginning construction. Recycled water used for construction purposes may only be used for soil compaction during grading operations, dust control and consolidation and compaction of backfill in trenches for non-potable water, sanitary sewer, storm drain, gas, and electric pipelines. Equipment operators shall be instructed about the requirements contained herein and the potential health hazards involved with the use of recycled water. Water trucks, hoses, drop tanks, etc. shall be identified as containing non-potable water and not suitable for drinking. Determinations as to specific uses to be allowed shall be in accordance with the standards set forth in Title 22, Division 4 of the California Code of Regulations and with the intent of this ordinance

	in compliance with all applicable City of San Diego Rules and Regulation for Recycled Water (City of San Diego 2008), particularly for the protection of public health per the California Code of Regulations, Title 22, Division 4. o Wash down or sweep paved streets as necessary to control trackout or fugitive dust. o Cover or tarp all vehicles hauling dirt or spoils on public roads if sufficient freeboard is not available to prevent material blow-off during transport. o Use gravel bags and catch basins during ground-disturbing operations. o Maintain appropriate soil moisture, apply soil binders, and/or plant stabilizing vegetation. These best management practices will reduce fugitive dust generation from construction of the Project during high wind events. Construction of Project components would also be subject to

to preserve the public health. The City may, at its discretion, set forth specific requirements as conditions to providing such services and/or require specific approval from the appropriate regulatory agencies (City of San Diego 2008).

Using the above inputs, the PM10 emission factor in pounds per vehicle mile traveled (lb/VMT) is:

$$E_{PM10} = 1.5(8.5/12)^{0.9}(44/3)^{0.45}$$

= 3.7 lb/mi

Assuming that each piece of equipment moves 5 miles while on the construction site each day, the increase in PM10 emissions would be 148 lb/day.[21] The DEIR/DEIS provides no information on on-site trip length for any equipment. Rather, it reports only worker, vendor, and hauling total on-site/off-site trip lengths (16.8, 6.6, 20 mi/day).[22] Assuming, for example, that an excavator moves at 2 mi/hr[23], during an 8-hour workday it would travel 16 miles. Similarly, dozing speeds range from 1 mi/hr up to 4 mi/hr.[24] Thus, assuming 5 mi/day for each piece of on-site equipment, which is equivalent to 0.6 mi/hr, is conservative.

The mitigated PM10 and PM2.5 emissions in Appendices A and B to Appendix B indicate that no fugitive PM10 or PM2.5 mitigation was included for fugitive dust[25] (because fugitive dust emissions were not calculated, a fact not disclosed but which must be dredged out of thousands of pages of pdf model output). Assuming no mitigation for on-site PM10 fugitive emissions, the increase in PM10 emissions from equipment travel in off-road areas is large enough by itself for both Project alternatives to exceed the PM10 daily significance threshold of 100 lb/day.

Thus, as drafted, the DEIR/DEIS does not estimate or require any mitigation for on-site fugitive dust. The maximum daily unmitigated total PM10 emissions for the Miramar Reservoir alternative would be 188 lb/day (148 + 39.85).[26] The maximum daily unmitigated total PM10 emissions for the San Vicente Reservoir alternative would

D3A-14 Cont.

D3A-15

[21] Increase in PM10 emissions from on-site travel of construction equipment = 8 pieces of equipment x 5 mi/day x 3.7 lb/mi = 148 lb/day.

[22] DEIR/DEIS, Appx. A and B to Appx. B.

[23] See, for example, Ron Hadaway, 4 Questions to Ask Before Selecting a Wheel Excavator, August 9, 2016 (2.5 to 23 mi/hr); available at http://www.constructionbusinessowner.com/equipment/equipment-management/august-2016-4-questions-ask-selecting-wheel-excavator.

[24] David Roberts, Pipe and Excavation Contracting, 1987, p. 89.

[25] DEIR/DEIS, Appx. A to Appx. B, pdf 13, 15, 17, 19, 41, 43, 45, 47, 64, 66, etc. and Appx. B to Appx. B, pdf 13, 15, 17, 19, 41, 43, etc. (columns for fugitive PM10 and fugitive PM2.5 for mitigated construction on-site are blank).

[26] DEIR/DEIS, Appendix B, Table 7.2-22, pdf 88.

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SDAPCD Rule 55 – Fugitive Dust Control. This rule requires that construction of Project components include steps to restrict visible emissions of fugitive dust beyond the property line (SDAPCD 2009). Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities. The MM-AQ-1 covers all fugitive dust sources during construction. No further response is required.

D3A-15 As described in responses to comments D3A-13 and D3A-14, the Draft EIR/EIS does estimate fugitive dust emissions during construction and has included mitigation within MM-AQ-1. With MM-AQ-1 in place the fugitive PM_{10} emissions are less than significant. No further response is required.

be 218 lb/day (148 + 70.03).[27] The PM10 significance threshold is 100 lb/day. Thus, PM10 emissions from construction of both alternatives are significant without mitigation for on-site fugitive dust.

Assuming mitigation, on-site fugitive PM10 emissions remain significant. The CalEEMod model default control efficiency for watering unpaved road fugitive dust is 40%.[28] Assuming a 40% control efficiency from watering on-site unpaved areas, the PM10 emissions from off-road vehicle travel for the Miramar Reservoir alternative are 129 lb/day[29] and for the San Vicente Reservoir alternative 159 lb/day.[30] Thus, daily PM10 emissions from both alternatives are significant and unavoidable, requiring all feasible mitigation for PM10.

D3A-15 Cont.

1.4. Off-Road PM10 Mitigation In MM-AQ-1 Is Not Adequate to Mitigate Significant PM10 Impacts

Even though no significant PM10 or PM2.5 impacts were reported, the DEIR/DEIS includes some on-site particulate fugitive dust control measures in mitigation measure MM-AQ-1 to satisfy San Diego Air Pollution Control District rules and regulations.[31] However, none of the mitigation measures in MM-AQ-1[32] would reduce particulate matter from off-road equipment travel on disturbed surfaces beyond that assumed by the default 40% used to calculate revised PM10 emissions.

D3A-16

First, the DEIR/DEIS contains no discussion of who would be responsible to develop these measures or oversee their implementation.

D3A-17

Second, mitigation measure MM-AQ-1 requires covering or watering stockpiles. The DEIR/DEIS does not identify any stockpiles or include any emissions from them. Watering stockpiles does not eliminate off-site, unpaved road dust from flat surfaces,

D3A-18

[27] DEIR/DEIS, Appendix B, Table 7.2-29, pdf 95.

[28] DEIR/DEIS, Appendix A to Appx. B, pdf 5, 33, 56, 79, 108, 132, 156, 187, 213, 239, 262, 280, 298, etc.; Appx. B to Appx. B, pdf 5, 33, 56, 79, 108, 132, 156, 187, etc. The control efficiency assumed for watering on-site unpaved surfaces in the CalEEMod runs was zero because the CalEEMod model does not estimate on-site fugitive dust.

[29] Mitigated off-road PM10 emissions for the Miramar alternative: 0.6 x 148 + 39.85 = **128.65 lb/day**.

[30] Mitigated off-road PM10 emissions for the San Vicente alternative: 0.6 x 148 + 70.03 = **158.83 lb/day**.

[31] DEIR/DEIS, Appx. A to Appx. B, p. 74 and Appx. B to Appx. B, p. 81.

[32] DEIR/DEIS, pdf 1013/1014; Appendix B, pdf 86.

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D3A-16 As shown in response to comment D3A-14, which describes MM-AQ-1, there are several measures in place that would reduce particulate matter from off-road equipment travel on disturbed surfaces including:

- Use adequate water and/or other dust palliatives on all disturbed areas in order to avoid particle blow-off. Due to current drought conditions, the contractor shall consider use of a SDAPCD-approved dust suppressant where feasible to reduce the amount of water to be used for dust control. Use of recycled water in place of potable water shall also be considered provided that the use is approved by the City of San Diego and other applicable regulatory agencies prior to initiation of construction activity. Use of recycled water shall be in compliance with all applicable City of San Diego Rules and Regulation for Recycled Water (City of San Diego 2008), particularly for the protection of public health per the California Code of Regulations, Title 22, Division 4.

- Maintain appropriate soil moisture, apply soil binders, and/or plant stabilizing vegetation.

Also, the watering mitigation assumed within the Draft EIR/EIS and the CalEEMod modeling runs was twice watering daily, which equates to a fugitive dust reduction of 55%, which is the CalEEMod default assumption as described in Section 12.1, Construction Mitigation Measures and Regulatory Adjustments, in Appendix A of the CalEEMod Users Guide:

> The mitigation measures in this section apply the specified percent reduction in PM_{10} or $PM_{2.5}$ to the applicable fugitive dust calculations. Watering of unpaved roads recalculates the unpaved road equations using the updated values supplied by the user in this section. These are based on mitigation measures described by SCAQMD.

Therefore, the Draft EIR/EIS assumed a 55% fugitive dust reduction from watering twice daily based on the CalEEMod default.

D3A-17 The implementation of MM-AQ-1 is discussed in detail within Chapter 10, Mitigation Monitoring

	and Reporting Program, of the Draft EIR/EIS in accordance with Section 21081.6 of CEQA. Table 10-10 identifies the responsible person for MM-AQ-1 as the Construction Manager. No further response is required.
	D3A-18 Although no stockpiles were reasonably foreseen within the Project construction, the requirement of covering or watering stockpiles was included as a dust mitigation measure in accordance with SDAPCD Rule 55, which requires all construction activity to prevent generation of visible dust emissions including active operations, open storage piles, and inactive disturbed areas. Furthermore, as the comment notes, calculation of these emissions requires detailed information that is not generally available at the CEQA stage.

unpaved roadways, and active working areas. Thus, this measure is not mitigating anything. D3A-18 Cont.

Third, water or dust palliatives do not control dust from active working areas where excavators, etc. are operating. This measure, coupled with moisture control, would at most control 40% of the dust, as assumed above in my calculations. D3A-19

Fourth, washing and sweeping paved streets does not control dust from either on-site or off-site unpaved areas. D3A-20

Fifth, covering trucks does not control dust raised by truck wheels on unpaved surfaces. D3A-21

Sixth, gravel bags and catch basins are storm water management controls and do not control dust raised by equipment wheels and active construction equipment. D3A-22

Seventh, soil moisture control is redundant with the use of water for dust control, required elsewhere in MM-AQ-1. Further, soil moisture cannot be controlled in active work areas. Soil moisture control, achieved using watering, would at most control 40% of the dust, as assumed above in my calculations. Finally, this measure is worded in such a general way as to be basically meaningless and unenforceable. D3A-23

In sum, the mitigation proposed in MM-AQ-1 does not mitigate the significant PM10 impacts that I calculated in Comment 1.3. Thus, construction PM10 impacts remain significant, requiring all feasible mitigation. D3A-24

1.5. All Feasible Mitigation Is Required for PM10 Construction Emissions

Other air districts have identified many additional PM10 mitigation measures that should be required for this Project. The Bay Area Air Quality Management District requires these measures for all projects:[33] D3A-25

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.

[33] BAAQMD, California Environmental Quality Act Air Quality Guidelines, 2012 CEQA Guidelines, May 2017, Section 8-2; available at:

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D3A-19 As discussed in MM-AQ-1 and shown in response D3A-14, the Project will use water or dust palliatives for all disturbed areas on site, which includes active working areas. This mitigation effectively resulted in a 55% reduction in particulate emissions in accordance with CalEEMod default assumptions.

D3A-20 This mitigation measure is not intended for reducing dust emissions of on-site or off-site unpaved areas. This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

D3A-21 This measure is not designed to reduce or control dust raised by truck wheels on unpaved surfaces. The dust suppression measure using water at least twice daily on all disturbed surfaces including unpaved roads is intended to control dust raised by truck wheels on unpaved surfaces. No further response is required.

	D3A-22 The comment is noted and this measure was not intended to control dust from those sources. As stated in response D3A-21, the dust suppression measure using water at least twice daily on all disturbed surfaces including unpaved roads is intended to control dust raised by truck wheels on unpaved surfaces. No further response is required. **D3A-23** The soil can be monitored with use of soil moisture sensors ons ite to ensure that the optimum use of water and/or soil palliatives are used. Also, according to the Fugitive Dust Control Handbook prepared by the Western Regional Air Partnership (WRAP), following the wetting of a soil or other surface material, fine particles will move to form a surface crust (Western Governors' Association 2006). The surface crust acts to hold in soil moisture and resist erosion. The degree of protection that is afforded by a soil crust to the underlying soil may be measured by the modulus of rupture (roughly a measure of the hardness of the crust) and thickness of the crust. Similarly, the WRAP document states that increasing soil moisture from 1.4% to 12% decreases PM_{10} emissions by 69% on construction and

	demolition sites. Therefore, soil moisture can be controlled on active work areas. **D3A-24** The emissions calculated in Comment 1.3 of Exhibit A are duplicative of those calculated in the Draft EIR/EIS as described in response D3A-14. Regardless, the watering included in MM-AQ-1 would reduce fugitive dust emissions from the emissions calculated in Comment 1.3 by 55% as provided in the CalEEMod defaults. **D3A-25** This comment states that other air districts have additional PM_{10} mitigation measures required for projects. The comment cites the BAAQMD 2012 CEQA Guidelines, but provides a 2017 date. The BAAQMD's 2012 CEQA Guidelines is dated May 2012. The BAAQMD's 2017 CEQA Guidelines is dated May 2017. PM10 mitigation measures recommended by the BAAQMD are provided in Table 8-2 within Section 8.1.2 "Mitigating Criteria Air Pollutant Precursors" (not within Section 8.2, Greenhouse Gases"). The BAAQMD guidelines text quoted in this response is derived from the 2017 BAAQMD guidelines (BAAQMD 2017). Section 8.2, *Greenhouse Gases*, describes construction related greenhouse gas

3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
9. Minimizing the idling time of diesel powered construction equipment to two minutes.
10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOX reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
11. Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of PM.
12. Require that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.

In addition, for all projects where construction emissions would exceed the applicable significance threshold, as here, the following additional measures are recommended by the BAAQMD:

D3A-25 Cont.

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emissions. Table 8-2 does provide basic construction mitigation measures recommended for all proposed projects, and Table 8-3 provides additional construction mitigation measures recommended for projects with construction emissions above the threshold. The comment states that the mitigation measures in Table 8-2 are required by the BAAQMD for all projects. As stated in the first paragraph of Section 8.1.2, Mitigating Criteria Air Pollutants and Precursors, which introduces Table 8-2:

> For all proposed projects, BAAQMD recommends the implementation of all Basic Construction Mitigation Measures, listed in Table 8-2, whether or not construction-related emissions exceed applicable Thresholds of Significance. Appendix B provides guidance on quantifying mitigated emission reductions using URBEMIS and RoadMod.

As stated in the BAAQMD CEQA Guidelines Section 8.1.2, the mitigation measures in Table 8-2 are recommended for all projects, not required. Similarly, below Table 8-2 is the

Table 1:
Additional Particulate Matter Mitigation Recommended by the BAAQMD

Table 8-3
Additional Construction Mitigation Measures Recommended for Projects with Construction Emissions Above the Threshold

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
9. Minimizing the idling time of diesel powered construction equipment to two minutes.
10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO_X reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
13. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

All of the above measures are feasible and must be required to mitigate significant PM10 impacts on air quality during construction. In addition, further fugitive PM10 mitigation measures, designed to protect against Valley Fever spores, should be required (Comment 2).

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D3A-25
Cont.

following text regarding use of the mitigation measures within Table 8-3. The BAAQMD guidance states the mitigation measures are recommendations for projects and are not mandatory, even if significance thresholds are exceeded:

> BAAQMD recommends that all proposed projects, where construction-related emissions would exceed the applicable Thresholds of Significance, implement the Additional Construction Mitigation Measures. Table 8-3 lists the Additional Construction Mitigation Measures. Appendix B contains more detailed guidance on emission reductions by source type (i.e., fugitive dust and exhaust) for quantification in URBEMIS and RoadMod.

It is also unclear that the mitigation measures stated in the comment are from the document actually cited, as they do not align with what is actually in the BAAQMD CEQA Guidelines. For example, the comment states that the following measures are required for all projects including: "1) All exposed surfaces

	shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture can be verified by lab samples or moisture probe." This measure is not listed within the BAAQMD CEQA Guidelines in Table 8-2 as required; it is listed as recommended in Table 8-3 for projects exceeding thresholds. The comment also included a screen-shot of the mitigation measures within Table 8-3 after they were previously typed, alluding to the fact that they are additional from what was already stated. It is acknowledged that these mitigation measures are included within the guidance to reduce emissions within the San Francisco Bay Area Air Basin, as stated in Section 1.1, Purpose of Guidelines, of the BAAQMD CEQA Guidelines. These mitigation measures and CEQA Guidance document are not applicable to projects within the jurisdiction of the SDAPCD and the San Diego Air Basin.

1.6. Windblown Dust PM10/PM2.5 Emissions Were Omitted

Windblown dust is a significant source of PM10, PM2.5, and Valley Fever spores (Comment 2). The Project will involve significant amounts of excavation, exposing soil surfaces in freshly graded areas and storage piles. The DEIR/DEIS indicates that 208.25 acres would be disturbed by the Miramar Reservoir Alternative[34] and 258.58 acres by the San Vicente Reservoir Alternative.[35] Elsewhere, the DEIR/DEIS admits that the San Vicente Reservoir Alternative "may require a substantial amount of excavation work at the site."[36] The soil exposed during excavation and until it is revegetated or otherwise covered, is a major source of fugitive PM10 and PM2.5 dust and Valley Fever spores.

The CalEEMod model that the DEIR/DEIS used to calculate construction emissions does not include "fugitive dust generated by wind over land and storage piles."[37] Thus, these emissions were not included in the DEIR/DEIS's construction emissions inventory, underestimating emissions of PM10 and PM2.5. Further, the DEIR/DEIS does not contain any of the information required to independently calculate these emissions – including the acres graded, geometry and location of storage piles, types of trucks that would be used,[38] number of on-site and off-site truck trips, wind speeds,[39] etc.

Windblown dust from disturbed soils is a particular concern at this site due to Santa Ana winds, which occur in the area.[40] These winds are strong, extremely dry, down-slope winds that originate inland and affect coastal Southern California.[41] As

D3A-26

D3A-27

[34] DEIR/DEIS, Table 6.4-2, pdf 1055.

[35] DEIR/DEIS, Table 6.4-3, pdf 1060.

[36] DEIR/DEIS, pdf 903, 927.

[37] CalEEMod User's Guide, p. 54; available at http://www.caleemod.com/.

[38] The DEIR/DEIS identifies only "off-highway trucks" (DEIR/DEIS, Table 6.6-2, 6.6-11), "haul trucks" (DEIR/DEIS, pdf 1002, 1003, 1004, 1234, 1276), "heavy trucks" (DEIR/DEIS, Table 6.12-4, 6.12-6, pdf 1410, 1418), "heavy-duty trucks" (DEIR/DEIS, pdf 152, 561, 562, 1030), "heavy-duty pickup trucks (DEIR/DEIS, pdf 562), "semi-trucks" (DEIR/DEIS, pdf 562), "large pickup trucks" (DEIR/DEIS, pdf 562), "dump truck" (DEIR/DEIS, pdf 152) and "vendor trucks" (DEIR/DEIS, pdf 1002, 1003, 1004, 1275, 1276, 1277), among others. These descriptors are not useful for evaluating impacts as truck loaded weights are required.

[39] AP-42, Section 13.2.5: Industrial Wind Erosion.

[40] DEIR/DEIS, p. 5.3-2 (pdf 342), 5.9-2 (pdf 588); Appx. B, p. 23 (pdf 35).

[41] See, for example, Gary Robbins, Powerful Santa Ana Winds Could Affect Traffic Across Much of San Diego County Friday-Saturday, *The San Diego Union-Tribune*, April 28, 2017; available at http://www.sandiegouniontribune.com/weather/sd-me-santaanas-weekend-20170427-story.html and Santa Ana Winds, Wikipedia; available at https://en.wikipedia.org/wiki/Santa_Ana_winds.

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D3A-26 The comment is acknowledged as an introduction to specific comments that follow.

D3A-27 The Draft EIR/EIS provides the acres graded, number of truck trips, and wind speed in the appendices to the Air Quality Technical Report (Appendix B to the Draft EIR/EIS). Each component of the Miramar Reservoir Alternative and San Vicente Reservoir Alternatives were modeled separately and thus have individual outputs. Each output provides that information used for that component of the project.

It is recognized that high wind events including Santa Ana winds do occur within Southern California and San Diego County. There have been 254 days of Santa Ana wind events documented from August 1, 1950, through August 31, 2017 (NOAA 2017). This historical record suggests that on average a Santa Ana wind event occurs once every 3.8 years. Although San Diego County has a history of high wind events, the infrequent occurrence would suggest that the Santa Ana winds do not occur regularly. The wind speed assumed within CalEEMod, as discussed in Chapter 2 of Appendix A of the CalEEMod Users Guide

	(CAPCOA 2017), is the default wind speed for San Diego County which is taken from data from the Gillespie Field meteorological station and includes data from 1996 through 2006 (WRCC 2017). This dataset includes hourly wind data as recorded by that station for that time period, which includes high-wind events. Therefore, the fugitive dust emissions calculated within CalEEMod account for high-wind events within its results. From historical records, Santa Ana winds can easily exceed 50 miles per hour, and during a high-wind event, earth-disturbing work would not occur. This would be a standard approach by the contractor to comply with SDAPCD Rules 55 (Fugitive Dust), 50 (Visible Emissions), and 51 (Nuisance). As stated within the Draft EIR/EIS, the Project will comply with all SDAPCD applicable rules. Specifically, the Project would be prevented from allowing emissions during a high-wind event by SDAPCD Rule 50, which states: a person shall not discharge into the atmosphere from any single source of emissions whatsoever any air

	contaminant for a period or periods aggregating more than three minutes in any period of 60 consecutive minutes which is darker in shade than that designated as Number 1 on the Ringelmann Chart. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* (*C. immitis*) fungus that commonly grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading or other earth-moving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils. The County of San Diego Health and Human Services Agency compiles Valley Fever rates per zip code. Based on County of San Diego Health and Human Services Agency information, the Project site is within an area with a low

	background risk of Valley Fever in the County. The Project area zip codes reported a total of 118 incidents of Valley Fever from 2007 through 2016 (Nelson, pers. comm. 2017). Also, the zip codes where the Project is located reported an average incident rate of 2.78 per 100,000 population compared to 4.4 per 100,000 for San Diego County (CAPCOA 2017). In addition, according to the California Department of Public Health (CDPH), an average of 115 confirmed cases of Valley Fever were reported in San Diego County each year between 2011 and 2015 (CDPH 2017). There is no evidence to suggest Valley Fever is a significant concern within the vicinity of the Project site. Even if present at the site, construction activities may not result in increased incidence of Valley Fever. Propagation of *C. immitis* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. *C. immitis* spores can be released when filaments are disturbed by earth-moving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing Valley Fever. Moreover, exposure to *C. immitis*

	does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2000). While the risk of releasing Valley Fever spores during the Project's construction phase is reasonably anticipated to be low based on the location of the Project site, it also should be noted that the applicant would comply with SDAPCD Rule 55, which establishes fugitive dust abatement measures, including watering disturbed areas on the Project site three or more times per day during the construction phase, to minimize adverse air quality impacts. Further, mitigation measure M-AQ-1 requires that the applicant apply a dust control agent or water disturbed areas on the Project site at least twice daily, stabilize grading areas as quickly as possible, and comply with numerous additional fugitive dust abatement measures. Per mitigation measure MM-HAZ-4 in Section 6.9.5 of the Draft EIR/EIS, all applicable procedures outlined in the City of San Diego's "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances, will be followed (City of San Diego 2015b). The Whitebook

	requires all City projects to incorporate, among other things, control methods to prevent fugitive dust, mist, odors, and vapors. This includes "pumping out non-aqueous phase liquids (NAPL), covering off-gassing excavations or stockpiles, backfilling off-gassing excavations, using off-gassing stockpiles as backfill, misting excavations or stockpiles with water, covering excavations or stockpiles with foam or other vapor suppressing agents, locating stockpiles away from and downwind of public receptors, and stopping Work" (City of San Diego 2015b). These requirements are consistent with CDPH recommendations for the implementation of dust control measures, including regular application of water during soil-disturbance activities, to reduce exposure to Valley Fever – the watering minimizes the potential that the fungal spores become airborne (CDPH 2013). Further, regulations designed to minimize exposure to Valley Fever hazards are included in Title 8 of the California Code of Regulations and would be complied with during the Project's construction phase (California Department of Industrial Relations 2018).

these winds are particularly strong, reaching 30 to 50 mph, they can raise significant amounts of dust, even when conventional tracking and other such controls are used, often prompting alerts from air pollution control districts.[42] The DEIR/DEIS assumed a wind speed of 5.8 mi/hr (2.6 m/s).[43] If Santa Ana winds occurred during grading, cut and fill, or soil movement; or from bare graded soil surfaces, even if periodically wetted, significant amounts of PM10, PM2.5, and associated Valley Fever spores would be released. These emissions could result in public health impacts from Valley Fever spores and/or violations of PM10 and PM2.5 CAAQS and NAAQS. These potential impacts were not evaluated in the DEIR/DEIS. Thus, the DEIR/DEIS fails as an informational document under CEQA.

D3A-27 Cont.

Wind erosion emissions are typically calculated using methods in AP-42,[44] which require detailed information on site topography, wind profiles, and dispersion modeling. This information is not cited or included in the DEIR/DEIS. Generally, wind erosion impacts are estimated using AERMOD. The DEIR/DEIS does not include any calculations of wind erosion emissions or ambient air quality impacts, but rather tacitly assumes that compliance with conventional construction mitigation measures and regulations constitutes adequate wind erosion control,[45] without any analysis at all or without acknowledging the added emissions during Santa Ana winds that were not included in the Project emissions.

D3A-28

D3A-29

The maximum daily mitigated PM10 emissions reported for the Miramar Reservoir Alternative are 70.03 lb/day, compared to the significance threshold of 100 lb/day.[46] The maximum daily mitigated PM2.5 emissions are 36.13 lb/day, compared to the significance threshold of 67 lb/day.[47] These emissions are underestimated because they do not include windblown dust (or emissions from off-road travel). A

D3A-30

[42] SCAQMD Issues Dust and Ash Advisory Due to Strong Winds in the Southland; available at https://lasentinel.net/scaqmd-issues-dust-and-ash-advisory-due-to-strong-winds-in-the-southland.html.

[43] DEIR/DEIS, Appx. A to Appx. B and Appx. B to Appx. B, pdf 3, 31, 54, 77, 106, 130, 154, 185, 211, 237, 260, 278, 296, 327, 353, 379, 412, 441, etc. This wind velocity is used to calculate truck loading and demolition emissions, not windblown dust from graded areas and storage piles. CAPCOA, California Emissions Estimator Model, User's Guide, Appx. A (Sept. 2016) pp. 13-14, *available at* http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/02_appendix-a2016-3-1.pdf?sfvrsn=2.

[44] U.S. EPA, AP-42, Section 13.2.5 Industrial Wind Erosion; available at https://www3.epa.gov/ttnchie1/ap42/ch13/final/c13s0205.pdf.

[45] DEIR/DEIS, pdf 1376 (BMPs), 1378 (dust control to prevent wind erosion).

[46] DEIR/DEIS, Appx. B, Table 7.2-20, p. 72.

[47] DEIR/DEIS, Appx. B, Table 7.2-29, p. 83 (pdf 95).

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In summary, the Project would not result in a significant impact attributable to Valley Fever exposure based on its geographic location and compliance with applicable regulatory standards and mitigation measure M-AQ-1, which will serve to minimize the release of and exposure to fungal spores.

D3A-28 The comment is noted that it provides factual background information and does not raise an environmental issue within the meaning of CEQA. The comment will be included in the administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

D3A-29 The section of AP-42 cited by the commenter focuses on "wind erosion of open aggregate storage piles and exposed areas within an industrial facility." Thus, this section is not relevant for a construction site. Furthermore, as the comment notes, calculation of these emissions requires detailed information that is not generally available at the CEQA stage.

The City considers the analysis in the Draft EIR/EIS, which utilizes CalEEMod methodology,

	sufficient for the purposes of CEQA. CalEEMod considers fugitive dust associated with the site preparation and grading phases from three major activities: haul road grading, earth bulldozing, and truck loading (CalEEMod User's Guide page 32 and Appendix A, Subchapter 4.3). Notably, CalEEMod's methods have been adapted from the U.S. Environmental Protection Agency's (EPA's) AP-42 method for Western Coal Mining, and thus account for fugitive dust consistent with AP-42 methods. As Section 15151 of the CEQA Guidelines states, "An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible." The City considers the evaluation of fugitive dust emissions using CalEEMod's analytical method appropriate and adequate. **D3A-30** As noted in Response to Comment D3A-27, the Santa Ana wind events were included in the CalEEMod dataset used to calculate

Santa Ana wind event could easily significantly increase total PM10 and PM2.5 emissions, which increase with increasing wind velocity. Including the omitted windblown dust emissions could increase PM10 and PM2.5 emissions over these significance thresholds, resulting in significant unmitigated impacts that require all feasible mitigation.

D3A-30 Cont.

1.7. Health Effects of Construction Were Not Evaluated

Construction uses diesel-fueled, off-road equipment such as heavy-duty trucks, cranes, bulldozers, excavators, and graders. This equipment emits large amounts of diesel particulate matter or DPM, which is a potent carcinogen. This equipment also emits other hazardous air pollutants (HAPs)—including benzene, aldehydes, dioxins, and polynuclear aromatic hydrocarbons—which result in cancer and acute and chronic health impacts. Health impacts are a significant concern for this Project because sensitive receptors are very close to construction sites.

Construction is well known to result in significant health impacts in surrounding communities. In a study of construction health impacts in California,[48] the San Diego Air Basin ranked fourth in California for construction health impacts, which included the following[49]:

D3A-31

- nearly 90 premature deaths
- more than 80 hospitalizations for respiratory and cardiovascular disease
- more than 170 cases of acute bronchitis
- more than 2,000 incidences of asthma attack and other lower respiratory symptoms
- 38,500 days of lost work and school absences
- more than 100,000 days of restricted activity

Figure 1[50] and Figure 2[51] show that the greatest health risks occur in almost all the areas in which the Project will be built.

[48] Don Anair, Union of Concerned Scientists, Digging Up Trouble. The Health Risks of Construction in California, 2006; available at http://www.ucsusa.org/sites/default/files/legacy/assets/documents/clean_vehicles/digging-up-trouble.pdf.

[49] Id., p. 16 and Table 8.

[50] Id., Figure 4.

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fugitive dust emissions. No further response is required.

D3A-31 In order to determine potential health risk associated with construction of Project facilities, sensitive receptors were identified in proximity to each of the sites identified in the Draft EIR/EIS. These sensitive receptors were shown in Figures 5.3-1A through 5.3-1D within the Draft EIR/EIS. The Mission Trails Booster Station (MTBS) is the only facility site with sensitive receptors within 1,000 feet of the facility construction area that has a construction duration longer than 2 months. As such, this facility was used as the worst-case exposure scenario, with the understanding that if construction health risk was below applicable thresholds for this facility, then health risk would be less-than-significant for the other facilities. Notably, a 1,000-foot radial distance is considered the distance in which pollutant concentrations are greatest, and serves as a general "notification" distance from receptors. For example, research conducted by the California Air Resources Board (CARB) indicated an 80% drop-off in pollutant concentrations at approximately 1,000 feet

Figure 1: Construction Pollution Risk in the San Diego Air Basin

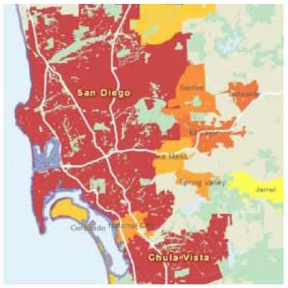
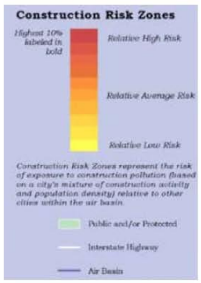


Figure 2: Health Risks Due to Construction TAC Emissions in the San Diego Air Basin



The DEIR/DEIS states that the Project would have a significant environmental impact if it would "[r]esult in air emissions that would substantially deteriorate ambient

[51] Id., Figure 4.

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D3A-31 Cont.

from major sources (CARB 2005). Therefore, a 1,000-foot distance is often used in analyzing impacts to receptors from distribution centers, freeways, rail yards, stationary sources, and other pollutant sources.

Construction of the MTBS would result in diesel particulate matter (DPM) emissions from heavy-duty construction equipment and trucks operating within the facility construction area. DPM is characterized as a toxic air contaminant (TAC) by CARB. The State of California Office of Environmental Health Hazard Assessment (OEHHA) has identified carcinogenic and chronic noncarcinogenic effects from long-term (chronic) exposure, but it has not identified health effects due to short-term (acute) exposure to DPM (OEHHA 2015). The nearest existing off-site sensitive receptors from the MTBS site consist of residences located adjacent to the eastern boundary of the Project site.

Cancer risk is defined as the increase in lifetime probability (chance) of an individual developing cancer due to exposure to a carcinogenic compound, typically expressed as

	the increased probability in 1 million. The cancer risk from inhalation of a TAC is estimated by calculating the inhalation dose in units of milligrams/kilogram body weight per day based on an ambient concentration in units of micrograms per cubic meter ($\mu g/m^3$), breathing rate, age-specific sensitivity factors, and exposure period, and multiplying the dose by the inhalation cancer potency factor, expressed as units of inverse dose [i.e., $(\text{milligrams/kilogram body weight per day})^{-1}$]. Typically, population-wide cancer risks are based on a lifetime (70 years) of continuous exposure and an individual resident cancer risk is based on a 30-year exposure duration; however, for the purposes of this analysis, a 3-year exposure scenario corresponding to the construction period for MTBS was assumed. Cancer risks are typically calculated for all carcinogenic TACs and summed to calculate the overall increase in cancer risk to an individual. The calculation procedure assumes that cancer risk is proportional to concentrations at any level of exposure and that risks from various TACs are additive. This is considered a conservative assumption at low doses and is consistent with

	the updated OEHHA-recommended approach (OEHHA 2015). Noncancer health impact of an inhaled TAC is measured by the hazard quotient, which is the ratio of the ambient concentration of a TAC in units of $\mu g/m^3$ divided by the reference exposure level (REL), also in units of $\mu g/m^3$. The inhalation REL is the concentration at or below which no adverse health effects are anticipated. The REL is typically based on health effects to a particular target organ system, such as the respiratory system, liver, or central nervous system. Hazard quotients are then summed for each target organ system to obtain a hazard index. To estimate the ambient DPM concentrations resulting from construction activities at nearby sensitive receptors, a dispersion modeling analysis was performed using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) dispersion model, Version 16216r, in conjunction with the Hotspots Analysis and Reporting Program Version 2 (HARP 2). CARB developed HARP 2 as a tool to implement the

	risk assessments and incorporates all the requirements provided by OEHHA as outlined in the Air Toxics Hot Spot Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015). The DPM emissions from diesel-powered construction equipment and on-site diesel-powered trucks that would be used during construction are based on the CalEEMod model output for the MTBS construction, as provided in Appendix B. Annual emissions of construction-related exhaust PM_{10}, as a surrogate for DPM, were calculated and then converted to grams per second for use in the AERMOD model. Additional construction details were available at the time this Health Risk Assessment (HRA) was performed, and it was determined that construction equipment would be operating 4 hours per day, Monday through Friday, as opposed to 8 hours per day in the Draft EIR/EIS (Brown and Caldwell 2018). This HRA also assumed that heavy-duty diesel vehicles would have a trip length of 0.25 mile to represent on-site emissions. An unmitigated emission rate of

	3.91 x 10^{-3} grams per second was calculated as follows: 0.0484 total tons exhaust PM_{10} = 96.8 total pounds (lbs) DPM during construction 96.8 lbs × 453.6 g/lb ÷ (4 hrs/day × 780 working days) ÷ 3600 seconds/hour = 3.91 x 10^{-3} g/second An area source representing the site area was used to represent the emissions released by the construction equipment, as equipment will move freely around the site. A release height of 5 meters was provided to represent the midrange of the expected plume rise from frequently used construction equipment during daytime atmospheric conditions. These parameters reflect those utilized in the South Coast Air Quality Management District's Localized Significance Thresholds (LST) Methodology (SCAQMD 2008). In addition, the SDAPCD recommends the use of the rural dispersion coefficient as the modeling default, based on the close proximity to the coastline (SDAPCD 2015).

	The three latest years of AERMOD-ready meteorological data from 2014 through 2016 for the Kearny Mesa Monitoring Station were provided by the SDAPCD for use in AERMOD. The SDAPCD processed the data using EPA's AERMET meteorological data processor. The cancer risk calculations were performed using the HARP 2 Air Dispersion Modeling and Risk Tool by importing the predicted annual DPM concentrations from AERMOD for the sensitive receptors, including the Maximally Exposed Individual Resident (MEIR). Cancer risk parameters, such as age sensitivity factors, daily breathing rates, and cancer potency factors were based on the values and data recommended by OEHHA (2015) as implemented in HARP 2. The potential exposure pathway for DPM includes inhalation only. The potential exposure through other pathways (e.g., ingestion) requires substance and site-specific data, and the specific parameters for DPM are not known for these pathways. For the purposes of this construction HRA, given the less-than-lifetime exposure period, and the higher breathing rates and sensitivity

of children to TACs, the cancer risk calculation assumes that the exposure would affect children early in their lives. For the derived cancer risk calculation under the worst-case scenario, the 3-year exposure duration was assumed to start during the third trimester of pregnancy. Additionally, as a conservative assumption, a "fraction at home" (FAH) factor was not applied for age bins less than 16, whereas OEHHA recommends a 0.85 FAH for third trimester through 3 years old for evaluating residential cancer risk.

In addition to the potential cancer risk, DPM has chronic (i.e., long-term) noncarcinogenic health impacts. The chronic hazard index was evaluated using the OEHHA inhalation RELs. The chronic noncarcinogenic inhalation hazard index for construction activities was also calculated using the HARP 2 Air Dispersion Modeling and Risk Tool.

DPM Concentrations, Cancer Risk, and Chronic Hazard

The results of the AERMOD and HARP 2

air quality, including exposure of sensitive receptors to substantial pollutant concentrations ..."[52]

The DEIR/DEIS did not evaluate the health impacts of emissions from construction of the Project. Instead, it dismissed public health risks of construction without performing any analyses at all, arguing that "[c]onstruction of Project components would occur in three phases of 2-3 years each and would be periodic and short term within each phase."[53] However, the OEHHA risk assessment guidance recommends cancer risks be evaluated for short-term exposures, such as construction, as follows:[54]

> Due to the uncertainty in assessing cancer risk from very short-term exposures, we do not recommend assessing cancer risk for projects lasting less than two months at the MEIR. We recommend that exposure from projects longer than 2 months but less than 6 months be assumed to last 6 months (e.g., a 2-month project would be evaluated as if it lasted 6 months). Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester to allow for the use of the ASFs (OEHHA, 2009). Thus, for example, if the District is evaluating a proposed 5-year mitigation project at a hazardous waste site, the cancer risks for the residents would be calculated based on exposures starting in the third trimester through the first five years of life.

Further, acute impacts are based on a 1-hour exposure. Thus, the failure to evaluate health risks of Project construction has no basis in science.

Elsewhere, the DEIR/DEIS asserts that "[c]onstruction of the Project components would not require the extensive use of heavy-duty construction equipment..."[55] "Extensive" is not defined, but the inputs to the CalEEMod model in Appendices A and B to Appendix B and construction scenario assumptions[56] indicate that a large amount of heavy-duty construction equipment would in fact be used. For example, grading/trenching of the Morena Pump Station would require 2 each of

D3A-31 Cont.

D3A-32

D3A-33

[52] DEIR/DEIS, pdf 993.

[53] DEIR/DEIS, pdf 1031.

[54] Office of Environmental Health Hazard Assessment (OEHHA), Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments, February 2015, p. 8-18; available at: https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0#downloads.

[55] DEIR/DEIS, pdf 1031.

[56] DEIR/DEIS, Appx. B, Tables 7.2-1/12.

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modeling are provided in Appendix B. The modeled maximum annual concentration at the MEIR would be 0.021 µg/m^3. The associated cancer risk for the child MEIR (exposure starting in third trimester) would be approximately 7.95 in 1 million, which would not exceed the County significance threshold of 10 in 1 million for cancer impacts. The associated chronic hazard index for the child MEIR would be approximately 0.004, which would not exceed the County significance threshold of 1.0 for noncarcinogenic health impacts. Since emissions of DPM generated by construction at the MTBS facility would result in cancer and noncarcinogenic risk below the applicable thresholds, the impact would be less than significant. In addition, as noted in the "Analysis Methodology" section above, since the MTBS site was used as the worst-case exposure scenario, the health risk impacts associated with construction of facilities at the other sites for the Project would also be less than significant.

D3A-32 This comment cites that the OEHHA risk assessment guidance recommends cancer risks be evaluated for short-term exposures,

such as construction. What the commenter does not include from the OEHHA guidance section is the following (OEHHA 2015):

> Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime. There are some studies indicating that dose rate changes the potency of a given dose of a carcinogenic chemical. In others words, a dose delivered over a short time period may have a different potency than the same dose delivered over a lifetime.

As stated in Response to Comment D3A-31, the Project would not involve construction of pipelines near sensitive receptors for more than a few days and as recommended by the OEHHA guidance (OEHHA 2015), it is not recommended to perform a HRA for projects lasting less than 2 months. For the Project

		components that are being constructed in one location for more than 2 months, all are in excess of 1,000 feet from sensitive receptors except the MTBS. Notably, a 1,000-foot radial distance is considered the distance in which pollutant concentrations are greatest, and serves as a general "notification" distance from receptors. For example, research conducted by CARB indicated an 80% drop-off in pollutant concentrations at approximately 1,000 feet from major sources (CARB 2005). Therefore, a 1,000-foot distance is often used in analyzing impacts to receptors from distribution centers, freeways, rail yards, stationary sources, and other pollutant sources. However, as shown in Response to Comment D3A-31, the Project would not exceed SDAPCD health risk significance thresholds during construction of the MTBS.
	D3A-33	"Extensive" was used within the context of the Draft EIR/EIS to refer to a high-density use with a long duration of equipment. It is noted that the comment states that smaller projects have resulted in significant impacts. The comment will be included in the administrative record for the Project as part of the Final EIR/EIS for

dumpers/tenders, excavators, and plate compactors for 90 days.[57] This purely speculative discussion is not acceptable under CEQA. In fact, projects much smaller in scope than this one often result in significant impacts from construction diesel exhaust when there are nearby sensitive receptors, as here.

D3A-33 Cont.

The DEIR/DEIS air quality section obscures the fact that there are nearby sensitive receptors by asserting that sensitive receptors are "within 1000 feet" of construction.[58] This figure is not only not supported but is misleading. "Within 1,000 feet" could encompass much nearer locations, as close as 5 to 10 feet. Instead, one must dig through thousands of pages of documents to discover figures that locate noise sensitive receptors in Appendix H.[59] Noise sensitive receptors are the same as public health sensitive receptors. The noise sensitive receptor figures show that there are residences, recreational facilities, and public institutions that abut the construction area in virtually all disturbed areas. Elsewhere, the DEIR/DEIS identifies sensitive receptors at 20 feet from the pump station,[60] 50 feet from the alignment of the North City Pipeline, and 150 feet from the alignment of the Morena Pipeline, Morena Wastewater Forcemain, and Brine/Centrate Line.[61] "Typical source-receiver" distances at these locations range from 65 to 70 feet.[62] While all of these locations are "within 1,000 feet," they are close enough to experience significant health impacts as well as odor impacts (Comment 1.8) from nearby construction equipment diesel exhaust emissions. Further, all of the North City Pipeline and slightly more than half of the Morena Pipeline work is anticipated to take place during nighttime hours,[63] when more people are home (i.e., children will not be in school and are uniquely sensitive) and will be exposed.

D3A-34

D3A-35

D3A-36

D3-46

Further, the DEIR/DEIS fails to recognize that the substantial diesel engine exhaust emissions typically associated with construction equipment, particularly heavy-duty diesel-powered equipment, would occur concurrently with and subsequent to countless other construction projects elsewhere in the County and in the adjacent South Coast Air Basin. In other words, the DEIR/DEIS failed to evaluate cumulative health impacts of construction, which according to Figure 2, are likely significant.

D3A-37

[57] DEIR/DEIS, Appx. B, Table 7.2-4.

[58] DEIR/DEIS, pdf 343, 837.

[59] DEIR/DEIS, Appx. H, Figures 5A-5D.

[60] DEIR/DEIS, pdf 1416.

[61] DEIR/DEIS, pdf 1408, 1416. See also Appx. H, Table 30.

[62] DEIR/DEIS, Appx. H, Table 30, p. 79.

[63] DEIR/DEIS, pdf 1408.

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review. No further response is required because the comment does not raise an environmental issue.

D3A-34 This is a very extensive project with pipelines going for miles with various Project components and multiple Project alternatives. In order to best show the proximity to which the Project pipelines and various components would be in relation to existing sensitive receptors, Figures 5.3-1A through 5.3-1D were included in the Draft EIR/EIS. The commenter's assertion that the figures were buried in an appendix are false.

D3A-35 The comment is acknowledged, but as shown in Response to Comment D3A-31, the health risk was shown to be less than significant to sensitive receptors.

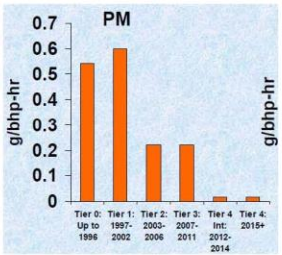
D3A-36 As stated in Response to Comment D3A-31, the Project would not construct pipelines near sensitive receptors for more than a few days, and as recommended by the OEHHA guidance (OEHHA 2015), it is not recommended to perform a HRA for projects lasting less than 2 months. Therefore, the risk to sensitive

	receptors during nighttime work hours would be less than significant.
	D3A-37 Chapter 7 of the Draft EIR/EIS addresses cumulative impacts. Table 7-2 indicates that the Miramar Reservoir Alternative did not have cumulatively considerable impacts and the San Vicente Reservoir Alternative did have cumulatively considerable impacts. The comment did not make any specific comments on the adequacy of this analysis. No further response is required.

The DEIR/DEIS has failed to provide the most basic information required to evaluate the impact of Project construction on the health of nearby sensitive receptors. Thus, the DEIR/DEIS fails as an informational document.

In fact, heavy-duty diesel-powered construction equipment and trucks would release considerable amounts of diesel exhaust, especially if equipped with Tier 3 engines (Figure 3), which is all that is required by MM-AQ-2:

Figure 3: Comparison of DPM (PM) Emissions in Tier 0 to Tier 4 Engines[64]



Diesel exhaust contains nearly 40 toxic substances. In 1998, the California Air Resources Board ("CARB") formally identified the particulate fraction of diesel exhaust as a toxic air contaminant and concluded that exposure to diesel exhaust particulate matter causes cancer and acute respiratory effects.[65] The EPA followed suit in 2002 and classified diesel exhaust as a probable human carcinogen. Diesel exhaust is estimated to contribute to more than 70 percent of the added cancer risk from air toxics in the United States.[66]

Because the DEIR/DEIS concludes without any support that diesel particulate emissions from construction equipment would be less than significant, it fails to require

[64] CARB, In-Use Off-Road Diesel Vehicle Regulation; available at https://www.arb.ca.gov/msprog/ordiesel/documents/ordfall08presentation.pdf.

[65] California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998.

[66] Environmental Defense Fund, Cleaner Diesel Handbook, Bring Cleaner Fuel and Diesel Retrofits into Your Neighborhood, April 2005; http://www.edf.org/sites/default/files/4941_cleanerdieselhandbook.pdf.

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D3A-38

D3A-39

D3A-38 The comment is acknowledged as an introduction to specific comments that follow.

D3A-39 The commenter confuses constituents within diesel exhaust and diesel exhaust throughout this comment. The amount of diesel exhaust is not determined by the engine tier. The constituents within the diesel exhaust (including DPM) are determined by the engine tier. The commenter fails to distinguish the difference between the two. Further, the analysis determined that particulate matter emissions were less than significant with MM-AQ-1 and MM-AQ-2 in place for the Miramar Reservoir Alternative. This significance was based on the thresholds established by the City of San Diego (City of San Diego 2016).

As stated in Response to Comment D3A-31, the Project would not construct pipelines near sensitive receptors for more than a few days and as recommended by the OEHHA guidance (OEHHA 2015), it is not recommended to perform a HRA for projects lasting less than 2 months. It was also shown in Response to Comment D3A-31 that the health risk for the most conservative Project component was less than significant.

any mitigation measures to address these emissions. Mitigation measure MM-AQ-2 and the CalEEMod emission calculations only require the use of Tier 3 engines, which emit significant amounts of diesel exhaust (Figure 3).

The DEIR/DEIS should be revised to specifically identify all nearby sensitive receptors and quantify health risks at each due to construction equipment exhaust, both due to the Project as well as on a cumulative basis, and require all feasible mitigation. Because, as discussed above, construction emissions result in cumulatively and regionally significant public health impacts (Figures 1 and 2), the Project should be required to employ a construction vehicle fleet that includes all Tier 4 equipment, or to otherwise reduce emissions of carcinogenic diesel exhaust to the extent feasible. If Tier 4 equipment is not available, diesel particulate traps should be used to control DPM.

1.8. Odor Impacts of Construction Were Not Evaluated and Are Significant

The DEIR/DEIS's odor analysis consists of the following terse paragraph:

> Project construction and operations would include diesel exhaust sources, such as off-road construction equipment and generators and train locomotives that could result in the creation of objectionable odors. However, these emissions would be temporary and/or intermittent in nature and the closest sensitive receptors to the Project site are residences that would be at distances of over 2,000 feet, thus odor impacts associated with diesel combustion during Project construction activities and operations would be less than significant. This impact would be less than significant.[67]

This "analysis" is entirely inadequate, and the DEIR/DEIS's conclusion regarding the significance of odor impacts is completely unsupported as well as incorrect.

The odors and accompanying eye and nose irritation associated with diesel exhaust – smoky, burnt, oily, kerosene-- have been documented for decades.[68] A 1970

[67] Draft EIR, p. 4.1-26.

[68] Arthur D. Little, Inc., Chemical Identification of the Odor Components in Diesel Engine Exhaust, June 1971; available at: https://nepis.epa.gov/Exe/ZyNET.exe/9101G0ZG.TXT?ZyActionD=ZyDocument&Client=EPA&Index=Prior+to+1976&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C70thru75%5CTxt%5C00000021%5C9101G0ZG.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=h

D3A-39 Cont.

D3A-40

D3A-41

D3A-42

D3A-40 As discussed in Response to Comment D3A-31 and D3A-37, the cumulative impacts of the Project were presented in Chapter 7 of the Draft EIR/EIS. Further, the Project was determined to have a less than significant impact with mitigation (MM-AQ-2) for the Miramar Reservoir Alternative and a significant and unavoidable impact for the San Vicente Reservoir Alternative. Since the Miramar Reservoir Alternative was less than significant with MM-AQ-2, it is not necessary to employ Tier 4 equipment.

D3A-41 This comment states that the Draft EIR/EIS's odor analysis is entirely inadequate and unsupported. The text that the commenter quotes is footnoted as from Draft EIR/EIS, p. 4.1-26. There is no such page within the Draft EIR/EIS. Chapter 4 is the History of Project Changes and mentions no such text as cited by the commenter. The comment will be included in the administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

	D3A-42 As discussed in Sections 5.3.3.2 and 6.3.6.1 of the Draft EIR/EIS, odors would be generated during construction mainly from unburned hydrocarbons. The odors anticipated from the Project were evaluated in accordance with the CEQA Guidelines and the City of San Diego CEQA Guidelines (City of San Diego 2016). The City's Guidelines state to evaluate whether creating objectionable odors would affect a substantial number of people. As discussed in Response to Comment D3A-31, the Project equipment would not be located close to sensitive receptors for more than a few days as pipelines are constructed. A significant impact is said to be where there has been more than one confirmed or three confirmed complaints per year (averaged over a 3-week period) about the odor source. The commenter also cites EPA documents from the 1970s and a 2002 EPA document that summarized findings from a study in 1967, 1971, and 1962 (EPA 2002). While the findings that odors from diesel exhaust may warrant concern, diesel fuel has undergone substantial changes since the 1970s and even since the EPA paper was published in 2002. Since 2002

	alone, CARB has required diesel fuel to meet a lubricity requirement of a maximum wear scar diameter of 520 microns by ASTM D6079, the High Frequency Reciprocating Rig and limit sulfur in diesel to 15 parts per million (TransportPolicy 2017). The major component within diesel exhaust that is odorous is the sulfur dioxide (U.S. Department of Labor n.d.). The emissions of sulfur dioxide have been reduced significantly over the last 15 years with the reduction in sulfur composition in diesel fuel. For the project, emissions of oxides of sulfur (SO_x) are shown in Draft EIR/EIS Tables 6.3-8 and 6.3-9 for construction. The maximum SO_x emissions for the Project were shown to be less than 0.2% of the City's significance threshold. Per mitigation measure MM-HAZ-4 in Section 6.9.5 of the Draft EIR/EIS, all applicable procedures outlined in the City of San Diego's "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances will be followed (City of San Diego 2015b). The Whitebook requires all City projects to incorporate, among other things, control methods to prevent fugitive dust, mist,

	odors, and vapors. This includes "pumping out non-aqueous phase liquids (NAPL), covering off-gassing excavations or stockpiles, backfilling off-gassing excavations, using off-gassing stockpiles as backfill, misting excavations or stockpiles with water, covering excavations or stockpiles with foam or other vapor suppressing agents, locating stockpiles away from and downwind of public receptors, and stopping Work" (City of San Diego 2015b). The cited 88 truck trips per day (44 trucks) would occur over an 8-hour shift, or an average of 6 trucks per hour. The haul trucks are subject to CARB anti-idling policy, which limits diesel vehicles from idling for more than 5 minutes at a time (CARB 2016). This policy is also in place for all off-road engines or equipment CARB 2009). The comment further states that clouds of soot from diesel-powered equipment can travel downwind for miles and drift into heavily populated areas. The reference provided by the commenter has no link or title provided and is just listed as Union of Concerned Scientists (Exhibit 11) and was not provided in the reference package. Since there is no reference and no Exhibit 11

EPA report noted that "[exhaust gases emitted by diesel engines are characterized by offensive odors, which can be rated by human judges." Elsewhere, the EPA noted that "[o]dor is undoubtedly the prime sensory attribute of diesel exhaust under the typical circumstances of human exposure."[69]

First, the DEIR/DEIS's dismissal of potential odor impacts of diesel exhaust emissions due to their "temporary" or "intermittent" nature is not acceptable. The odor of diesel exhaust is considered by most people to be objectionable. The EPA found that, at high intensities, diesel exhaust may produce sufficient physiological and psychological effects to warrant concern for public health.[70] A fleet of heavy-duty, diesel-fueled construction equipment serviced by up to 88 truck trips per day[71], located as close as 10 feet from homes during sensitive nighttime hours, would certainly result in a significant odor impact. Further, clouds of soot from diesel-powered equipment when working and idling at the Project site can travel downwind for miles and drift into heavily populated areas.[72]

The DEIR/DEIS claims there is no method to evaluate odor impacts. However, this is not true. The analysis of odor is no different than the analysis of air quality impacts. One identifies the odiferous compounds that would be present, in this case diesel exhaust, represented by PM10 or another surrogate, such as aldehydes[73], estimates their emission rates, and uses AERMOD or other dispersion models to

D3A-42 Cont.

D3A-43

pfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL.

[69] Amos Turk and others, Sensory Evaluation of Diesel Exhaust Odors, U.S. Department of Health, Education, and Welfare Report; available at: https://nepis.epa.gov/Exe/ZyNET.exe/9100HIM4.TXT?ZyActionD=ZyDocument&Client=EPA&Index=Prior+to+1976&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C70thru75%5CTxt%5C00000012%5C9100HIM4.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL#.

[70] EPA, Health Assessment Document for Diesel Engine Exhaust, EPA/600/8-90/057F, May 2002; http://www.epa.gov/ttn/atw/dieselfinal.pdf. (Exhibit 49)

[71] DEIR/DEIS, Table 6.16-4, pdf 1491.

[72] Union of Concerned Scientists, *op. cit.* (Exhibit 11)

[73] M. M. Roy and N. N. Mustafi, Investigation of Odorous Components in the Exhaust of DI Diesel Engines, International Conference o Mechanical Engineering, December 26-28, 2001, pp. II 31-36; available at: me.buet.ac.bd/icme/icme2001/cdfiles/Papers/Environment/6_Final_en01(31-36).pdf.

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included in the comment letter, there is no further response required.

D3A-43 It is acknowledged that this is one way to perform a detailed odor analysis. This kind of analysis is warranted on significant sources of odor that would affect substantial amounts of people as stated in the City's CEQA Guidelines. The Project would not affect substantial amounts of people during construction. The comment further references a citation for published significance thresholds, which was a study on a composting facility that is not relevant to this Project (Alpert and Wu 2010).

estimate ambient concentrations of the odiferous compounds at the location of sensitive receptors. The modeled ambient concentrations are then compared to published odor thresholds[74]. The DEIR/DEIS does not contain any analysis at all. Design criteria, for example, have been developed for diesel-fueled equipment based on the 1:2000 odor dilution threshold, including for a 400-hp diesel truck, a 250-kW diesel generator, and a 2,000-kW diesel generator. The resulting design criteria are 5,293 ug/m^3/g/s; 492 ug/m^3/g/s; and 66 ug/m^3/g/s, respectively, for this equipment.[75]

D3A-43 Cont.

Second, the odor discussion is inconsistent with the City of San Diego's CEQA Significance Determination Thresholds.[76] These guidelines indicate that a "…detailed odor analysis may be required to fully evaluate and determine significance of the potential impacts if the proposed project would result in objectionable odor to nearby sensitive receptors."[77] As demonstrated elsewhere in these comments, there are many nearby sensitive receptors located within 10 to 70 feet from active construction areas. Based on my personal experience at construction sites, this is close enough to smell noxious diesel exhaust fumes. The San Diego guidelines set out odor thresholds that can be used to estimate odor impacts, noting they can be supplemented with other sources.[78] Elsewhere, the San Diego Guidance notes that San Diego Municipal Code addresses odor impacts at Chapter 14, Article 2, Division 7, paragraph 142.0710 as follows:

D3A-44

> Air contaminants including smoke, charred paper, dust, soot, grime, carbon, noxious acids, toxic fumes, gases, odors, and particulate matter, or any emissions that endanger human health, cause damage to vegetation or property, or cause soiling shall not be permitted to emanate beyond the boundaries of the premises upon which the use emitting the contaminants is located.

The DEIR/DEIS made no attempt to address these requirements.

[74] See, for example, J. E. Alpert and N. T. Wu, Odor Modeling as a Tool in Site Planning, BioCycle Magazine, 2012; available at: www.compostingcouncil.org/wp/wp-content/uploads/2014/02/9-OdorModeling.pdf.

[75] U.S. EPA, Modeling Exhaust Dispersion for Specifying Acceptable Exhaust/Intake Designs, Table 1; available at: https://www.nrel.gov/docs/fy11osti/52017.pdf

[76] City of San Diego, California Environmental Quality Act Significance Determination Thresholds, July 2016 (San Diego 2016).

[77] San Diego 2016, p. 16.

[78] San Diego 2016, Table A-4 and p. 17.

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D3A-44 As provided in the City's Guidelines and omitted by the commenter (City of San Diego 2016):

> For a project proposing placement of sensitive receptors near an existing odor source, a significant odor impact will be identified if the project site is closer to the odor source than any existing sensitive receptor where there has been more than one confirmed or three confirmed complaints per year (averaged over a three week period) about the odor source. For projects proposing placement of sensitive receptors near a source of odors where there is currently no nearby existing receptors, the determination of significance should be based on the distance and frequency at which odor complaints from the public have occurred in the vicinity of a similar odor source at another location.

The City's Guidelines are clearly designed for evaluating the odor impacts of long-term operation of a facility as that will have the largest potential for affecting a substantial

	number of people. Although the guidelines do not reference short-term or construction projects within its evaluation of odor, the Draft EIR/EIS does recognize that construction of the Project would have a short-term temporary potential impact. Similar to the City, the County of San Diego provides guidance within its Guidelines for Determining Significance (County of San Diego 2007), which states: > Projects proposing activities that create a point source of odor emissions such as sewage lift stations, restaurants, equestrian centers, etc. may be conditioned to require project design measures, equipment design measures, BMPs [best management practices], and/or off-site disposal of animal waste. The County also directs its evaluation of odor impacts towards long-term operation of potential projects and not construction. Not only were the potential odor issues addressed within Section 6.3.6.1 of the Draft EIR/EIS, mitigation measure MM-AQ-3 was put in place to reduce potential odors from

	operation of the various Project components. The mitigation actively reduces and manages any potential odors from the long-term operation of the Project. Therefore, the City's Guidelines were sufficiently followed within the Draft EIR/EIS.

Third, mitigation is available and should be required for all construction within at least 1,000 feet of sensitive receptors. Construction equipment that operates near sensitive receptors, for example, can be equipped with diesel oxidation catalyst, which eliminate odors.[79]

The DEIR for the Phillips 66 Santa Maria Rail Terminal in San Louis Obispo County, for example, provided a quantitative odor analysis estimating that fugitive crude oil vapor emissions from equipment leaks could produce H_2S levels at the property line of up to 1.7 parts per billion ("ppb") and less than 1 ppb at residences. Based on an H_2S odor limit of 2 ppb with a significant impact being assigned to levels that could exceed the 50 percent odor threshold at 1 ppb, the Santa Maria Rail Terminal Draft EIR found that fugitive emissions could cause odor impacts offsite and odor emissions would be potentially significant.[80]

D3A-45

1.9. All Feasible NOx Mitigation Required for San Vicente Reservoir Alternative

The DEIR/DEIS concluded that mitigated daily NOx emissions from construction of the San Vicente Reservoir Alternative would be significant in 2019, amounting to 693.64 lb/day, compared to the significance threshold of 250 lb/day.[81] The DEIR/DEIS states that this exceedance is driven by the Mission Trails Booster Station (MTBS) phase of this alternative, which requires a substantial amount of excavation work. Haul trips to remove excavated soil comprise the bulk of the NOx emissions.[82] Thus, the DEIR/DEIS concluded that the "San Vicente Reservoir Alternative would have a potential significant and unavoidable impact."

D3A-46

An EIR may conclude that an impact is significant and unavoidable only if all available and feasible mitigation measures have been proposed, but are inadequate to reduce the impact to a less than significant level.[83] However, the lead agency cannot

[79] Aw. Addy Majewski, Diesel Oxidation Catalyst, 2012; available at: https://www.dieselnet.com/tech/cat_doc.php.

[80] Draft EIR for Santa Maria Rail Terminal Phillips 66, *op. cit.*, p. 4.3-51; http://www.slocounty.ca.gov/Assets/PL/Santa+Maria+Refinery+Rail+Project/Draft+EIR-Phillips+66+Rail+Spur+Extension+Project+(November+2013)/Full+EIR+-+Large+File/p66.pdf (Exhibit 50).

[81] DEIR/DEIS, Appx. B, Table 7.2-29.

[82] DEIR/DEIS, Appx. B, p. 83 (pdf 95).

[83] See Cal. Code Regs. Title 14 ("CEQA Guidelines"), § 15126.2.

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D3A-45 The commenter has not proven that the Project would have a significant impact during construction, which would warrant mitigation. As discussed in Response to Comment D3A-44, the odor impacts associated with long-term operation are the focus of the significance thresholds. Also, the construction of the Project that takes place within 1,000 feet of sensitive receptors would be for a very short duration. As further noted by the source the commenter cites, diesel oxidation catalysts began being used in the United States for on-road diesel vehicles in 1994 and continue to be used as an emission control strategy (Majewski 2011). Mitigation measure MM-AQ-2 requires the use of at least Tier 3 off-road vehicles during construction, and Tier 3 engines were first introduced in model year 2006 (DieselNet 2017). It is therefore very likely that the fleet of construction equipment and heavy-duty trucks supporting the Project would employ emissions control equipment similar to diesel oxidation catalysts if not already equipped.

The commenter further discusses the analysis within a Draft EIR for the Phillips 66 Santa Maria Rail Terminal. That Draft EIR does not apply to

	the Project as it was for a crude oil processing facility. The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.
	D3A-46 The commenter fails to properly cite or interpret the CEQA Guidelines in this case. The CEQA Guidelines section cited does not state or conclude that an EIR may conclude that an impact is significant and unavoidable only if all available and feasible mitigation measures have been proposed (14 CCR 15126.2). That section states the following in section (b): Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented. Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being

simply conclude that an impact is significant and unavoidable without requiring all feasible mitigation.

In this case, the only mitigation measure proposed to reduce significant NOx emissions is MM-AQ-2:

> **MM-AQ-2** The following measures shall be adhered to during construction activities associated with the Project to reduce oxides of nitrogen (NO_x):
>
> a. All diesel-fueled construction equipment shall be equipped with Tier 3 or better (i.e., Tier 4 Interim or Tier 4 Final) diesel engines.
>
> b. The engine size of construction equipment shall be the minimum size suitable for the required job.
>
> c. Construction equipment shall be maintained in accordance with the manufacturer's specifications.

This is not all feasible mitigation, for the reasons set out below.

First, the unmitigated construction emissions were calculated using the CalEEMod model, assuming Tier 3 engines.[84] Thus, requiring Tier 3 engines as mitigation is not mitigation, but rather the base case.

Second, the measure defines "or better" as "Tier 4 Interim or Tier 4 Final" diesel engines. Tier 4 Interim NOx limits are identical to Tier 3 limits (Figure 4)[85] and thus is also not mitigation, but rather the base case.

[84] DEIR/DEIS, Appx. B, Appx. A, pdf 4, 5, 32, 33, 55, 56, 78, 79, 107, 108, 131, 132, 155, 156, 157, 186, 187, 188, 212, 213, 214, 238, 239, 261, 262, 279, 280, 297, 298, 328, 329, 354 etc. Tier 4 was not specified for any construction equipment in this appendix. Appx. B, Appx. B, pdf 4 5, 32, 33, 55, 56, etc. Tier 4 was not specified for any construction equipment in this appendix,.

[85] CARB, In-Use Off-Road Diesel Vehicle Regulation; available at https://www.arb.ca.gov/msprog/ordiesel/documents/ordfall08presentation.pdf

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D3A-46 Cont.

D3A-47

D3A-48

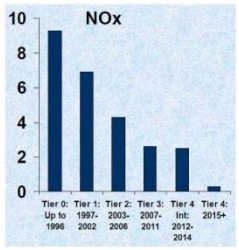
proposed, notwithstanding their effect, should be described.

The Draft EIR/EIS fully described the significant environmental effects in accordance with the CEQA Guidelines. The mitigation measure MM-AQ-2 did not bring the emissions from the San Vicente Reservoir Alternative to below the significance level. Therefore, the impact was determined to be significant and unavoidable.

D3A-47 There is nowhere within the Draft EIR/EIS that describes the construction equipment having Tier 3 engines as the base case. The CalEEMod model runs show both an unmitigated and mitigated emissions scenario. The unmitigated emission summary shows the equipment assuming default CalEEMod assumptions. The mitigated emission summary shows the equipment using Tier 3 engines. Each CalEEMod emission summary provided in Appendices A and B of the Air Quality Technical Report (Appendix B to the Draft EIR/EIS) provides both an unmitigated and mitigated emission summary as described above. No further response is required because the comment is a false statement.

	D3A-48 As described in Response to Comment D3A-48, Tier 3 engines and MM-AQ-2 were not the base case and were calculated as mitigation as shown in Appendices A and B of Appendix B of the Draft EIR/EIS. No further response is required.

Figure 4: Comparison of NOx Emissions in Tier 0 to Tier 4 Engines



Third, this measure, while it mentions Tier 4 Final engines as an option, does not require Tier 4 engines on any equipment, which would mitigate the impact if required. Rather, the measure only proposes Tier 4 Final engines as an alternative to Tier 3, leaving the choice to the discretion of the Applicant. This measure should be modified to require that "all diesel-fueled off-road construction equipment of more than 50 hp shall be equipped with Tier 4 Final engines." If Tier 4 Final engines are not available for all construction equipment, then additional NOx mitigation must be required.

The following summarizes frequently recommended measures to control NOx, emissions from construction that were not identified in the DEIR/DEIS and that have been required in other CEQA documents and recommended by various air pollution control districts, e.g., BAAQMD,[86] and other public agencies. The following is a partial list:

- In addition to maintaining all construction equipment in proper tune according to manufacturer's specifications, the equipment must be checked by an ASE-certified mechanic and determined to be running in proper condition before it is operated (CalAm IS/MND[87]; Chevron FEIR[88]).

[86] BAAQMD, CEQA Guidelines, Updated May 2017, Tables 8-2 and 8-2.

[87] SWCA Environmental Consultants, Draft Initial Study and Mitigated Negative Declaration for the California American Water Slant Test Well Project, Prepared for City of Marina, May 2014 (CalAm IS/MND).

[88] Chevron Refinery Modernization Project EIR, March 2014, Chapter 4.8, Greenhouse Gases; available at https://s3.amazonaws.com/chevron/Volume+1_DEIR_r1.pdf and Chapter 5, Mitigation

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D3A-49

D3A-50

D3A-49 As shown in the Draft EIR/EIS, the MTBS emissions causes the San Vicente Reservoir Alternative's impacts to be significant and unavoidable. Appendix B of Appendix B of the Draft EIR/EIS provides the detailed CalEEMod output files for the San Vicente Reservoir Alternative and the MTBS, which also shows that in the unmitigated scenario, off-road equipment comprised only 21.4% of the maximum daily NO_x emissions in 2019, which was the year of the significance threshold exceedance. Under the mitigated scenario, off-road equipment comprised only 12.5% of the maximum daily NO_x emissions in 2019 for the MTBS. The haul trucks alone were estimated to generate 371.87 pounds of NO_x per day in 2019 from the MTBS. This means that if there were no off-road equipment operating, or if they were zero-emissions equipment and no other component of the Project was operating in 2019, the haul trucks from the MTBS would still exceed the City's significance threshold for NO_x of 250 pounds per day. Therefore, implementing a Tier 4 final mitigation measure would not mitigate the impact to less than significant as purported by the commenter.

- Diesel-powered equipment shall be replaced by gasoline-powered equipment whenever feasible (CalAm IS/MND, Chevron FEIR).
- The engine size of construction equipment shall be the minimum practical size (CalAm IS/MND).
- Catalytic converters shall be installed on gasoline-powered equipment (CalAm IS/MND).
- Limit idle time to 2 minutes.[89]
- Signs shall be posted in designated queuing areas and job sites to remind drivers and operators of the idling limit (CalAm IS/MND, Chevron FEIR).
- Diesel equipment idling shall not be permitted within 1,000 feet of sensitive receptors (CalAm IS/MND).
- Engine size of construction equipment shall be the minimum practical size (CalAm IS/MND).
- Construction worker trips shall be minimized by providing options for carpooling and by providing for lunch onsite (CalAm IS/MND, Chevron FEIR).
- Use alternative diesel fuels, such as Aquazole fuel, Clean Fuels.
- Technology (water emulsified diesel fuel), or O2 diesel ethanol-diesel fuel (O2 Diesel) in existing engines (Monterey County General Plan EIR).[90]
- Modify engines with ARB verified retrofits.
- Repower engines with Tier 4 final diesel technology.[91]
- Convert part of the construction truck fleet to natural gas.[92]

D3A-50 Cont.

Measure Monitoring and Reporting Program; available at https://s3.amazonaws.com/chevron/Final+EIR/5_MMRP.pdf.

[89] Some states—for example, Connecticut, Delaware, the District of Columbia, and New Jersey—and some cities, such as Santa Barbara, Minneapolis, Burlington and Chicago, limit idling to 3 minutes for all on- and/or off-road vehicles. *See* Idling Database; available at https://cleancities.energy.gov/files/docs/idlebox_idlebase_database.xlsx.

[90] Monterey County General Plan EIR, Section 6.4.3.3, p. 6-14 ("The EIRs prepared for the desalination plants are expected to require that construction equipment use alternative fuels or other means to reduce their emissions of ozone precursors. Although, depending upon the intensity of construction, there is the potential for a significant impact on air quality from ozone precursors."); available at http://www.co.monterey.ca.us/planning/gpu/2007_GPU_DEIR_Sept_2008/Text/Sec_06_Other_CEQA.pdf. See also Union of Concerned Scientists, November 2009, pp. 23-24.

[91] Union of Concerned Scientists, November 2006, p. 23.

[92] This is a mitigation measure used by PG&E to offset NOx emissions from its Otay Mesa Generating Project. *See* GreenBiz, Natural Gas Trucks to Offset Power Plant Emissions, September 12,

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D3A-50 The comment will be included in the administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

- Use new or rebuilt equipment.
- Use diesel-electric and hybrid construction equipment.[93]
- Use low rolling resistance tires on long haul class 8 tractor-trailers.[94]
- Use idle reduction technology, defined as a device that is installed on the vehicle that automatically reduces main engine idling and/or is designed to provide services, *e.g.*, heat, air conditioning, and/or electricity to the vehicle or equipment that would otherwise require the operation of the main drive engine while the vehicle or equipment is temporarily parked or is stationary.[95]
- Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM (BAAQMD).
- Require that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.[96]
- Solicit bids that include all of these measures (SCAG).

D3A-50
Cont.

Alternatively, as discussed in the DEIR/DEIS, the MTBS component of the San Vicente Reservoir Alternative could be redesigned to reduce the facility footprint, reducing associated grading; reshape cuts and fills to appear as natural forms, retain trees to screen earthwork contrasts, or be relocated to an area with less slope where less

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2000; available at http://www.greenbiz.com/news/2000/09/12/natural-gas-trucks-offset-power-plant-emissions.

[93] Tom Jackson, How 3 Diesel-Electric and Hybrid Construction Machines are Waging War on Wasted Energy, Equipment World, June 1, 2014; available at http://www.equipmentworld.com/diesel-electric-and-other-hybrid-construction-equipment-are-waging-war-on-wasted-energy/; Kenneth J. Korane, Hybrid Drives for Construction Equipment, Machine Design, July 7, 2009; available at http://machinedesign.com/sustainable-engineering/hybrid-drives-construction-equipment; Caterpillar's D7E Electric Drive Redefines Dozer Productivity; available at http://www.constructionequipment.com/caterpillars-d7e-electric-drive-redefines-dozer-productivity.

[94] EPA, Verified Technologies for SmartWay and Clean Diesel, Learn About Low Rolling Resistance (LRR) New and Retread Tire Technologies; available at https://www.epa.gov/verified-diesel-tech/learn-about-low-rolling-resistance-lrr-new-and-retread-tire-technologies; EPA, Verified Technologies for SmartWay and Clean Diesel, SmartWay Verified List for Low Rolling Resistance (LRR) New and Retread Tire Technologies; available at https://www.epa.gov/verified-diesel-tech/smartway-verified-list-low-rolling-resistance-lrr-new-and-retread-tire.

[95] EPA Names Idle Reduction Systems Eligible for Federal Tax Exemptions, March 2009, available at http://www.greenfleetmagazine.com/channel/green-operations/article/story/2009/03/epa-names-idle-reduction-systems-eligible-for-federal-excise-tax-exemptions-grn.aspx. *See also* Idle Reduction, Wikipedia; available at https://en.wikipedia.org/wiki/Idle_reduction and Diesel Emissions Reduction Program (DERA): Technologies, Fleets and Project Information, Working Draft Version 1.0; available at https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100CVIS.TXT.

[96] BAAQMD, CEQA Guidelines, Updated May 2017, Table 8-3, Measure 13.

excavation would be required.[97] The DEIR/DEIS asserts that evaluating these other options is "outside the scope of this EIR/EIS."[98] However, such evaluation is not outside of the scope of imposing mitigation.

In sum, all feasible mitigation must be required when an impact is significant and unavoidable. Thus, the DEIR/DEIS must be revised to include additional feasible construction mitigation measures to reduce the significant NOx impact to below 250 lb/day, and recirculated for public review.

D3A-50 Cont.

2. THE DEIR/DEIS FAILS TO ANALYZE SIGNIFICANT HEALTH IMPACTS DUE TO VALLEY FEVER

Valley Fever, or coccidioidomycosis (abbreviated as cocci), is an infectious disease caused by inhaling the spores of *Coccidioides ssp.*[99], a soil-dwelling fungus. The fungus lives in the top 2 to 12 inches of soil. When soil containing this fungus is disturbed by activities such as digging, vehicles, construction activities, dust storms, or during earthquakes, the fungal spores become air borne.[100] The Valley Fever fungal spores are too small to be seen by the naked eye, and there is no reliable way to test the soil for spores before working in a particular area.[101] The California Department of Public Health has concluded:[102]

[97] DEIR/DEIS, pdf 903; Appx. B, pdf 96.

[98] DEIR/DEIS, pdf 903, 927.

[99] Two species of *Coccidioides* are known to cause Valley Fever: *C. immitis*, which is typically found in California, and *C. posadasii*, which is typically found outside California. See Centers for Disease Control, Coccidioidomycosis (Valley Fever), Information for Health Professionals; available at https://www.cdc.gov/fungal/diseases/coccidioidomycosis/health-professionals.html.

[100] California Department of Public Health, Valley Fever Fact Sheet, January 2016; available at https://archive.cdph.ca.gov/HealthInfo/discond/Documents/VFGeneral.pdf.

[101] California Department of Public Health, Preventing Work-Related Coccidioidomycosis (Valley Fever), June 2013; available at https://archive.cdph.ca.gov/healthinfo/discond/Pages/Coccidioidomycosis.aspx.

[102] California Department of Public Health, Preventing Work-Related Coccidioidomycosis (Valley Fever), June 2012; available at https://archive.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf.

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Valley Fever is an illness that usually affects the lungs. It is caused by the fungus *Coccidioides immitis* that lives in soil in many parts of California. When soil containing the fungus is disturbed by digging, vehicles, or by the wind, the fungal spores get into the air. When people breathe the spores into their lungs, they may get Valley Fever.

Is Valley Fever a serious concern in California? YES!

Often people can be infected and not have any symptoms. In some cases, however, a serious illness can develop which can cause a previously healthy individual to miss work, have long-lasting and disabling health problems, or even result in death.

D3A-50 Cont.

2.1. San Diego County Is Endemic for Valley Fever

The disease is endemic (native and common) in the semiarid regions of the southwestern United States.[103] San Diego County, including the Project site, is located within the established endemic range of Valley Fever,[104] as shown in Figure 5.[105]

[103] San Luis Obispo County Public Health Department, Valley Fever in San Luis Obispo County (undated); available at http://www.slocounty.ca.gov/health/publichealth/commdisease/Cocci_in_SLO_County.htm.

[104] See, for example, K. Schmitt, R. Plevin and T. Wood, Just One Breath: Valley Fever Cases Reach Epidemic Levels, But Harm Remains Hidden, September 8, 2012 ("The cocci fungus is common in much of the southwest and in northwestern Mexico, especially in the dry earth of California's Central Valley and in the areas around Phoenix and Tucson in Arizona. It can be found, however, in soils of the beach haven of San Diego, the wine country of Sonoma County and inland in the Sierra foothills."); available at https://www.centerforhealthjournalism.org/content/just-one-breath-valley-fever-cases-reach-epidemic-levels-harm-remains-hidden.

[105] Medical Board of California Newsletter, v. 141, Winter 2017, pdf 21; available at http://www.mbc.ca.gov/Publications/Newsletters/newsletter_2017_01.pdf.

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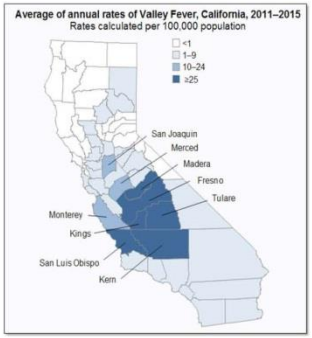
Figure 5: Endemic Areas for Valley Fever in California



The number of Valley Fever cases in San Diego County has been rising countywide since 1990.[106] San Diego County had the sixth highest number of reported cases statewide over the 2007–2011 period: 649 cases.[107] The number of reported cases in San Diego County has continued to rise, reaching 728 over the next five-year period, as shown in Table 3.[108]

Table 3: Reported Cases of Valley Fever in San Diego County

Year	No. of Cases
2012	159
2013	126
2014	117
2015	168
2016	158

D3A-50 Cont.

[106] Janice Arenofsky, San Diego Has Sixth Highest Rate of Valley Fever in California, Concerns Voiced that Imperial County Cases May be Underreported, July 2014, East County Magazine; available at https://www.eastcountymagazine.org/cost-valley-fever-human-and-economic.

[107] MacLean 2014, Table 1.

[108] County of San Diego, Reportable Diseases and Conditions by Year, 2012–2016; available at http://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/documents/Reportable_Diseases_and_Conditions_SDC_2012-2016.pdf.

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2.2. Construction Workers Are an At-Risk Population

The CDPH specifically notes that construction workers in endemic areas, such as those that will build the Project, are at risk:[109]

Figure 6: Valley Fever Risk to Construction Workers

➤ In October 2007, a construction crew excavated a trench for a new water pipe. Within three weeks, 10 of 12 crew members developed coccidioidomycosis (Valley Fever), an illness with pneumonia and flu-like symptoms. Seven of the 10 had abnormal chest x-rays, four had rashes, and one had an infection that had spread beyond his lungs and affected his skin. Over the next few months, the 10 ill crew members missed at least 1660 hours of work and two workers were on disability for at least five months.

D3A-50 Cont.

Dust exposure is one of the primary risk factors for contracting Valley Fever.[110] Specific occupations and outdoor activities associated with dust generation such as construction, farming, road work, military training, gardening, hiking, camping, bicycling, or fossil collecting increase the risk of exposure and infection. The risk appears to be more specifically associated with the amount of time spent outdoors than with doing specific activities.[111]

[109] CDPH, June 2012.

[110] Rafael Laniado-Laborin, Expanding Understanding of Epidemiology of Coccidioidomycosis in the Western Hemisphere, *Annals of the New York Academy of Sciences*, v. 111, 2007, pp. 20-22; Frederick S. Fisher, Mark W. Bultman, Suzanne M. Johnson, Demosthenes Pappagianis, and Erik Zaborsky, Coccidioides Niches and Habitat Parameters in the Southwestern United States, a Matter of Scale, *Annals of the New York Academy of Sciences*, v. 111, 2007, pp. 47-72 ("All of the examined soil locations are noteworthy as generally 50% of the individuals who were exposed to the dust or were excavating dirt at the sites were infected."); available at http://www.researchgate.net/publication/6461426_Coccidioides_niches_and_habitat_parameters_in_the_southwestern_United_States_a_matter_of_scale/file/72e7e51c9b9f058a45.pdf?origin=publication_detail.

[111] Kern County Public Health Services Department, Prevention ("The risk appears to be more specifically associated with the amount of time spent outdoors than with doing specific activities"); available at http://kerncountyvalleyfever.com/what-is-valley-fever/prevention/.

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The most at-risk populations are construction and agricultural workers,[112] the former the very population that would be most directly exposed by the Project. A refereed journal article on occupational exposures notes that "[l]abor groups where occupation involves close contact with the soil are at greater risk, especially if the work involves dusty digging operations."[113] One study reported that at study sites, "generally 50% of the individuals who were exposed to the dust or were excavating dirt at the sites were infected."[114]

The disease debilitates the population and thus prevents them from working.[115] The longest period of disability from occupational exposure in California is to construction workers, with 62% of the reported cases resulting in over 60 days of lost work.[116] Another study estimated the average hospital stay for each (non-construction work) case of coccidioidomycosis at 35 days.[117]

D3A-50 Cont.

2.3. Sensitive Receptors Near the Project Site Are an At-Risk Population

The California Department of Public Health and the State Health Officer have warned that "[p]eople who live, work or travel in Valley Fever areas are also at a higher risk of getting infected, especially if they work or participate in activities where soil is disturbed."[118] Thus, those living, working, or recreating in the vicinity of the Project site during construction are also at risk of being affected from windblown dust, both during construction and after soils have been disturbed but lie fallow until mitigation has been implemented.

The potentially exposed population in surrounding areas is much larger than construction workers because the non-selective raising of dust during Project

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[112] Lawrence L. Schmelzer and R. Tabershaw, Exposure Factors in Occupational Coccidioidomycosis, *American Journal of Public Health and the Nation's Health*, v. 58, no. 1, 1968, pp. 107-113, Table 3; available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1228046/?page=1.

[113] *Ibid*, p. 110.

[114] Fisher et al., 2007.

[115] Frank E. Swatek, Ecology of *Coccidioides Immitis*, *Mycopathologia et Mycologia Applicata*, v. 40, Nos. 1-2, pp. 3-12, 1970.

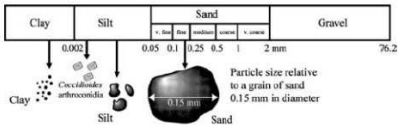
[116] Schmelzer and Tabershaw, 1968, Table 4.

[117] Demosthenes Pappagianis and Hans Einstein, Tempest from Tehachapi Takes Toll or Coccidioides Conveyed Aloft and Afar, *Western Journal of Medicine*, v. 129, Dec. 1978, pp. 527-530; available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1238466/pdf/westjmed00256-0079.pdf.

[118] California Department of Public Health, State Health Officer Warns About Dangers of Valley Fever, Number 15-055, August 4, 2015; available at https://archive.cdph.ca.gov/Pages/NR15-055.aspx.

construction will carry the very small spores, 0.002-0.005 millimeters ("mm") (Figure 7),[119] into non-endemic areas.[120,121] These very small particles are not controlled by conventional construction dust control mitigation measures.

Figure 7: Size of Cocci Spores Compared to Soil Particles (in mm)



D3A-50 Cont.

Valley Fever spores have been documented to travel as much as 500 miles,[122] and thus dust raised during construction could potentially expose a large number of people hundreds of miles away. Therefore, this is a significant concern for this Project because there are sensitive receptors around all Project components, including many single-family residences along pipeline routes, recreational facilities, and public institutions. The highest mean Valley Fever incidence rate in San Diego County is among those aged 65 and over.[123] An individual does not have to have direct soil contact to contract Valley Fever.[124]

[119] Fisher et al., 2007, Fig. 3.

[120] Schmelzer and Tabershaw, 1968, p. 110; Pappagianis and Einstein, 1978.

[121] Pappagianis and Einstein, 1978, p. 527 ("The northern areas were not directly affected by the ground level windstorm that had struck Kern County but the dust was lifted to several thousand feet elevation and, borne on high currents, the soil and arthrospores along with some moisture were gently deposited on sidewalks and automobiles as "a mud storm" that vexed the residents of much of California." The storm originating in Kern County, for example, had major impacts in the San Francisco Bay Area and Sacramento.).

[122] David Filip and Sharon Filip, *Valley Fever Epidemic*, Golden Phoenix Books, 2008, p. 24.

[123] M. L. MacLean, Health Officer, Kings County, The Epidemiology of Coccidioidomycosis—15 California Counties, 2007-2011, January 22, 2014, Table 5; available at http://www.countyofkings.com/home/showdocument?id=3014.

[124] J.A. Wilken et al., Coccidioidomycosis Among Cast and Crew Members at an Outdoor Television Filming Event—California, 2012, Morbidity and Mortality Weekly Report, April 18, 2014; available at https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Coccidioidomycosis.aspx#.

2.4. Valley Fever Symptoms

Typical symptoms of Valley Fever include fatigue, fever, cough, headache, shortness of breath, rash, muscle aches, and joint pain. Symptoms of advanced Valley Fever include chronic pneumonia, meningitis, skin lesions, and bone or joint infections. The most common clinical presentation of Valley Fever is a self-limited acute or subacute community-acquired pneumonia that becomes evident 13 weeks after infection.[125] No vaccine or known cure exists for the disease.[126] However, the FDA recently granted Fast Track designation for a proposed treatment.[127] Between 1990 and 2008, more than 3,000 people have died in the United States from Valley Fever, with about half of the deaths occurring in California.[128] Between 2000 and 2013 in California, 1,098 deaths were attributed to Valley Fever.[129] In recent years, reported Valley Fever cases in the Southwest have increased dramatically.[130]

Infections by *Coccidioides ssp.* frequently have a seasonal pattern, with infection rates that generally spike in the first few weeks of hot dry weather that follow extended milder rainy periods. In California, infection rates are generally higher during the hot summer months, especially if weather patterns bring the usual winter rains between November and April.[131] The majority of cases of Valley Fever accordingly occur during the months of June through December, which are typically periods of peak construction activity.

D3A-50 Cont.

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[125] *See, e.g.*, Lisa Valdivia, David Nix, Mark Wright, Elizabeth Lindberg, Timothy Fagan, Donald Lieberman, Prien Stoffer, Neil M. Ampel, and John N. Galgiani, Coccidioidomycosis as a Common Cause of Community-Acquired Pneumonia, *Emerging Infectious Diseases*, v. 12, no. 6, June 2006; available at http://europepmc.org/articles/PMC3373055.

[126] Rebecca Plevin, National Public Radio, Cases of Mysterious Valley Fever Rise in American Southwest, May 13, 2013; available at http://www.npr.org/blogs/health/2013/05/13/181880987/cases-of-mysterious-valley-fever-rise-in-american-southwest.

[127] Mathew Shanley, Valley Fever Treatment Granted FDA Fast Track Designation, July 14, 2017; available at http://www.raredr.com/news/valley-fever-drug-fast-track-designation.

[128] Jennifer Y. Huang, Benjamin Bristow, Shira Shafir, and Frank Sorvillo, Coccidioidomycosis-Associated Deaths, United States, 1990–2008, *Emerging Infectious Diseases*, v. 18, no. 11, November 2012; available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3559166/.

[129] G. L. Sondermeyer et al., Coccidioidomycosis-Associated Deaths in California, 2000-2013, *Public Health Reports*, v. 131, no. 4, 2016; available at http://journals.sagepub.com/doi/10.1177/0033354916662210.

[130] See Centers for Disease Control; Fungal Pneumonia: A Silent Epidemic, Coccidioidomycosis (Valley Fever); available at http://www.cdc.gov/fungal/pdf/cocci-fact-sheet-sw-us-508c.pdf.

[131] *Ibid.*

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Typically, the risk of catching Valley Fever begins to increase in June and continues on an upward trend until it peaks during the months of August, September, and October.[132] Drought periods can have an especially potent impact on Valley Fever if they follow periods of rain.[133] It is thought that during drought years the number of organisms competing with *Coccidioides ssp.* decreases and the fungus remains alive but dormant. When rain finally occurs, the arthroconidia germinate and multiply more than usual because of a decreased number of other competing organisms. When the soil dries out in the summer and fall, the spores can become airborne and potentially infectious.[134]

D3A-50 Cont.

The recent drought conditions in southern California may well increase the occurrence of Valley Fever cases. Thus, major soil-disturbing construction activities should be timed to occur outside of a prolonged dry period. After soil-disturbing activities conclude, all disturbed soils should be sufficiently stabilized to prevent airborne dispersal of cocci spores.

The DEIR/DEIS makes no mention whatsoever of the potential existence of Valley Fever in the area or of the health risks posed by Valley Fever from construction and/or operation of the Project and does not require any mitigation to limit the public's or workers' potential exposure to cocci. As discussed below, conventional mitigation for construction impacts is not adequate to protect construction workers or offsite sensitive receptors from Valley Fever. Thus, the DEIR/DEIS utterly fails to inform the public of the significant consequences of Project construction. The City should amend and recirculate the DEIR/DEIS to provide an adequate assessment of Valley Fever and propose adequate mitigation.

D3A-51

[132] Kern County Public Health Services Department, What Is Valley Fever, Prevention, Valley Fever Risk Factors; available at http://kerncountyvalleyfever.com/what-is-valley-fever/risk-factors/.

[133] Gosia Wozniacka, Associated Press, Fever Hits Thousands in Parched West Farm Region, May 5, 2013, Updated April 29, 2016, citing Prof. John Galgiani, Director of the Valley Fever Center for Excellence at the University of Arizona; available at http://www.denverpost.com/2013/05/05/valley-fever-hits-thousands-in-parched-west/.

[134] Theodore N. Kirkland and Joshua Fierer, Coccidioidomycosis: A Reemerging Infectious Disease, *Emerging Infectious Diseases*, v. 3, no. 2, July-September 1996; available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2626789/pdf/8903229.pdf.

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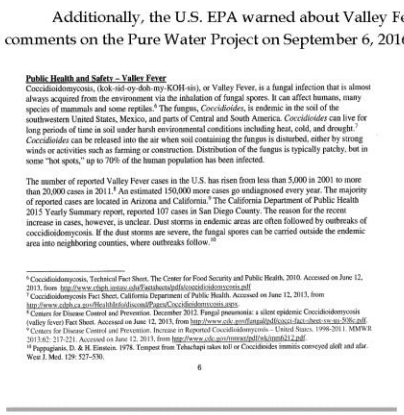
D3A-51 See Response to Comment D3A-27 regarding the low risk of releasing Valley Fever spores during the Project's construction phase.

While the risk of releasing Valley Fever spores during the Project's construction phase and transporting spores off site is reasonably anticipated to be low based on the Project site location, it also should be noted that the applicant would comply with SDAPCD Rule 55, which establishes track-out/carry-out control for dust from transport trucks, operations, erosion, etc. Further, mitigation measure MM-AQ-1 requires that the applicant cover or water, as needed, any on-site stockpiles of debris, dirt, or other dusty material; use adequate water and/or other dust palliatives on all disturbed areas in order to avoid particle blow-off; wash down or sweep paved streets as necessary to control trackout or fugitive dust; cover or tarp all vehicles hauling dirt or spoils on public roads if sufficient freeboard is not available to prevent material blow-off during transport; use gravel bags and catch basins during ground-disturbing operations; and maintain appropriate soil moisture, apply soil binders, and/or plant stabilizing vegetation

	etc. to ensure that dust is not transported offsite. These requirements are consistent with CDPH recommendations to prevent transport of spores off-site by cleaning tools, equipment, and vehicles prior to their transport off-site (CDPH 2013). In summary, the Project would not result in a significant impact off site attributable to Valley Fever exposure based on its geographic location and compliance with applicable regulatory standards and mitigation measure MM-AQ-1, which will serve to minimize the release of, transport of, and exposure to fungal spores.



Additionally, the U.S. EPA warned about Valley Fever in its detailed scoping comments on the Pure Water Project on September 6, 2016. The agency stated[135]:

Public Health and Safety – Valley Fever
Coccidioidomycosis, (kok-sid-oy-doh-my-KOH-sis), or Valley Fever, is a fungal infection that is almost always acquired from the environment via the inhalation of fungal spores. It can affect humans, many species of mammals and some reptiles.[6] The fungus, *Coccidioides*, is endemic in the soil of the southwestern United States, Mexico, and parts of Central and South America. *Coccidioides* can live for long periods of time in soil under harsh environmental conditions including heat, cold, and drought.[7] *Coccidioides* can be released into the air when soil containing the fungus is disturbed, either by strong winds or activities such as farming or construction. Distribution of the fungus is typically patchy, but in some "hot spots," up to 70% of the human population has been infected.

The number of reported Valley Fever cases in the U.S. has risen from less than 5,000 in 2001 to more than 20,000 cases in 2011.[8] An estimated 150,000 more cases go undiagnosed every year. The majority of reported cases are located in Arizona and California.[9] The California Department of Public Health 2015 Yearly Summary report, reported 107 cases in San Diego County. The reason for the recent increase in cases, however, is unclear. Dust storms in endemic areas are often followed by outbreaks of coccidioidomycosis. If the dust storms are severe, the fungal spores can be carried outside the endemic area into neighboring counties, where outbreaks follow.[10]

[6] Coccidioidomycosis, Technical Fact Sheet. The Center for Food Security and Public Health, 2010. Accessed on June 12, 2013, from http://www.cfsph.iastate.edu/FactSheets/pdfs/coccidioidomycosis.pdf
[7] Coccidioidomycosis Fact Sheet. California Department of Public Health. Accessed on June 12, 2013, from http://www.cdph.ca.gov/HealthInfo/discond/Pages/CoccidioidomycosisAreYo...
[8] Centers for Disease Control and Prevention. December 2012. Fungal pneumonia: a silent epidemic Coccidioidomycosis (valley fever) Fact Sheet. Accessed on June 12, 2013, from http://www.cdc.gov/ffungal/pdf/cocci-fact-sheet-vw-au-508c.pdf
[9] Centers for Disease Control and Prevention. Increase in Reported Coccidioidomycosis – United States, 1998-2011. MMWR 2013;62: 217-221. Accessed on June 12, 2013, from http://www.cdc.gov/mmwr/pdf/wk/mm6212.pdf.
[10] Pappagianis, D. & H. Einstein. 1978. Tempest from Tehachapi takes toll or Coccidioides immitis conveyed aloft and afar. West J. Med. 129: 527-530.

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The Draft EIS/EIR should assess potential exposures to the fungus, *Coccidioides*, and susceptibilities of workers and nearby residents to Valley Fever due to soil-disturbing activities of the project. Mitigation or prevention measures that may be used to protect workers and nearby residents should also be described.

D3A-52

2.5. A Conventional Dust Control Plan Is Inadequate to Address Health Risks Posed by Exposure to Valley Fever

Conventional dust control measures that are included in the mitigation measures for the Project in Mitigation Measures MM-AQ-1 are not effective at controlling Valley Fever[136] as they largely focus on visible dust or larger dust particles – the PM10

[135] Appendix A (Scoping Letter, NOP/NOI, and NOP Comments), pdf. pp. 76-77 (U.S. EPA Detailed Scoping Comments on the Pure Water Project, San Diego County, California, September 6, 2016, pp. 6-7).

[136] *See, e.g.*, Cummings et al., 2010, p. 509; Schneider et al., 1997, p. 908 ("Primary prevention strategies (*e.g.*, dust-control measures) for coccidioidomycosis in endemic areas have limited effectiveness.").

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D3A-52 Upon further investigation, the sources cited for stating that "conventional dust control measures….are not effective at controlling Valley Fever" (source 136 in comment letter) do not state or assert what the commenter has purported. The article, authored by K.C. Cummings et al., is about a Valley Fever outbreak at a construction site in Camp Roberts (Cummings et al. 2010). The article sites that none of the workers used the provided respiratory protection and did not rely on the ventilation filtration within the equipment as the doors were left open. Therefore, it was not the dust suppression techniques that were used that contributed to the outbreak, but the lack of use of personal protective equipment supplied that contributed to the outbreak. Therefore, this source does not have bearing on this Project.

The second source cited (Schneider et al., 1997 p. 908) which is titled "A Coccidioidomycosis Outbreak Following the Northridge, California, Earthquake," has no relation to the Project or Valley Fever incidences at construction sites. The comment will be included in the administrative record for the Project as part of

fraction – not the very fine particles where the Valley Fever spores are found. While dust exposure is one of the primary risk factors for contracting Valley Fever and dust-control measures are an important defense against infection, it is important to note that PM10 and visible dust, the targets of conventional control mitigation, are only indicators that *Coccidioides ssp.* spores may be airborne in a given area. Freshly generated dust clouds usually contain a larger proportion of the more visible coarse particles, PM10 (</=0.01 mm), compared to cocci spores (0.002 mm). However, these larger particles settle more rapidly and the remaining fine respirable particles may be difficult to see and are not controlled by conventional dust control measures.

D3A-52 Cont.

Spores of *Coccidioides ssp.* have slow settling rates in air due to their small size (0.002 mm) and low terminal velocity, and possibly also due to their buoyancy, barrel shape, and commonly attached empty hyphae cell fragments.[137] Thus spores, whose size is well below the limits of human vision, may be present in air that appears relatively clear and dust free. Such ambient airborne spores with their low settling rates can remain aloft for long periods and be carried hundreds of miles from their point of origin. Thus, implementation of conventional dust control measures will not provide sufficient protection for both on-site workers and the general public, especially Phase I occupants during construction of Phase II and nearby off-site sensitive receptors.

D3A-53

2.6. The DEIR/DEIS Fails to Require Adequate Mitigation for Valley Fever

In response to an outbreak of Valley Fever in construction workers in 2007 at a construction site for a solar facility within San Luis Obispo County, its Public Health Department, in conjunction with the California Department of Public Health,[138] developed recommendations to limit exposure to Valley Fever based on scientific information from the published literature. The recommended measures go far beyond the conventional dust control measures recommended in the DEIR/DEIS to control construction emissions, which primarily control PM10. They include the following measures that are not required in the DEIR/DEIS to mitigate construction emissions from the Project:

D3A-54

[137] Frederick S. Fisher, Mark W. Bultman, and Demosthenes Pappagianis, Operational Guidelines (version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever), U.S. Geological Survey Open-File Report 00-348, 2000; available at https://pubs.usgs.gov/of/2000/0348/.

[138] CDPH June 2013, pp. 4-6.

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the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

D3A-53 As the Project does not have a Phase I or Phase II, this comment is clearly referring to a different project. The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

D3A-54 The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

1. Re-evaluate and update your Injury and Illness Prevention Program (as required by Title 8, Section 3203) and ensure safeguards to prevent Valley Fever are included.

2. Train all employees on the following issues:

   - The soils in San Diego County may contain cocci spores;
   - Inhaling cocci spores may cause Valley fever;
   - How to recognize symptoms of Valley Fever; these symptoms resemble common viral infections, and may include fatigue, cough, chest pain, fever, rash, headache, and body and joint ache);
   - Work with a medical professional with expertise in cocci as you develop your training program and consult information on public health department websites;
   - Workers must promptly report suspected symptoms of work-related Valley Fever to a supervisor;
   - Workers are entitled to receive prompt medical care if they suspect symptoms of work-related Valley Fever. Workers should inform the health care provider that they may have been exposed to cocci;
   - To protect themselves, workers should use control measures as outlined here.

3. Control dust exposure:

   – Consult with local Air Pollution Control District Compliance Assistance programs and with California Occupational Safety and Health Administration ("Cal/OSHA") compliance program regarding meeting the requirements of dust control plans and for specific methods of dust control. These methods may include wetting the soil while ensuring that the wetting process does not raise dust or adversely affect the construction process;
   – Provide high-efficiency particulate ("HEP")-filtered, air-conditioned enclosed cabs on heavy equipment. Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment and keeping windows closed.
   – Provide communication methods, such as 2-way radios, for use in enclosed cabs.
   – Employees should be medically evaluated, fit-tested, and properly trained on the use of the respirators, and a full respiratory protection program in accordance with the applicable Cal/OSHA Respiratory Protection Standard (8 CCR 5144) should be in place.

D3A-54
Cont.

38

- Provide National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers with a prior history of Valley Fever.
- Half-face respirators equipped with N-100 or P-100 filters should be used during digging. Employees should wear respirators when working near earth moving machinery.
- Prohibit eating and smoking at the worksite, and provide separate, clean eating areas with hand-washing facilities.
- Avoid outdoor construction operations during unusually windy conditions or in dust storms.
- Consider limiting outdoor construction during the Fall to essential jobs only, as the risk of cocci infection is higher during this season.

4. Prevent transport of cocci outside endemic areas:

   - Thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations.
   - Provide workers with coveralls daily, lockers (or other systems for keeping work and street clothing and shoes separate), daily changing and showering facilities.
   - Clothing should be changed after work every day, preferably at the work site.
   - Train workers to recognize that cocci may be transported offsite on contaminated equipment, clothing, and shoes; alternatively, consider installing boot-washing.
   - Post warnings onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection.

5. Improve medical surveillance for employees:

   - Employees should have prompt access to medical care, including suspected work-related illnesses and injuries.
   - Work with a medical professional to develop a protocol to medically evaluate employees who have symptoms of Valley Fever.
   - Consider preferentially contracting with 1-2 clinics in the area and communicate with the health care providers in those clinics to ensure that providers are aware that Valley Fever has been reported in the area. This will increase the likelihood that ill workers will receive prompt, proper and consistent medical care.

D3A-54
Cont.

39

- Respirator clearance should include medical evaluation for all new employees, annual re-evaluation for changes in medical status, and annual training, and fit-testing.
- Skin testing is not recommended for evaluation of Valley Fever. [139]
- If an employee is diagnosed with Valley Fever, a physician must determine if the employee should be taken off work, when they may return to work, and what type of work activities they may perform.

Two other studies have developed complementary recommendations to minimize the incidence of Valley Fever. The U.S. Geological Survey ("USGS") has developed recommendations to protect geological field workers in endemic areas.[140] An occupational study of Valley Fever in California workers also developed recommendations to protect those working and living in endemic areas.[141] These two sources identified the following measures, in addition to those identified by the San Luis Obispo County Public Health Department, to minimize the exposure to Valley Fever:

D3A-54 Cont.

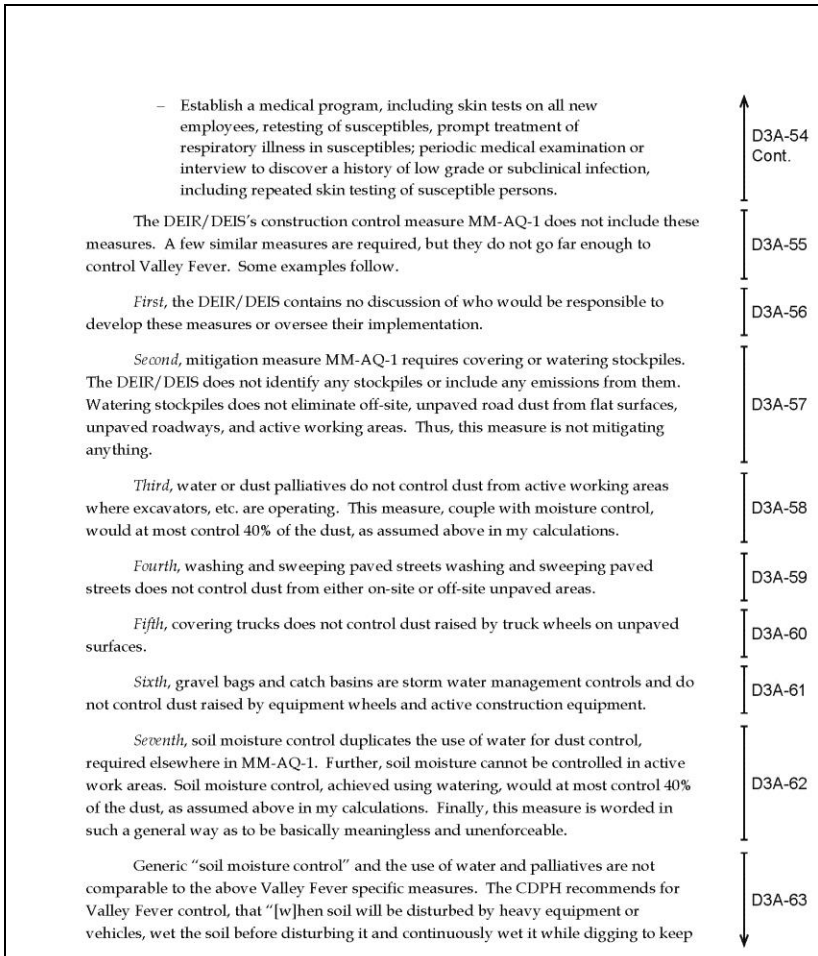
- Evaluate soils to determine if each work location is within an endemic area.
- Implement a vigorous program of medical surveillance.
- Implement aggressive enforcement of respiratory use where exposures from manual digging are involved.
- Test all potential employees for previous infection to identify the immune population and assign immune workers to operations involving known heavy exposures.
- Hire resident labor whenever available, particularly for heavy dust exposure work.
- All workers in endemic areas should use dust masks to protect against inhalation of particles as small as 0.4 microns. Mustaches or beards may prevent a mask from making an airtight seal against the face and thus should be discouraged.

[139] Short-term skin tests that produce results within 48 hours are now available. See Kerry Klein, NPR for Central California, New Valley Fever Skin Test Shows Promise, But Obstacles Remain, November 21, 2016; available at http://kvpr.org/post/new-valley-fever-skin-test-shows-promise-obstacles-remain.

[140] Fisher et al., 2000.

[141] Schmelzer and Tabershaw, 1968, pp. 111-113.

40



– Establish a medical program, including skin tests on all new employees, retesting of susceptibles, prompt treatment of respiratory illness in susceptibles; periodic medical examination or interview to discover a history of low grade or subclinical infection, including repeated skin testing of susceptible persons.

The DEIR/DEIS's construction control measure MM-AQ-1 does not include these measures. A few similar measures are required, but they do not go far enough to control Valley Fever. Some examples follow.

First, the DEIR/DEIS contains no discussion of who would be responsible to develop these measures or oversee their implementation.

Second, mitigation measure MM-AQ-1 requires covering or watering stockpiles. The DEIR/DEIS does not identify any stockpiles or include any emissions from them. Watering stockpiles does not eliminate off-site, unpaved road dust from flat surfaces, unpaved roadways, and active working areas. Thus, this measure is not mitigating anything.

Third, water or dust palliatives do not control dust from active working areas where excavators, etc. are operating. This measure, couple with moisture control, would at most control 40% of the dust, as assumed above in my calculations.

Fourth, washing and sweeping paved streets washing and sweeping paved streets does not control dust from either on-site or off-site unpaved areas.

Fifth, covering trucks does not control dust raised by truck wheels on unpaved surfaces.

Sixth, gravel bags and catch basins are storm water management controls and do not control dust raised by equipment wheels and active construction equipment.

Seventh, soil moisture control duplicates the use of water for dust control, required elsewhere in MM-AQ-1. Further, soil moisture cannot be controlled in active work areas. Soil moisture control, achieved using watering, would at most control 40% of the dust, as assumed above in my calculations. Finally, this measure is worded in such a general way as to be basically meaningless and unenforceable.

Generic "soil moisture control" and the use of water and palliatives are not comparable to the above Valley Fever specific measures. The CDPH recommends for Valley Fever control, that "[w]hen soil will be disturbed by heavy equipment or vehicles, wet the soil before disturbing it and continuously wet it while digging to keep

41

D3A-55 This comment states that the Draft EIR/EIS's MM-AQ-1 does not include the measures described within comment D3A-54. This comment is acknowledged, and the Project's response to Valley Fever is fully explained in Response to Comment D3A-27. The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

D3A-56 The implementation of MM-AQ-1 is discussed in detail within Chapter 10 (Mitigation Monitoring and Reporting Program) of the Draft EIR/EIS in accordance with CEQA Section 21081.6A, and in Draft EIR/EIS Table 10-10 lists the responsible person for MM-AQ-1 as the Construction Manager. No further response is required.

D3A-57 This mitigation strategy in MM-AQ-1 is consistent with the SDAPCD Rule 55 requirements and the fugitive dust management requirements within the City's Whitebook. The mitigation measure is not meant to reduce off-site, unpaved road dust from flat surfaces, unpaved roadways, and active working areas. No further response is required.

	D3A-58 Please see Response to Comment D3A-16 for a complete discussion regarding this topic. No further response is required. **D3A-59** MM-AQ-1 is not intended for reducing dust emissions on-site or off-site unpaved areas. This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR for reviewct. No further response is required because the comment does not raise an environmental issue. **D3A-60** MM-AQ-1 is not intended for reducing dust emissions from truck wheels on unpaved surfaces. This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue. **D3A-61** MM-AQ-1 is not intended for reducing dust emissions by equipment wheels and active construction equipment. This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR for review. No further response is

	required because the comment does not raise an environmental issue. **D3A-62** Please see Response to Comment D3A-23 for a complete discussion regarding this topic. No further response is required. **D3A-63** Please see Response to Comment D3A-27 for a complete discussion regarding this topic. No further response is required.

dust levels down."[142] The watering trucks themselves used in watering generate fugitive dust, which is not addressed by the DEIR/DEIS's measure, but is addressed by CDPH by requiring the use of "wetting methods that do not raise dust." The BAAQMD requires that all exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12%, verified by lab samples or moisture probe.[143]

The best method of preventing roadway dust is to consolidate it, requiring a large quantity of water. The DEIR/DEIS is silent on the amount of water that would be used and methods of dispensing it. Water evaporates quickly in hot climates such as those at the Project site, requiring frequent spraying which is not required in the DEIR/DEIS.

Further, methods are available to improve dust control. The calcium chloride method or the salt crust process, for example, achieve better control than water alone. Further, fine atomized sprays or mist sprays with droplet diameters of 60 um, produced by swirl-type pressure nozzles or pneumatic atomizers, should be used on the watering trucks.[144]

Mitigation Measure MM-AQ-1 requires wheel washers on trucks only prior to entry on public roads, while CDPH Valley Fever control requires contractors to "[t]horoughly clean equipment, vehicles, and other items before they are moved off-site to other work locations."

In addition to the above discussed measures, I recommend the following mitigation measures to protect workers and off-site sensitive receptors:

- Continuously wet the soil before and while digging or moving the earth. Landing zones for helicopters and areas where bulldozers, graders, or skid steers operate are examples where continuously wetting the soil is necessary.
- When digging a trench or fire line or performing other soil-disturbing tasks, position workers upwind when possible.

D3A-63 Cont.

D3A-64

D3A-65

D3A-66

[142] CDPH June 2013, p. 4.

[143] Bay Area Air Quality Management District (BAAQMD), California Environmental Quality Act Air Quality Guidelines, CEQA Guidelines, Updated May 2017, Table 8-2, Measure 1; available at http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines.

[144] Amar Solanki, Dust Suppression System, p. 15-19, 25; available at https://www.slideshare.net/abhi24mining/prevention-suppression-of-dust.

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D3A-64 This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

D3A-65 This comment states that MM-AQ-1 requires wheel washers on trucks prior to entry on public roads, while CDPH Valley Fever control requires contractors to thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations. This comment is put in quotations as citing the CDPH, but no reference is provided and thus is considered an opinion. This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

D3A-66 This comment is acknowledged and the Project's response to Valley Fever is fully explained in Response to Comment D3A-27. The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is

- Place overnight camps, especially sleeping quarters and dining halls, away from sources of dust such as roadways.
- Minimize the amount of digging by hand. Instead, use heavy equipment with the operator in an enclosed, air-conditioned, HEPA-filtered cab.

In sum, construction mitigation measures in the DEIR/DEIS are not adequate to control Valley Fever. Projects that have implemented conventional PM10 dust control measures, such as those proposed in the DEIR/DEIS, have experienced fugitive dust issues and reported cases of Valley Fever.

For example, construction of First Solar's Antelope Valley Solar Ranch One ("AVSR1") was officially halted in April 2013 due to the company's failure to bring the facility into compliance with ambient air quality standards, despite similar dust control measures. A dust storm in Antelope Valley on April 8, 2013 was so severe that it resulted in multiple car pileups in the sparsely populated region, as well as closure of the Antelope Valley Freeway. The company was issued four violations by the Antelope Valley Air Quality Management District. Dust from the project led to complaints of respiratory distress by local residents and a concern of Valley Fever. [145]

At two photovoltaic solar energy projects in San Luis Obispo County, Topaz Solar Farm and California Valley Solar Ranch, 28 construction workers contracted Valley Fever. One man was digging into the ground and inhaled dust and subsequently became ill. A blood test confirmed Valley Fever.[146]

All the above health-protective measures recommended by the San Luis Obispo County Public Health Department and the California Department of Public Health are feasible for the Project and must be required in an enhanced dust control plan to reduce the risk to construction workers, on-site residents, and the public of contracting Valley Fever. Many of these measures have been required by the County of Monterey in other EIRs.[147] They are also required in the EIR for the California High-Speed Train.[148] Even

D3A-66 Cont.

D3A-67

D3A-68

[145] Herman K. Trabish, Green Tech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site.

[146] Julie Cart, Los Angeles Times, 28 Solar Workers Sickened by Valley Fever in San Luis Obispo County May 01, 2013; available at http://articles.latimes.com/2013/may/01/local/la-me-ln-valley-fever-solar-sites-20130501.

[147] County of Monterey, California Flats Solar Project Final Environmental Impact Report, December 2014; available at http://www.co.monterey.ca.us/Planning/major/California%20Flats%20Solar/FEIR/FEIR_PLN120294_122314.pdf.

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required because the comment does not raise an environmental issue.

D3A-67 The first project cited in this comment is First Solar's Antelope Valley Solar Ranch One, and the commented indicated the following was pulled from an article: "Dust from the project led to complaints of respiratory distress by local residents and a concern of Valley Fever." What was put in quotations is a paraphrase of several items within the article cited. The only mention of Valley Fever in the article is as follows (Trabish 2013):

> Dust, in general, has led to complaints of respiratory distress by residents and a concern about soil-borne Valley Fever, as well as increased reports of Dry Land Distemper in horses.

This statement within the article was taken out of context by the commenter and is not directly pointing to fugitive dust created by the project, as shown above.

The comment regarding the two projects in San Luis Obispo County are acknowledged. The comment will be included in the administrative

	record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue. The comment also states that all the health protective measures recommended by the San Luis Obispo County Public Health Department and the California Department of Public Health are feasible and must be required to reduce the risk of workers, residents, and the public contracting Valley Fever. This comment is acknowledged and the Project's response to Valley Fever and mitigation is fully explained in Response to Comment D3A-27. The comment will be included as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

if all the above measures are adopted, a recirculated DEIR/DEIS is required to analyze whether these measures are adequate to reduce this significant impact to a level below significance.

D3A-68 Cont.

[140] California High-Speed Rail Authority and U.S. Department of Transportation, California High-Speed Train Project Environmental Impact Report/Environmental Impact Statement, Fresno to Bakersfield, Mitigation Monitoring and Enforcement Program Amendments, September 2015; available at http://www.hsr.ca.gov/Programs/Environmental_Planning/final_merced_fresno.html.

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D3A-68 This comment is acknowledged and the Project's response to Valley Fever and mitigation is fully explained in Response to Comment D3A-27. The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

Comment Letter D4

California Native Plant Society

San Diego Chapter of the California Native Plant Society
P O Box 121390
San Diego CA 92112-1390
conservation@cnpssd.org | www.cnpssd.org

November 22, 2017

Mark Brunette
Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501, San Diego, CA 92101
By e-mail to DSDEAS@sandiego.gov

RE: Pure Water San Diego Program, North City Project, Project No.: 499621/SCH No. 2106081016. Campbell's liverwort issues

Dear Mr. Brunette,

Thank you for the opportunity to comment on the draft of the City of San Diego ("City") Pure Water Program, North City Project ("Project") and its associated Draft Environmental Impact Report and Environmental Impact Statement ("DEIR/S"). CNPS promotes sound plant science as the backbone of effective natural areas protection. We work closely with decision-makers, scientists, and local planners to advocate for well informed and environmentally friendly policies, regulations, and land management practices. Our focus is on California's native plants, the vegetation they form, and climate change as it affects both.

I submitted a response letter for CNPSSD on the Project DEIR/S on November 21, 2017. After submitting that letter, I learned that Andrew Pigniolo of Laguna Mountain Environmental has found the CRPR list 1B.1 Campbell's liverwort (*Geothallus tuberosus*) at 32.836607 N, 117.146631 W, which is within or near the Project footprint. D4-1

Andrew and I have been documenting the distribution and habitat of Campbell's liverwort since early 2017. So far we know of about 16 occurrences, most of which cover a few square feet. Based on what we have learned so far, we may well end up petitioning to have the species listed under the California Endangered Species Act. Campbell's liverwort is extremely poorly known; only a handful of botanists know how to identify it. We are working to remedy the situation.

Under these circumstances, our primary interest is preventing the Project from inadvertently wiping out one or more populations of Campbell's liverwort. To that end, we wanted to notify you of this finding and to ask that surveys be conducted on the Project site in appropriate habitat. Most importantly, we are both happy to help train Project staff to identify the plant and to work with them to complete the survey in a timely fashion. This species is a rainy-season annual, so

Dedicated to the preservation of California native flora

Response to Comment Letter D4

California Native Plant Society San Diego Chapter (CNPS), Letter 2
Frank Landis
November 22, 2017

D4-1 Comment noted. Surveys for sensitive plants were conducted for the North City Project in March/April, May/June, and October of 2016, and March/April, June, and October of 2017 to capture species during their respective growth and blooming periods, as discussed in Section 2.3.1 of Appendix C. This species was not observed during any passes. The potential for Campbell's liverwort (*Geothallus tuberosus*) to occur within the Project area is discussed in Appendix L of Appendix C and is not further discussed in Appendix C because no direct, indirect, or cumulative impacts are expected. Bryophytes (non-vascular plants including mosses, liverworts, and hornworts) consist of plants that lack specialized water- or nutrient-conducting tissue. Lacking water-transporting tissue, bryophytes must live in proximity to a moisture source and are commonly found in damp or shady

Page 2 of 2

surveys could be completed in spring 2018. Our only condition is that we are unwilling to sign non-disclosure agreements relating to information on Campbell's liverwort and its habitat.

We do not believe the presence of Campbell's liverwort will significantly delay the Project. However, it is possible that the Project could unwittingly destroy one or more populations of this very rare plant, if steps are not taken to protect them. We are happy to work with the Project to prevent such an unfortunate occurrence.

D4-1 Cont.

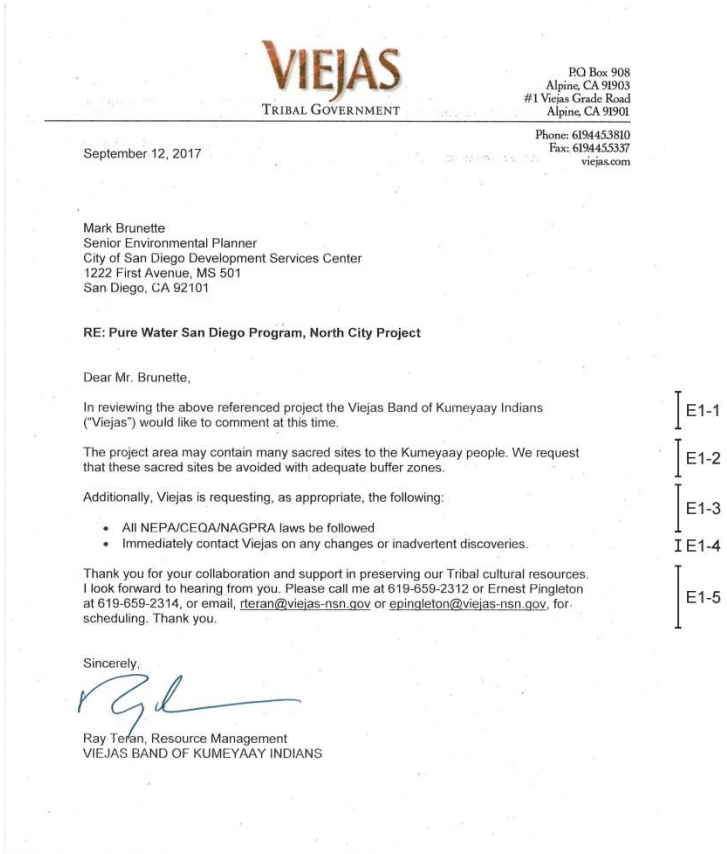
Sincerely,

Frank Landis, PhD
Conservation Chair
California Native Plant Society, San Diego Chapter
310-883-8569
conservation@cnpssd.org

CC:
Andrew Pigniolo, Laguna Mountain Environmental, Inc

microhabitats in chaparral and/or cut faces or banks of ephemeral stream channels. The vast majority of North City Project impacts would occur within developed roads, and the areas of impact within native habitat are extremely arid and are not associated with a moisture source. Since surveys for Campbell's liverwort were negative and suitable habitat for this species has a low potential to occur within the impact footprint, impacts to this species are not anticipated. The location given for the Campbell's liverwort in this comment is within the SANDER mitigation site and not within the North City Project footprint. The SANDER site is within both the VPHCP hard line preserve and the Multi-Habitat Planning Area (MHPA) and will be 100% protected and receive restoration that will greatly enhance the ecological function and viability of resources with the approval of this Project.

Comment Letter E1



VIEJAS
TRIBAL GOVERNMENT

P.O Box 908
Alpine, CA 91903
#1 Viejas Grade Road
Alpine, CA 91901

Phone: 6194453810
Fax: 6194455337
viejas.com

September 12, 2017

Mark Brunette
Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, CA 92101

RE: Pure Water San Diego Program, North City Project

Dear Mr. Brunette,

In reviewing the above referenced project the Viejas Band of Kumeyaay Indians ("Viejas") would like to comment at this time. E1-1

The project area may contain many sacred sites to the Kumeyaay people. We request that these sacred sites be avoided with adequate buffer zones. E1-2

Additionally, Viejas is requesting, as appropriate, the following: E1-3

- All NEPA/CEQA/NAGPRA laws be followed
- Immediately contact Viejas on any changes or inadvertent discoveries. E1-4

Thank you for your collaboration and support in preserving our Tribal cultural resources. I look forward to hearing from you. Please call me at 619-659-2312 or Ernest Pingleton at 619-659-2314, or email, rteran@viejas-nsn.gov or epingleton@viejas-nsn.gov, for scheduling. Thank you. E1-5

Sincerely,

Ray Teran, Resource Management
VIEJAS BAND OF KUMEYAAY INDIANS

Response to Comment Letter E1

Viejas Band of Kumeyaay Indians
Ray Teran
September 12, 2017

E1-1 Comment noted.

E1-2 Sections 2.3, 2.4, and 4.1 of the Cultural Resources Inventory (Appendix F) and Sections 5.10.1, 5.10.2, and 5.10.3 of the Draft EIR/EIS describe the City's efforts to identify sacred sites or other cultural resources within 1 mile of the Project. These efforts include searching archival databases, conducting a reconnaissance survey, and consulting with Native American representatives. The City has committed to avoiding all known sacred sites and other cultural resources.

E1-3 Section 1.1 of the Cultural Resources Inventory and Section 5.10.5 of the Draft EIR/EIS address the Project's compliance with all federal, state, and local regulations. Section 7.3 of the Cultural Resources Inventory and Section 6.10.3.3 of the Draft EIR/EIS describe the Mitigation Measures that ensure the Project will comply with all pertinent regulation.

	E1-4 Mitigation Measure MM-CR-3 in Section 7.3 of the Cultural Resources Inventory and MM-HIS-3 in Section 6.10.3.3 of the Draft EIR/EIS describe the monitoring procedures following the discovery of a cultural resource or human remains. This includes a notification procedure and consultation with Native American representatives. **E1-5** Comment noted.

Comment Letter F1

CITY OF SAN DIEGO
DEVELOPMENT SERVICES DEPARTMENT
COMMENT FORM

North City Project, Pure Water San Diego Program,
DRAFT Environmental Impact Report / Environmental Impact Statement;
SCH No. 2016081016 / PTS No. 499621

The City of San Diego Development Services Department has prepared the North City Project, Pure Water San Diego Program, DRAFT Environmental Impact Report (EIR) / Environmental Impact Statement (EIS) and is inviting your comments regarding the adequacy of the document. All comments must be received by November 21, 2017, to be included in the final document considered by the decision-making authorities. Please record your comments in the space provided below and submit this form to City staff, or you can mail to the address noted on the back of this form. Thank you.

Please print clearly – Use the back of this form if additional space for comment is needed.

Comment: This appears to be a well thought out project of course there will be hiccups but overall it is a good project as water is precious + needed

F1-1

Name: Chris O'C Signature:

Organization (if applicable): Email: [illegible]

Address: [illegible] Crystal Springs Rd, Santee, CA 92071

Please note that comments and corresponding contact information received during the public review period will become part of the public record and may be made publicly available. Comments submitted anonymously will be accepted and considered.

Response to Comment Letter F1

Chris O'Connell
October 11, 2017

F1-1 The commenter's support of the Project is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.

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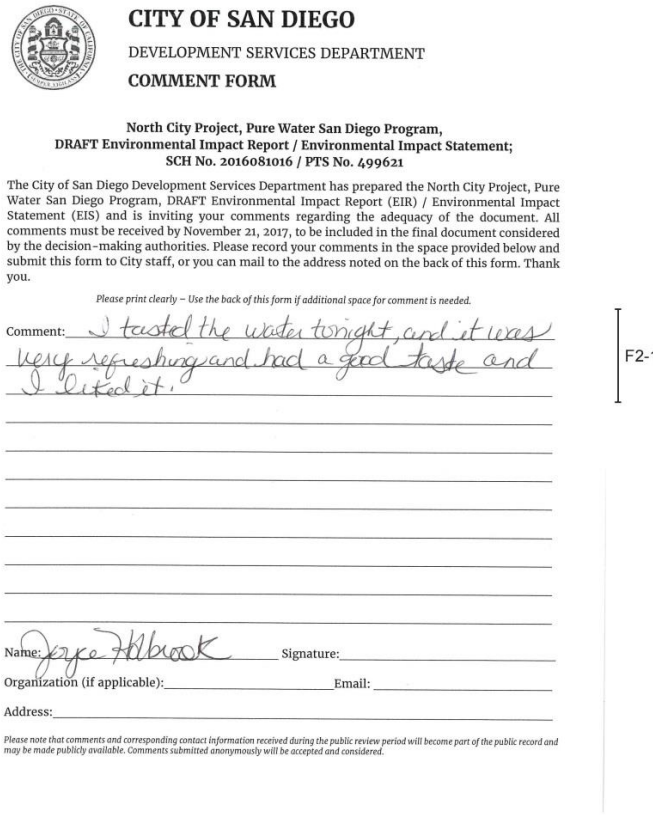
Comment Letter F2



CITY OF SAN DIEGO
DEVELOPMENT SERVICES DEPARTMENT
COMMENT FORM

**North City Project, Pure Water San Diego Program,
DRAFT Environmental Impact Report / Environmental Impact Statement;
SCH No. 2016081016 / PTS No. 499621**

The City of San Diego Development Services Department has prepared the North City Project, Pure Water San Diego Program, DRAFT Environmental Impact Report (EIR) / Environmental Impact Statement (EIS) and is inviting your comments regarding the adequacy of the document. All comments must be received by November 21, 2017, to be included in the final document considered by the decision-making authorities. Please record your comments in the space provided below and submit this form to City staff, or you can mail to the address noted on the back of this form. Thank you.

Please print clearly – Use the back of this form if additional space for comment is needed.

Comment: I tasted the water tonight, and it was very refreshing and had a good taste and I liked it.

F2-1

Name: Joyce Holbrook Signature:

Organization (if applicable): Email:

Address:

Please note that comments and corresponding contact information received during the public review period will become part of the public record and may be made publicly available. Comments submitted anonymously will be accepted and considered.

Response to Comment Letter F2

Joyce Holbrook
October 11, 2017

F2-1 The City appreciates the commenter's opinion and the comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

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Comment Letter F3

From: Kathy Louv
To: DSD EAS
Cc: Rich Louv
Subject: Public comment on Project 499621 / SCH No. 2106081016 - Pure Water San Diego Program, North City Project
Date: Tuesday, October 24, 2017 2:32:55 PM

Dear Mr. Brunette,
I am a resident of Scripps Ranch and appreciate the opportunity to comment on the EIR for the proposed Pure Water San Diego Program. I read parts of Part 3 and Appendix G - Water Quality Modeling-Miramar-Support Assessment, as my concern is about the impact of the increased pure water flow on the flora and fauna of Miramar Reservoir. Frankly, without the requisite technical background, I am not in a position to evaluate the study critically although it seems very thorough, very extensive. The summary of findings of Appendix G indicated there would likely be slightly elevated algae and chlorophyll levels, however, there is no mention of what the likely impact of this would be on plant and animal life. F3-1 F3-2 F3-3

I appreciate the work and money that have gone into this project as well as the work you and your staff are doing to provide a reliable source of clean drinking water to all San Diegans. Thank you. This basic public health service is of highest priority, however I would request that all avenues be explored to deliver pure water to our community in a way that does not diminish or destroy the wildlife in the reservoir and along the pipeline route. F3-4 F3-5

Sincerely,
Kathy Frederick Louv
11142 Saunders Court
San Diego 92131

Response to Comment Letter F3

Kathy Louv
October 24, 2017

F3-1 The City appreciates the commenter's review of the Draft EIR/EIS.

F3-2 Section 6.11, Hydrology and Water Quality, of the Draft EIR/EIS discusses the findings of Appendix G in the context of impacts to water quality objectives for beneficial uses, including the beneficial uses WARM (warm freshwater habitat) and WILD (wildlife habitat). As disclosed therein, the anticipated water quality changes in Miramar Reservoir would not result in the loss or impairment of these beneficial uses. Additionally, Section 6.4, Biological Resources, and Appendix C discuss potential impacts that changes in water input could have on aquatic species and food webs in Miramar Reservoir.

F3-3 Please refer to response F3-2.

F3-4 Comment noted.

	F3-5	Potential impacts to wildlife as a result of the Project are discussed in Section 6.4, Biological Resources, of the Draft EIR/EIS. There would be no direct or indirect impacts to wildlife or habitat used by wildlife within the Miramar Reservoir. There would be no direct impacts to wildlife along the North City Pure Water Pipeline, and all indirect impacts to wildlife would be less than significant with the mitigation described in Section 6.4.5 of the Draft EIR/EIS.

Comment Letter F4

Louis Rodolico
5906 Dirac Street
San Diego, CA 92122
lourodolico@yahoo.com

Mark Brunette, Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue
MS 501
San Diego, CA 92101
DSDEAS@sandiego.gov

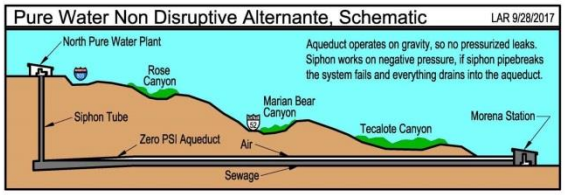
Re: Pure Water San Diego North City Project Draft Environmental Impact Report

Mr. Brunette;

Let me start out by saying I have toured both the Pure Water Plant and the Metro Bio-Solids Center. The future belongs to these technologies. However, I do not think most people realize that sewer lines are almost always at zero PSI and move due to gravity. Unlike the forcemains in this proposal that are transporting raw sewage under very high pressures, uphill through residential neighborhoods. We must mitigate the risk they impose on the community or find another answer. F4-1 F4-2

I have the following comments on the Pure Water Raw Sewage Pressurized Pipelines;

1) I think that it is important to emphasize the potential for a raw sewage leak and what that means for public safety. Raw sewage fumes inhaled by people would be dangerous especially to those who are immunocompromised. Why is there no emphasis on this issue? F4-3
2) What does a raw sewage pipe failure mean for streams and canyons. We have become used to drinking water mains and irrigation water mains bursting and causing floods. But raw sewage is an entirely different animal; it would immediately wipe out entire stream/canyon eco-systems. Why is there no emphasis on this issue? F4-4
3) I think that it is important to emphasize the potential for a raw sewage leak and what that means for our aquifer. A four foot diameter high pressure forcemain could easily leak millions of gallons into the aquifer before a leak is detected and fixed. What is your detection and protection system for small long term leaks? In an event where a pipe bursts it will take some time to stop the flow of millions of gallons of moving sewage. Also there is the potential for continued flow after the break due to gravity. How do you plan to protect the aquifer? F4-5
4) I think that it is important to emphasize how a raw sewage will affect our ocean. Why is there no emphasis on this issue? F4-6
5) Why was the Final Draft, Task 7, 10% Engineering Report, not put out for public comment as an initial offering? Why not a raw sewage aqueduct that provides a zero pressure means to deliver sewage and provides a depository if the pressurized return sludge line ruptures? This would be similar to the SDGE alternate. See below; F4-7



F4-8

Response to Comment Letter F4

Louis Rodolico, Letter 1
November 7, 2017

F4-1 Comment is noted and will be included in the administrative record for the Project.

F4-2 The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be

	shut down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring.

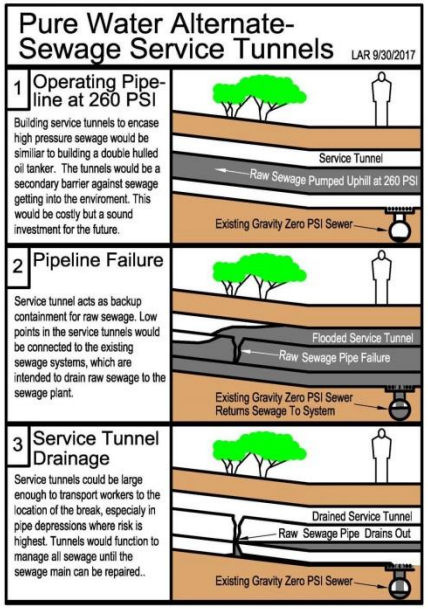
	As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City

	firmly believes that wastewater spills would not be likely.
	F4-3 As discussed in Section 6.3.6 of the Draft EIR/EIS, wastewater will be treated at the Morena Pump Station using either ferric chloride or High Purity Oxygen to control the odor of the wastewater in the Morena Wastewater Forcemain. Furthermore, the City does not agree that there is a high potential for raw sewage leaks along the Morena Wastewater Forcemain (refer to response F4-2) that would result in the exposure of the public to raw sewage fumes and has determined that no clarification or revisions are required to the Draft EIR/EIS.
	F4-4 Please refer to response F4-2 above. The proposed Morena Pipelines are located within existing roadways and outside canyons and other environmentally sensitive lands, with access for maintenance and inspections to prevent failure of the system.
	F4-5 Please refer to response F4-2. In the unlikely event of pipe failure, flows would stop within seconds of automatic pump station shut down.

	It is unclear which aquifer the commenter is referring to; as such, no detailed response can be provided.
	F4-6 Refer to response F4-2. Please note, raw sewage is not pumped, delivered, or otherwise transported to the ocean. The North City Project would reduce treated effluent discharged into the ocean from Point Loma Wastewater Treatment Plant.
	F4-7 As stated in the City's Public Notice of a Draft EIR, technical reports and documents were available to the public by request. The City has complied with the public review requirements of CEQA and NEPA.
	F4-8 Please refer to response F4-2. The City acknowledges the commenter's suggested alternative involving an underground raw sewage aqueduct as opposed to the proposed forcemain. The suggested method of conveyance would require the pipeline to be installed in excess of 550 feet belowground at the North City Water Reclamation Plant (NCWRP) due to the minimum slope needed to provide adequate flow. The size of the suggested aqueduct would also require a

	minimum 84 inches in diameter as opposed to the proposed 48-inch-diameter forcemain to allow for gravity flow. Due to the required depth, the magnitude of pumping required at NCWRP would increase substantially. Intermediate access shafts would be required along the alignment for maintenance. Therefore, the commenter's suggested method of conveyance would affect the feasibility of installing the Morena Pipelines, as well as potentially increasing environmental impacts related to construction air quality emissions, operational energy, and long-term maintenance access.

6) Why are there no technical solutions that are designed to contain any leaks that will occur? See one method below;



F4-9

I believe that the city is on the right track with it's pure water program but the city is on the wrong track with it's method. An EIR with thousands of pages makes it difficult for citizens to grasp what the city is doing and implies obfuscation. When pipes break, how do you intend to mitigate and contain toxic sewage? Please be specific. In my opinion you should improve your design to protect us and in the long run the Pure Water program.

F4-10
F4-11
F4-12

Thank You

Louis Rodolico

Attached; November 2017 Clairemont Times Article.

F4-13

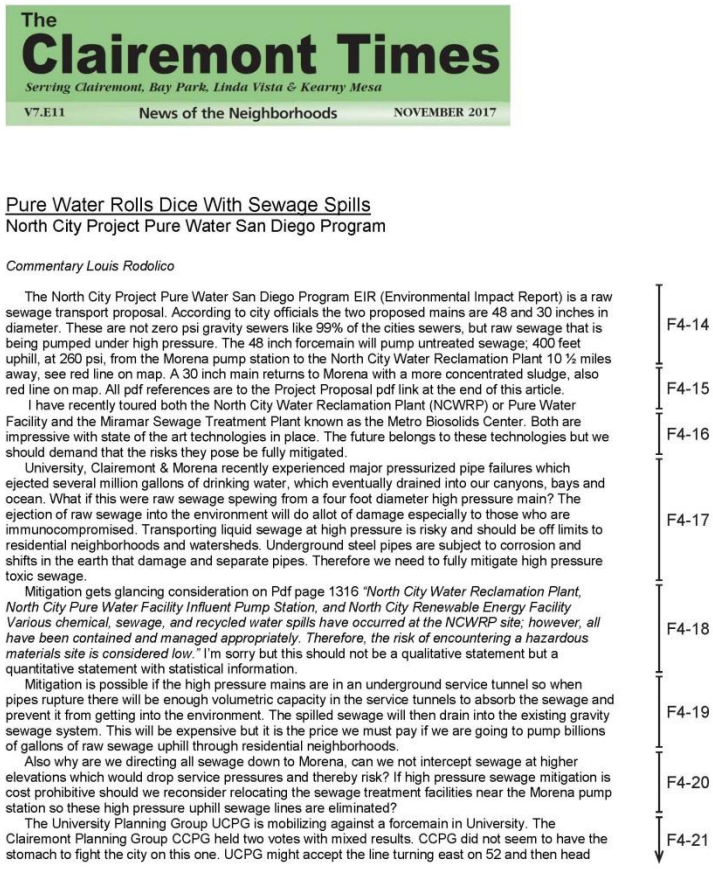
F4-9 As presented in response F4-2, the City does not agree that there is a potentially significant risk for raw sewage leaks; therefore, no mitigation or alternative solutions are provided.

F4-10 The commenter's support of the project and preference for an alternative method with regard to pressurization of the Morena Wastewater Forcemain is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.

F4-11 The Draft EIR/EIS is a combination EIR and EIS prepared for two different lead agencies and addresses a complex range of issues. The City has determined that the length of the EIR/EIS is necessary to present a thorough discussion of all relevant environmental issues.

F4-12 Please refer to response F4-2.

F4-13 Please refer to responses F4-14 through F4-27 below for responses to the attached referenced Clairemont Times Article.



The
Clairemont Times
Serving Clairemont, Bay Park, Linda Vista & Kearny Mesa
V7.E11 News of the Neighborhoods NOVEMBER 2017

Pure Water Rolls Dice With Sewage Spills
North City Project Pure Water San Diego Program

Commentary Louis Rodolico

The North City Project Pure Water San Diego Program EIR (Environmental Impact Report) is a raw sewage transport proposal. According to city officials the two proposed mains are 48 and 30 inches in diameter. These are not zero psi gravity sewers like 99% of the cities sewers, but raw sewage that is being pumped under high pressure. The 48 inch forcemain will pump untreated sewage; 400 feet uphill, at 260 psi, from the Morena pump station to the North City Water Reclamation Plant 10 ½ miles away, see red line on map. A 30 inch main returns to Morena with a more concentrated sludge, also red line on map. All pdf references are to the Project Proposal pdf link at the end of this article.

I have recently toured both the North City Water Reclamation Plant (NCWRP) or Pure Water Facility and the Miramar Sewage Treatment Plant known as the Metro Biosolids Center. Both are impressive with state of the art technologies in place. The future belongs to these technologies but we should demand that the risks they pose be fully mitigated.

University, Clairemont & Morena recently experienced major pressurized pipe failures which ejected several million gallons of drinking water, which eventually drained into our canyons, bays and ocean. What if this were raw sewage spewing from a four foot diameter high pressure main? The ejection of raw sewage into the environment will do allot of damage especially to those who are immunocompromised. Transporting liquid sewage at high pressure is risky and should be off limits to residential neighborhoods and watersheds. Underground steel pipes are subject to corrosion and shifts in the earth that damage and separate pipes. Therefore we need to fully mitigate high pressure toxic sewage.

Mitigation gets glancing consideration on Pdf page 1316 *"North City Water Reclamation Plant, North City Pure Water Facility Influent Pump Station, and North City Renewable Energy Facility Various chemical, sewage, and recycled water spills have occurred at the NCWRP site; however, all have been contained and managed appropriately. Therefore, the risk of encountering a hazardous materials site is considered low."* I'm sorry but this should not be a qualitative statement but a quantitative statement with statistical information.

Mitigation is possible if the high pressure mains are in an underground service tunnel so when pipes rupture there will be enough volumetric capacity in the service tunnels to absorb the sewage and prevent it from getting into the environment. The spilled sewage will then drain into the existing gravity sewage system. This will be expensive but it is the price we must pay if we are going to pump billions of gallons of raw sewage uphill through residential neighborhoods.

Also why are we directing all sewage down to Morena, can we not intercept sewage at higher elevations which would drop service pressures and thereby risk? If high pressure sewage mitigation is cost prohibitive should we reconsider relocating the sewage treatment facilities near the Morena pump station so these high pressure uphill sewage lines are eliminated?

The University Planning Group UCPG is mobilizing against a forcemain in University. The Clairemont Planning Group CCPG held two votes with mixed results. CCPG did not seem to have the stomach to fight the city on this one. UCPG might accept the line turning east on 52 and then head

F4-14
F4-15
F4-16
F4-17
F4-18
F4-19
F4-20
F4-21

F4-14 This comment accurately summarizes the Project as presented in the Draft EIR/EIS.

F4-15 Comment noted.

F4-16 The commenter's opinions of the facilities and associated technologies are noted and will be included in the administrative record for this Project as part of the Final EIR/EIS.

F4-17 Please refer to response F4-2.

F4-18 The statement from the Draft EIR/EIS referenced in this comment refers to the potential risk for encountering hazards during construction and subsurface excavation. No documented sites or cases have been recorded at the NCWRP, and therefore, the risk of encountering a site is considered low. No mitigation is required.

F4-19 Please refer to response F4-2 above.

F4-20 The Morena Pump Station would collect wastewater flows from a combination of four existing sanitary trunk sewers: the 78-inch North Mission Valley Interceptor, the 72-inch Morena Boulevard Interceptor No. 14, the 33-

	inch Morena Boulevard Trunk Sewer No. 11, and the 60-inch East Mission Bay Trunk Sewer No. 4. In order to sufficiently provide 30 million gallons per day of purified water, additional wastewater must be conveyed to the NCWRP compared to current conditions. The nearest location to the NCWRP that would provide the needed volume of wastewater in relation to existing sanitary trunk sewers is at the proposed location. Additionally, this location allows for continued flow of wastewater to the Point Loma Wastewater Treatment Plant, providing operational flexibility in allowing for a bypass mode where the Morena Pump Station could shut down at any time and the wastewater would flow to the Point Loma Wastewater Treatment Plant. As stated above, the City does not agree that the transport of sewage under pressurized conditions poses a significant risk of upset or leaks, and therefore, no mitigation would be required.
	F4-21 The University Community Planning Group's opposition to the proposed location for the Morena Pipelines and preference for an alternate route crossing State Route (SR-) 52 then heading north along Interstate (I-) 805, or

	an alternate route which follows I-8 east to SR-163 north to I-805 north, is noted and will be included in the administrative record for this Project as part of the Final EIR/EIS. As stated in the Caltrans Encroachment Manual, Chapter 5, Section 606.1, "Caltrans' policy prohibits the placement of longitudinal encroachments within controlled access rights-of-way…[r]equests for placement of longitudinal encroachments are permitted only when approved through Caltrans' design exception process, and approved by the DOD [Division of Design], Chief, when no other reasonable alternative is available, and it has been determined that there is available space" (Caltrans 2018a). Proposed longitudinal encroachments within the access control right-of-way of freeways or expressways on a highway identified as part of the freeway and expressway system are also prohibited per the Caltrans Project Development Procedures Manual, Chapter 17 (Caltrans 2018b). These policies and practices have been confirmed through City communications with Caltrans (Caltrans 2017). As such, the feasibility for an alternative route within freeway right-of-way is limited, and since impacts would not be

north up 805 to the Pure Water Facility. Another alternate is to place the mains along the Interstates, see blue line on map.

If the city considers the cost of disruption then something like a deep tunnel with an aqueduct from Morena to the NCWRP, with a siphon well at the Pure Water Facility, may be the most economical method. San Diego does not provide Disruption or Public Safety Reports, and does not budget for these since it is not their cost; this is the definition of poor governance. We saw poor city governance with the Regents Road Bridge where community safety issues were not only ignored but the city put a muzzle on public safety officials.

F4-21 Cont.

F4-22

San Diego is doing an excellent job acquiring water for the future. The single forcemain Morena pump, with buried lines, in residential neighborhoods, is the most economical but riskiest of alternatives. According to managers Pure Water will become competitive with other water sources in about 10 years. But if they fully mitigate this proposed high pressure sewer line it could be longer than 10 years. Pdf page 1301; *"The North City Project has been designed to meet the City of San Diego's development regulations to the extent feasible; however, due to Government Code Section 53091(e) the North City Project is not required to meet all standards (see Section 6.1, Land Use). Nonetheless, in all cases related to safety, the North City Project has been designed to meet the standards of applicable development regulations."* In my opinion "to the extent feasible" is the matter at hand. It is feasible to mitigate citizen safety and disruption during construction.

F4-23

F4-24

I for one support the Pure Water project but the current alternative of a high pressure sewer main through residential neighborhoods needs to be scrapped.

F4-25

substantially reduced, are not considered further. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. Please refer to Responses to Comment Letter C4 (University City Planning Group) and specifically Response to Comment C4-5 regarding these suggested alignment alternatives.

F4-22 The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

F4-23 Please refer to responses F4-2 and F4-21 above.

	F4-24 The text from the Draft EIR/EIS quoted in this comment does not refer to the City's or other engineering design standards for the Morena Wastewater Forcemain. The "development regulations" that the City is not required to meet per Government Code Section 53091(e) include regulations such as height restrictions and setbacks of buildings. The design of the Morena Wastewater Forcemain will meet or exceed all City design standards, including those presented in the Sewer Design Guide (City of San Diego 2015a), and no impacts to citizen safety are anticipated. **F4-25** The commenter's support of the Project and opposition to the current design and proposed location for the Morena Wastewater Forcemain is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.

If you want your comments on the record please send them by November 21, 2017 to the following address: Mark Brunette, Senior Environmental Planner, City of San Diego Development Services Center, 1222 First Avenue, MS 501, San Diego, CA 92101 or e-mail to; DSDEAS@sandiego.gov with Pure Water San Diego North City Project Draft Environmental Impact Report in the subject line. F4-26

Louis Rodolico has been a University resident since 2001
louisrodolico.com

Link: North City Project Proposal
https://www.sandiego.gov/sites/default/files/north_city_project_pure_water_san_diego_program_public_review_draft.compressed.pdf F4-27

Metro Biosolids Center, Centrifuge Room Photo: Louis Rodolico 8/15/201

Centrifuges are one of the more interesting water purification technologies. Basically they spin sewer water at high speed. Inside there is a precision turbine like bladed shaft which separates out suspended solids. These centrifuges are made by overseas companies and cost a million dollars each. Europe is ahead of the US with this technology but they do manufacture some of their products here. America could miss out on upcoming technologies associated with global warming given the Federal position on climate change. F4-28

This article has been reformatted to fit the 8 ½ x 11 paper size.

F4-26 This comment accurately summarizes contact information for the submittal of public comments as stated in the Project's Public Notice of a Draft EIR.

F4-27 This comment is noted and will be included in the administrative record for this Project as part of the Final EIR/EIS.

F4-28 This comment is noted and will be included in the administrative record for this Project as part of the Final EIR/EIS.

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Comment Letter F5

Brunette, Mark

From: Megan Hanson <meganhansonpm@gmail.com>
Sent: Thursday, November 09, 2017 9:20 AM
To: DSD EAS
Subject: Pure Water San Diego North City Project Draft Environmental Impact Report

To whom it may concern-

As a Clairemont resident, I am highly opposed to the *The North City Project.* F5-1

This project would not only negatively impact our neighborhood as it's being built, but could prove catastrophic to Tecolote and Rose Canyons and the watersheds that flow through them if there was a failure. The twists and turns of the pipeline to move it through our neighborhood just sounds like an accident waiting to happen. Not to mention the disruption to residential street with houses on Clairemont Drive, Clairemont Mesa, and Genesee that would have to ensure construction and the fear of raw sewage spilling in the future. Genesee is a very busy North South route that we as residents cannot afford to have torn up for a project that simply needs to go around. F5-2 F5-3

A much better solution, that would not disrupt thousands of people, is down the existing freeways of Interstate 8 and Intestate 163. F5-4

Thank you, a homeowner of Clairemont- F5-5

Megan Hanson
4740 Shoshoni Avenue
San Diego, CA 92117

Virus-free. www.avast.com

1

Response to Comment Letter F5

Megan Hanson
November 9, 2017

F5-1 The commenter's opposition to the project is noted and will be included in the administrative record.

F5-2 The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the

	Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring.

	As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the

	City firmly believes that wastewater spills would not be likely.
	F5-3 The commenter's preference for an alternative alignment for the Morena Pipelines is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required. Please also refer to response F5-2.
	F5-4 The commenter's preference for an alternative alignment within Interstate 8 and State Route 163 is noted. As stated in the Caltrans Encroachment Manual, Chapter 5, Section 606.1, "Caltrans' policy prohibits the placement of

	longitudinal encroachments within controlled access rights-of-way…[r]equests for placement of longitudinal encroachments are permitted only when approved through Caltrans' design exception process, and approved by the DOD [Division of Design], Chief, when no other reasonable alternative is available, and it has been determined that there is available space" (Caltrans 2018a). Proposed longitudinal encroachments within the access control right-of-way of freeways or expressways on a highway identified as part of the freeway and expressway system are also prohibited per the Caltrans Project Development Procedures Manual, Chapter 17 (Caltrans 2018b). These policies and practices have been confirmed through City communications with Caltrans (Caltrans 2017). As such, the feasibility for an alternative route within freeway right-of-way is limited, and because impacts would not be substantially reduced, are not considered further. Please refer to response F5-3. **F5-5** Comment noted.

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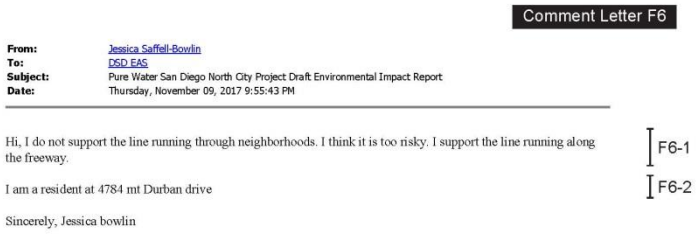


Comment Letter F6

From: Jessica Saffell-Bowlin
To: DSD EAS
Subject: Pure Water San Diego North City Project Draft Environmental Impact Report
Date: Thursday, November 09, 2017 9:55:43 PM

Hi, I do not support the line running through neighborhoods. I think it is too risky. I support the line running along the freeway. F6-1

I am a resident at 4784 mt Durban drive F6-2

Sincerely, Jessica bowlin

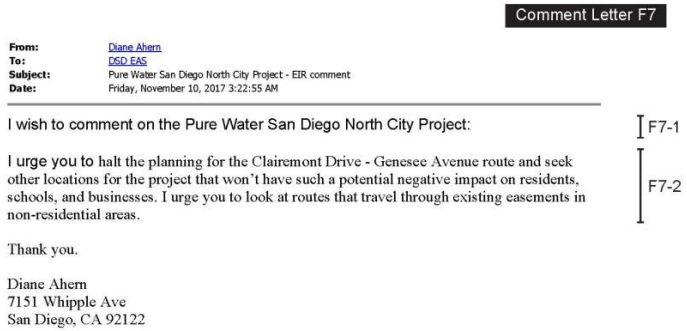
Response to Comment Letter F6

Jessica Saffell-Bowlin
November 9, 2017

F6-1 The commenter's preference for an alternative alignment along freeway right-of-way is noted. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required.

As stated in the Caltrans Encroachment Manual, Chapter 5, Section 606.1, "Caltrans' policy prohibits the placement of longitudinal encroachments within controlled access rights-of-way…[r]equests for placement of longitudinal

	encroachments are permitted only when approved through Caltrans' design exception process, and approved by the DOD [Division of Design], Chief, when no other reasonable alternative is available, and it has been determined that there is available space" (Caltrans 2018a). Proposed longitudinal encroachments within the access control right-of-way of freeways or expressways on a highway identified as part of the freeway and expressway system are also prohibited per the Caltrans Project Development Procedures Manual, Chapter 17 (Caltrans 2018b). These policies and practices have been confirmed through City communications with Caltrans (Caltrans 2017). As such, the feasibility for an alternative route within freeway right-of-way is limited, and since impacts would not be substantially reduced, are not considered further. **F6-2** Comment noted.



Comment Letter F7

From: Diane Ahern
To: DSD EAS
Subject: Pure Water San Diego North City Project - EIR comment
Date: Friday, November 10, 2017 3:22:55 AM

I wish to comment on the Pure Water San Diego North City Project: F7-1

I urge you to halt the planning for the Clairemont Drive - Genesee Avenue route and seek other locations for the project that won't have such a potential negative impact on residents, schools, and businesses. I urge you to look at routes that travel through existing easements in non-residential areas. F7-2

Thank you.

Diane Ahern
7151 Whipple Ave
San Diego, CA 92122

Response to Comment Letter F7

Diane Ahern
November 10, 2017

F7-1 Comment noted.

F7-2 The commenter's preference for an alternative alignment for the Morena Pipelines is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible.

Since no specific alternative routes are provided by the commenter, no additional clarifications or rationale can be provided.

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Comment Letter F8

From: jtrbruce@aol.com
To: DSD EAS
Subject: high pressure sewage line
Date: Friday, November 10, 2017 6:49:00 PM

Please count me as being against the current plan.

It may be the lowest cost option available, but sounds to me like being penny wise and dollar foolish. It might be fine for years, but installing something that would fail catastrophically if/when it does fail seems like a poor choice compared to other options that would fail more gracefully even if they might be more expensive in the short run.

F8-1

And please never underestimate our government's ability to postpone maintenance and keeping systems around past their originally planned lifetime.

Please go back to the drawing board and find a better solution.

Thank you,
Bruce McArthur

Response to Comment Letter F8

Bruce McArthur
November 10, 2017

F8-1 The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater

	Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and

	Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely.

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Comment Letter F9

Brunette, Mark

From: bruce miller <milmarbr@gmail.com>
Sent: Saturday, November 11, 2017 10:55 AM
To: DSD EAS
Subject: Pure Water San Diego North City Project Draft Environmental Impact Report

To: Mark Brunette

Please rethink the Pure Water San Diego North City Project, at the location of Clairemont Drive. We see many red flags with this project. First, a high pressure sewer main through a residential area is alarming. We're sure it wouldn't be considered in a more affluent area. F9-1

The Rose Canyon fault is very close. The reality of an underground service tunnel sounds unlikely, and the lack of Disruption or Public Safety Reports, are all areas of concern. F9-2

The Highway Alternative, up 805, could possibly be a better choice. F9-3

Thank you for your consideration.
Bruce & Marlene Miller

1

Response to Comment Letter F9

Bruce Miller
November 11, 2017

F9-1 The commenter's preference for an alternative alignment is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible.

F9-2 Public safety was analyzed in several sections of the Draft EIR/EIS, including Section 6.3, Air Quality and Odor; Section 6.7, Geology and Soils; Section 6.9, Health and Safety Hazards; and Section 6.14, Public Services.

	Regarding faulting, as discussed in Section 6.7, Geology and Soils, the Morena Pipelines (which are the Project components closest to the Rose Canyon Fault Zone) have been specifically designed and engineered to avoid adverse effects in the case of an earthquake, such as might occur along the Rose Canyon Fault Zone. The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity. As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut

	down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring.

	As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely.

	F9-3	Please refer to response F9-1. As stated in the Caltrans Encroachment Manual, Chapter 5, Section 606.1, "Caltrans' policy prohibits the placement of longitudinal encroachments within controlled access rights-of-way…[r]equests for placement of longitudinal encroachments are permitted only when approved through Caltrans' design exception process, and approved by the DOD [Division of Design], Chief, when no other reasonable alternative is available, and it has been determined that there is available space" (Caltrans 2018a). Proposed longitudinal encroachments within the access control right-of-way of freeways or expressways on a highway identified as part of the freeway and expressway system are also prohibited per the Caltrans Project Development Procedures Manual, Chapter 17 (Caltrans 2018b). These policies and practices have been confirmed through City communications with Caltrans (Caltrans 2017). As such, the feasibility for an alternative route within freeway right-of-way is limited, and since impacts would not be substantially reduced, are not considered further.

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Comment Letter F10

From: mtsos@sbcglobal.net
To: DSD EAS
Subject: Pure Water Project
Date: Monday, November 13, 2017 10:51:58 AM

Mr. Burnett

Regarding the Pure Water Project, have you thought about running it thru Tecolote Canyon, rather than up Clmt Drive through our neighborhoods? Clairemont and Bay Park has already been affected by trolley construction and dirt and noise and one-lane streets! F10-1

How can the City in good conscience disrupt our streets even more? Clairemont Drive is already a mess with potholes. Can you guarantee this pipeline will not explode with sewage in the future since we are on the Rose Canyon fault if there is an earthquake? F10-2 F10-3
And where is this money coming from since the City is on a tight budget? F10-4

You should publish why this project is a good idea as it stands at present, running thru one of SD's heaviest populated areas? Just voicing my objections. F10-5

Yours truly,

Maria T

Response to Comment Letter F10

Maria T
November 13, 2017

F10-1 The commenter's preference for an alternative alignment for the Morena Pipelines is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required.

An alternative alignment in Tecolote Canyon would be infeasible since it would conflict with City Council policies 400-13 and 400-14 that

	prohibit new wastewater forcemains in canyons and other environmentally sensitive lands (City of San Diego 2002a and City of San Diego 2002b). This alternative route would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway right-of-way (City of San Diego 2015a).
	F10-2 The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the EIR/EIS; therefore, no additional response is provided or required.
	F10-3 The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

	As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line

	triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence,

	the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely. **F10-4** The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the EIR/EIS; therefore, no additional response is provided or required. **F10-5** The commenter's objections to the Project are noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.

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Comment Letter F11

November 19, 2017

Mr. Mark Brunette

City of San Diego, DSDEA@sandiego.gov

PTS 499621, Pure Water EIR Comments

Dear Mr. Brunette:

Please accept this letter with three concerns regarding the EIR for the Pure Water Project, hahaha because it is really raw sewage (30 mgd 48" pipe and sewer sludge 36" pipe) flowing through the University Community residential streets. F11-1

Concern # 1 Lack of studying alternatives that were suggested by the community. The predesign studies were completed in March, 2016 before the scoping meetings were held in August, 2016 and 10% design levels were done. Also, a Lack of information to the community group. It appears that there were not additional studies from suggestions made from the UCPG group on July 6, 2017 and July 11, 2017. There were not strong attempts to obtain easements from Caltrans or SDGE and others to avoid residential streets and protect local residents. Don't approve this document without further studies on suggested alternatives in the UCPG letter. F11-2

Concern #2

Raw sewage spills on residential streets may cause severe Health issues to children and patients with compromised immune systems. They are susceptible to bacterial infections and breathing problems. Because of the proximity to our hospitals – there are many patients receiving treatments for cancer, liver, lung and asthma conditions and they should be considered. The City of San Diego has numerous spills and pipe failures and doesn't do a good job of maintenance of their pipes. Raw sewage could flow through our streets. There has been 4 water pipes fail in the last 30 days in the City of San Diego causing sink holes and water shut offs. High pressure lines could be severely damaged in the event of an earthquake. Please move the pipes and protect our citizens from disease - and toxic sewer spills. F11-3

Concern # 3

Traffic safety during construction and spills is a major concern. We have over 38,000 students in our area on a daily basis. Bicycle use, skateboards, pedestrians and street crossings are a common occurrence in the area. Traffic control plans haven't been adequate especially at night when residents and workers are trying to catch buses, shuttles and the super loop. Stations are sprinkled throughout the community and are frequented with over 12,000 passengers a day. Many more are walking to school, walking to work or shopping. Entertainment areas are also impacted at different hours of the day and evening hours. We have a lack of lighting for pedestrians and bicycle riders. Traffic control F11-4

Response to Comment Letter F11

Janay Kruger
November 19, 2017

F11-1 Comment noted.

F11-2 The commenter's preference for an alternative alignment for the Morena Pipelines is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required.

The alternative routes proposed by the University Community Planning Group (UCPG)

	would not substantially lessen the environmental effects of the Project. The UCPG alignment labeled as "Route 52 & 805" and the one labeled as the "Claremont Mesa Boulevard" alignment would follow the same route for the first two-thirds of the alignment and would result in similar significant and unavoidable traffic and noise impacts related to the construction of the Morena Pipelines. The "SDG&E" alignment would have various geotechnical constraints, would result in greater air quality and noise impacts from additional tunneling, and would have potentially greater wetland impacts at entrance and exit pit locations along the trenchless tunnels. Additionally, pipeline construction within freeway right-of-way would require California Department of Transportation (Caltrans) approval; City communications with Caltrans has determined that this approval would not be granted (Caltrans XXXX). As such, the feasibility for an alternative route within freeway right-of-way is limited. Alternative alignments in canyons or SDG&E right-of-way would similarly be infeasible since it would

		conflict with City Council policies 400-13 and 400-14 that prohibit new wastewater force mains in canyons and other environmentally sensitive lands (City of San Diego 2002a and City of San Diego 2002b) and/or the City's Sewer Design Guide that encourages construction of sewer utilities within roadway right-of-way (City of San Diego 2015a).
	F11-3	Water pipes fail much more frequently than sewage pipes and are not a good representation of the potential for failure of the Morena Pipelines. The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity. The City has provided this additional clarification of the wastewater forcemain

	design within Chapter 3 of the Final EIR/EIS. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation. As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain

	and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014).

plans should be carefully designed and lighted to prevent accidents. There are many traffic delays planned and we oppose the closing of our streets because of our traffic volumes. Genesee Ave. is a very heavily traffic street. Emergency vehicles are having a difficult time when the streets are closed or detoured. Police, fire and paramedics should be respected and consulted.

F11-4 Cont.

Please study these issues by consulting Fire, Police, Paramedics, Hospitals and MTS.

Sincerely,

Janay Kruger

F11-4 Potential impacts of the Proposed Action on traffic circulation are fully analyzed in Section 6.16, Transportation, Circulation, and Parking, of the Draft EIR/EIS. As discussed in the Draft EIR/EIS, construction of proposed pipelines alignments would consist of daytime, nighttime, modified/reduced, or weekend work hours based on surrounding land uses and to avoid peak hour traffic to the extent feasible. Please refer to Section 5.16.2 for a detailed discussion of proposed construction and work hours within roadways.

As discussed in Section 6.14, Public Services, of the Draft EIR/EIS, construction of pipelines would have the potential to temporarily and partially affect emergency access. In all cases, pipeline construction within roadways would result only in temporary partial closures, with movement along the roadway and access to surrounding properties maintained at all times. Additionally, as discussed in Section 6.16, Transportation, Circulation, and Parking, of the Draft EIR/EIS, a traffic control plan/permit will be submitted per the City of San Diego requirements for all roadway segments where construction will occur. As per

	the requirements of the traffic control plan/permit, the contractor shall notify police and fire departments 5 working days prior to starting work. Additionally, all construction contracts have conditions mandating emergency access into and through the site at all times.

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Comment Letter F12

BRIGGS LAW CORPORATION

San Diego Office:
4891 Pacific Highway, Suite 104
San Diego, CA 92110

Telephone: 619-497-0021
Facsimile: 909-949-7121

Inland Empire Office:
99 East "C" Street, Suite 111
Upland, CA 91786

Telephone: 909-949-7115
Facsimile: 909-949-7121

Please respond to: Inland Empire Office

BLC File(s): 1058.00

19 November 2017

Mark Brunette
Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, CA 92101
DSDEAS@sandiego.gov

Re: *North City Project, Pure Water San Diego Program; Project Number 499621/SCH No. 2106081016*

F12-1

Dear Mr. Brunette:

Please accept the comments on Attachment 1 hereto on behalf of my client, The Committee of 10 (Alice Buck, Vick Soffer, Margaret Gregory, Barry Bernstein, David Cox, Tamara Milic, Catherine Spangler, Merle Langston, Janay Kruger, and Katie Nelson Ridolico), with regard to the above-referenced project. Until there is full compliance with the California Environmental Quality Act, the City of San Diego should not approve this project.

Sincerely,

BRIGGS LAW CORPORATION

Cory J. Briggs

Attachment

Be Good to the Earth: Reduce, Reuse, Recycle

Response to Comment Letter F12

Briggs Law Corporation
Cory J. Briggs
November 19, 2017

F12-1 Comment noted. This comment introduces specific attached comments that are responded to individually below.

ATTACHMENT 1
Reasons for Denying Project

I. General Concerns

The Length of the Draft EIR Exceeds Reasonable Page Limits Set by CEQA Guidelines and Inhibits the Public from Rapidly Understanding the Document.

According to the page limits set by the California Code of Regulations, Guidelines for Implementation of the California Environmental Quality Act,"[T]he text of draft EIRs should normally be less than 150 pages and for proposals of unusual scope or complexity should normally be less than 300 pages." (Cal. Code Regs. tit. 14, § 15141). Here, the draft EIR is a staggering 1,758 pages. According to guidelines, a draft EIR that is not unusual in scope or complexity should be only *150 pages*. If the proposed project is complex, however, it is reasonable for the draft EIR to be *300 pages*. Not only is this draft EIR well over reasonable page limits, but also it conflicts with CEQA's general writing guidelines. F12-2

CEQA mandates that, "EIRs shall be written in plain language and may use appropriate graphics so that decision-makers and the public can rapidly understand the documents." (Cal. Code Regs. tit. 14, § 15201). Additionally, "Public participation is an essential part of the CEQA process. Each public agency should include provisions in its CEQA procedures for wide public involvement, formal and informal, consistent with its existing activities and procedures, in order to receive and evaluate public reactions to environmental issues related to the agency's activities." *Id.* Essentially, an EIR should be short, concise and rapidly understandable to the public. F12-3 F12-4

Given the fact this draft EIR is over *1,700 pages* in length, it is highly unlikely the public will be able to read through all of the material rapidly and adequately in order to make informed decisions about the Project. The extensive length of this document coupled with numerous volumes of data, graphs and modules makes it very difficult, if not impossible, for the public to comprehend it. The draft EIR is not written in plain language because its presentation of highly technical data caters only to those who have backgrounds in these technical fields. Without plain language, the public is unable to properly comprehend the Project and give meaningful reactions to its *many* environmental issues. F12-5

II. Project Alternatives

The Draft EIR Fails to Provide a Discussion of Feasible Alternatives to the Project as Required by CEQA.

Under CEQA guidelines, "an EIR must describe and analyze a range of reasonable alternatives to the project that are potentially feasible, would attain most of the basic objectives of the project and would avoid or substantially lessen any of the project's significant effects." [(Cal. Code Regs. tit. 14, § 15126.6(a)]. "An EIR need not evaluate the environmental effects of F12-6

Page 1 of 9

F12-2 Section 15141 of the CEQA Guidelines merely suggests page limits for the text of draft EIRs, and the suggested limits are not a regulatory requirement. The Draft EIR/EIS is a combination EIR and EIS prepared for two different lead agencies and addresses a complex range of issues. The City has determined that the length of the Draft EIR/EIS is necessary to present a thorough discussion of all relevant environmental issues.

F12-3 Again, the CEQA Guidelines merely suggests general "Writing" guidelines in Section 15140. The Draft EIR/EIS discusses especially technical issues related to water and wastewater treatment and associated processes. The City has made every attempt to present this information in accessible language and to use graphics where feasible to further the understanding of readers.

F12-4 In compliance with Section 15201 of the CEQA Guidelines, the City made every provision possible to ensure for wide public involvement, including posting the Draft EIR/EIS in two locations on the City website: http://www.sandiego.gov/city-clerk/officialdocs/

	notices/index.shtml and https://www.sandiego.gov/water/purewater/purewatersd/reports. In compliance with Section 15082 of the CEQA Guidelines, the City's Development Services Department circulated the Notice of Preparation and Scoping Letter to interested agencies, groups, and individuals on August 4, 2016, for a 30-day public scoping period. In addition, public scoping meetings were held on August 23, 2016, at the Scripps Miramar Ranch Public Library, and on August 25, 2016, at the City's Public Utilities Department, to gather additional public input. Comments received during the Notice of Preparation public scoping period and meetings were considered during the preparation of this Draft EIR/EIS and are included in Appendix A of the Draft EIR/EIS. The Development Services Department published and distributed the Public Notice of a Draft EIR on September 7, 2017. The Development Services Department granted a request to extend the review period to November 21, 2017. The additional time is in accordance with San Diego Municipal Code Section 128.0307, which allows for an

	additional review period not to exceed 14 calendar days. In addition, a public workshop was held on October 11, 2017, at the Public Utilities Department. Public comments were received both orally (recorded via court reporter) and in writing at the workshop. The City of San Diego has conducted numerous public outreach efforts related to the Pure Water Program, including the North City Project, beyond the required noticing for the Draft EIR/EIS. These efforts include, but are not limited to, community planning group meeting presentations, tours of the Pure Water Facility (since 2011), staffing booths at community events throughout San Diego (both past and future), distribution of Project information within the annual Drinking Water Quality Report that is mailed to addresses within San Diego, and outreach through social media. Further information regarding public outreach for the Pure Water Program can be found at the following website: https://www.sandiego.gov/water/purewater/purewatersd/involvement. Refer also to responses F12-2 and F12-3.

	F12-5 Please refer to responses F12-2 and F12-3. It should also be noted that the City granted a 14-day extension to the public review period in order to allow additional time for review of the document under CEQA. Additionally, the federal public review period under NEPA closed on January 8, 2018. **F12-6** Comment noted.

alternatives at the same level of detail as the proposed project, but it *must include enough information* to allow meaningful evaluation, analysis, and comparison with the proposed project." [Emphasis Added]. *Id.* As always, a draft EIR must consider a reasonable range of feasible alternatives to foster informed decision-making and public participation. CEQA defines 'feasible' as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors." *Id.*

F12-6 Cont.

Here, the draft EIR proposes construction of two new pipelines named Morena Wastewater Forcemain and Brine/Centrate Pipelines (Morena Pipelines) as part of its overall project. The Morena Pipelines would be built along the following alignment:

> The alignment would begin in an open cut section near the north corner of the Morena Pump Station site, entering the public street right-of-way on Custer Street. The alignment would generally head north along Sherman Street, Morena Boulevard, and West Morena Boulevard. **The alignment would cross Tecolote Creek just to the east of Tecolote Road bridge, then continue generally heading north and east along Ingulf Street, Denver Street, Clairemont Drive, Clairemont Mesa Boulevard, and Genesee Avenue.** It would cross near the bridge at San Clemente Canyon near the State Route 52 on-ramp. Following the bridge, the alignment would continue along Genesee Avenue, crossing SR-52 and the Metropolitan Transit System railroad tracks. After the railroad tracks, the alignment will continue north along Genesee Avenue to the intersection of Nobel Drive and Genesee Avenue. After the intersection, the alignment will head east on Nobel Drive and then continue heading north on Towne Centre Drive. The alignment would turn east on Executive Drive and cross I-805. The alignment would end at North City Water Reclamation Plant. (See Page 3-6)[1]. [Emphasis added].

F12-7

This pipeline alignment is not the only feasible route for the Morena Pipelines and yet the draft EIR fails to discuss a reasonable range of other alignments. In particular, the draft EIR omits UCPG's alternative pipeline alignment that the Planning Committee proposed to City staff on numerous occasions. Instead, the Project only studied pipeline alignments under the following two alternatives: (1) the Miramar Reservoir Alternative and (2) the San Vicente Reservoir Alternative. (See Page 3-1)[2].

F12-8

On October 10th, 2017 at UCPG's monthly meeting City staff presented information to the Planning Committee about the Morena Pipelines. When questioned by the public about the absence of UCPG's alternative pipeline alignment, City staff stated that the alternative route was only considered during the "pre-design review period". The alternative pipeline alignment was ultimately abandoned due to higher costs. City staff was unable to offer further explanations as to why higher costs alone made the proposed alternative pipeline alignment infeasible. Nor did City staff include in the draft EIR *any* conclusions as to why this proposed alternative was infeasible.

F12-9

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F12-7 This comment accurately describes the route of the Morena Wastewater Forcemain and Brine/Centrate Pipeline (Morena Pipelines), a component of the Project, as presented in the Draft EIR/EIS.

F12-8 As discussed in Chapter 3, Alternatives, of the Draft EIR/EIS, CEQA requires a discussion of alternatives to the project be provided. Specifically, Section 15126.6(a) of the CEQA Guidelines states that an EIR shall, "[d]escribe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Section 15126.6(f) further states, "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." This is defined in the same section of the CEQA Guidelines as not meaning every conceivable alternative to the project, but only a reasonable range of potentially feasible alternatives.

	Additionally, an EIR must consider a reasonable range of alternatives to the project, or to the location of the project, which (1) offer substantial environmental advantages over the project proposal and (2) may be feasibly accomplished in a successful manner considering the economic, environmental, social, and technological factors involved (*South County Citizens for Smart Growth v. County of Nevada,* 221 Cal.App.4th 316 (2013)). The City of San Diego disagrees that a reasonable range of alternatives was not considered in the Draft EIR/EIS. The City has conducted an extensive analysis of alternative routes for each of the proposed pipeline alignments as summarized in Section 3.7.2, Current Alternative Screening, including the Morena Pipelines. The comment is unclear which specific suggested alternative routes are referenced. However, based on the comment letter provided by the University Community Planning Group (UCPG), three alternative routes for the Morena Pipelines are proposed by UCPG.

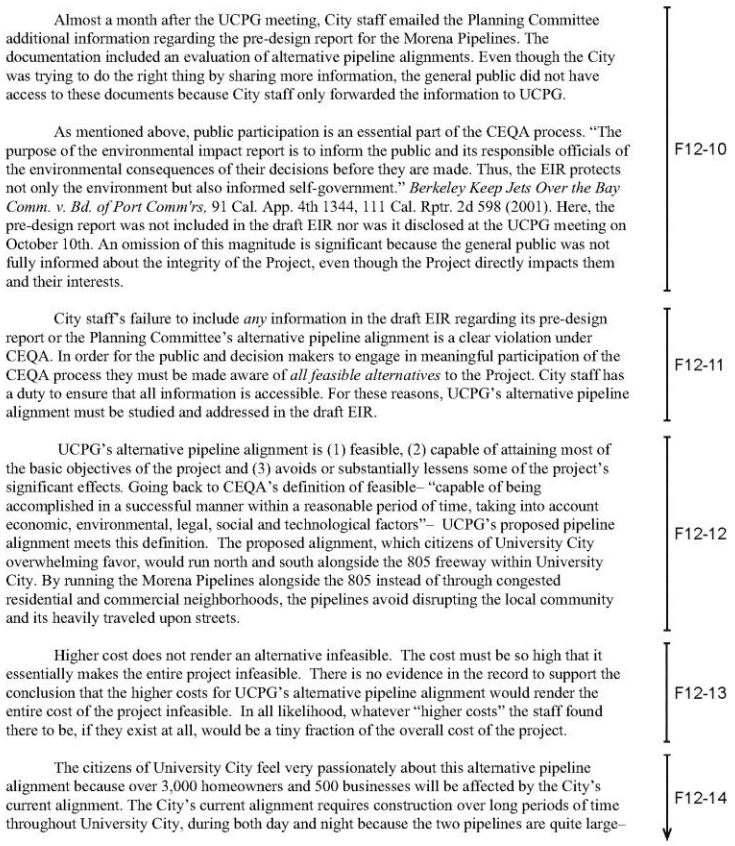
	The first alternative alignment proposed by UCPG is labeled as the "Route 52 & 805" alignment and is shown in blue on the graphic provided by UCPG. This alternative alignment would follow the same route along the southern two-thirds of the alignment and would likely result in the same noise and traffic impacts as the proposed alignment within this area; therefore, this alternative route would not alleviate the significant and unavoidable impacts that would result with construction of the Morena Pipelines. Noise and traffic impacts occurring within the UCPG area would merely be transferred east to other communities and would also result in significant and unavoidable impacts. Additionally, this alternative alignment would require longitudinal encroachments in California Department of Transportation (Caltrans) right-of-way for construction of the pipelines within both State Route 52 (SR-52) and Interstate 805 (I-805). As stated in the Caltrans Encroachment Manual, Chapter 5, Section 606.1, "Caltrans' policy prohibits the placement of longitudinal encroachments within controlled access rights-of-way…[r]equests for placement of longitudinal encroachments are permitted only

	when approved through Caltrans' design exception process, and approved by the DOD [Division of Design], Chief, when no other reasonable alternative is available, and it has been determined that there is available space" (Caltrans 2018a). Proposed longitudinal encroachments within the access control right-of-way of freeways or expressways on a highway identified as part of the freeway and expressway system are also prohibited per the Caltrans Project Development Procedures Manual, Chapter 17 (Caltrans 2018b). These policies and practices have been confirmed through City communications with Caltrans (Caltrans 2017). Therefore, this alternative alignment is not considered feasible. The second alternative alignment proposed by UCPG is labeled as the "SDG&E" alignment and is shown in yellow on the graphic provided by UCPG. This route was considered and evaluated by the City for its potential to reduce impacts to the community, in particular construction-related impacts associated with noise and traffic. However, this alternative would require tunneling along its entire length, and extreme low points along the alignment would require

	excavation of very deep tunnel shafts. Therefore, there is an elevated risk that the pipeline could be impacted by geotechnical conditions. There is also an increased risk to existing facilities due to settlement or vibration from the tunneling work. Tunneling methods involve machinery that is more energy intensive and hence would result in greater air quality impacts during construction. Tunneling equipment would also result in higher noise and vibration levels. Further, this alternative route would have wetland and other biological impacts within sensitive canyon areas at entrance and exit pit locations along the trenchless tunnels. This alternative would increase the potential for impacts to unknown buried cultural resources. As such, this alternative alignment would not substantially lessen the significant environmental effects of the Project. Additionally, the alternative alignment would be infeasible since it would conflict with City Council policies 400-13 and 400-14 that prohibit new wastewater forcemains in canyons and other environmentally sensitive lands (City of San Diego 2002a, 2002b). This alternative route would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway

	right-of-way (City of San Diego 2015a). This alternative would also require easements from both SDG&E and Marine Corps Air Station (MCAS) Miramar. MCAS Miramar would not support a new utility easement and directed the City to research areas along existing easements for future projects. The final alternative alignment proposed by UCPG is labeled as the "Clairemont Mesa Boulevard" alignment and is shown in green on the graphic provided by UCPG. Similar to the first alternative alignment proposed by UCPG, this alternative would not substantially reduce traffic or noise impacts. The route would be the same for the first two-thirds of the alignment and would result in similar significant and unavoidable traffic and noise impacts related to the construction of the Morena Pipelines. Traffic and noise impacts along Genesee Avenue for the northern portion of the route would merely be transferred east along Clairemont Mesa Boulevard. Additionally, the alignment would impact wetlands and other environmentally sensitive resources on MCAS Miramar along the Landfill Gas (LFG) Pipeline route. As such,

	this alternative alignment would not substantially lessen the significant environmental effects of the Project.
	F12-9 It is unclear which alternative pipeline alignment is being referred to in this comment, although it is assumed the commenter is referring to Alternative Alignment No. 2 (the "SDG&E Alignment"). Refer to response F12-8 regarding this suggested alternative alignment. As described in response F12-8, cost is not the only variable when determining the proposed alignment. In addition to the environmental reasons, other variables for consideration of pipeline alignments include length, construction duration, hydraulic profile, operation and maintenance limitations, utility conflict, and community effects.



Almost a month after the UCPG meeting, City staff emailed the Planning Committee additional information regarding the pre-design report for the Morena Pipelines. The documentation included an evaluation of alternative pipeline alignments. Even though the City was trying to do the right thing by sharing more information, the general public did not have access to these documents because City staff only forwarded the information to UCPG.

As mentioned above, public participation is an essential part of the CEQA process. "The purpose of the environmental impact report is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR protects not only the environment but also informed self-government." *Berkeley Keep Jets Over the Bay Comm. v. Bd. of Port Comm'rs,* 91 Cal. App. 4th 1344, 111 Cal. Rptr. 2d 598 (2001). Here, the pre-design report was not included in the draft EIR nor was it disclosed at the UCPG meeting on October 10th. An omission of this magnitude is significant because the general public was not fully informed about the integrity of the Project, even though the Project directly impacts them and their interests.

City staff's failure to include *any* information in the draft EIR regarding its pre-design report or the Planning Committee's alternative pipeline alignment is a clear violation under CEQA. In order for the public and decision makers to engage in meaningful participation of the CEQA process they must be made aware of *all feasible alternatives* to the Project. City staff has a duty to ensure that all information is accessible. For these reasons, UCPG's alternative pipeline alignment must be studied and addressed in the draft EIR.

UCPG's alternative pipeline alignment is (1) feasible, (2) capable of attaining most of the basic objectives of the project and (3) avoids or substantially lessens some of the project's significant effects. Going back to CEQA's definition of feasible– "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors"– UCPG's proposed pipeline alignment meets this definition. The proposed alignment, which citizens of University City overwhelming favor, would run north and south alongside the 805 freeway within University City. By running the Morena Pipelines alongside the 805 instead of through congested residential and commercial neighborhoods, the pipelines avoid disrupting the local community and its heavily traveled upon streets.

Higher cost does not render an alternative infeasible. The cost must be so high that it essentially makes the entire project infeasible. There is no evidence in the record to support the conclusion that the higher costs for UCPG's alternative pipeline alignment would render the entire cost of the project infeasible. In all likelihood, whatever "higher costs" the staff found there to be, if they exist at all, would be a tiny fraction of the overall cost of the project.

The citizens of University City feel very passionately about this alternative pipeline alignment because over 3,000 homeowners and 500 businesses will be affected by the City's current alignment. The City's current alignment requires construction over long periods of time throughout University City, during both day and night because the two pipelines are quite large–

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F12-10

F12-11

F12-12

F12-13

F12-14

F12-10 Refer to response F12-8. The Plant Siting and Pipe Alignment Study, dated February 2, 2015, prepared by Brown and Caldwell, as well as Appendix B of the 10% Design Report (MWH Americas and Brown and Caldwell 2016), which contain additional information regarding the City's evaluation of alternative pipeline alignments for the Morena Pipelines, were cited in Section 3.7.2 of the Draft EIR/EIS. As stated in the Public Notice of a Draft EIR, technical reports and documents, including all of those cited in the Draft EIR/EIS, were available to the public by request and were provided to UCPG in response to their request.

F12-11 Please refer to responses F12-8 and F12-10. An EIR must only present a reasonable range of alternatives, and not all feasible alternatives.

F12-12 The City acknowledges that the alternative routes proposed by the UCPG along I-805. Please refer to response F12-8 regarding this suggested alternative. Suggested modifications to the alignment of the Morena Pipelines are not considerably different to the alignment already analyzed in the Draft EIR/EIS and therefore, a more detailed analysis is not required.

	F12-13 Although cost is one factor the City considered in determining the feasibility of the proposed pipeline alignments, other technical and environmental considerations were also considered. Refer to responses F12-8 and F12-12. **F12-14** The commenter's preference for an alternative alignment is noted and will be included in the administrative record for this project. Impacts related to noise, traffic, and disruption of ecological habitats are analyzed in Sections 6.12, 6.16, and 6.4, respectively. The City would like to note that the commenter is incorrect regarding the potential impacts resulting from implementation of the proposed Morena Pipelines alignment. As discussed in Section 6.4, Biological Resources, of the Draft EIR/EIS, the Morena Pipelines would not impact wetlands. Additionally, the Morena Pipelines would not result in the removal of trees.

48 and 36 inches in diameter. The construction will result in unwanted noise, traffic and disruption of ecological habitats. Instead of causing the collapse of local roadways and ecological habitats by tearing up residential roads, trees and even wetlands– which the draft EIR admits will occur– UCPG's proposed alternative pipeline alignment can avoid these impacts. F12-14 Cont.

UCPG's alternative pipeline alignment also meets the Project Objectives as delineated in Section 1.3 of the draft EIR. The Project Objectives of the North City Project Pure Water San Diego Program are to:

1. Produce 30 MGD of local, high-quality purified water to serve the San Diego region.

2. Reduce dependence on imported water.

3. Increase use of recycled water.

4. Reduce flows to the Point Loma Wastewater Treatment Plant and reduce total suspended solids discharged at the Point Loma ocean outfall. F12-15

5. Exceed the target online dates for the first phase of the Pure Water Program agreed to in the 2014 Cooperative Agreement1 and meet the revised Compliance Schedule for the Pure Water San Diego Potable Reuse Tasks, Phase 1 of the Order No. R9-2017-00072. (See Page 1-4)[3].

All of these Project Objectives can be met if UCPG's alternative pipeline alignment is used. Such an alignment can transport high-quality purified water around the San Diego region just as easily as the draft EIR's alternatives can. The alternative pipeline alignment can also aid in increasing use of recycled water and reducing dependence on imported water. All of the Project Objectives can be achieved if the Morena Pipelines are constructed alongside the north and south bound 805 freeway.

As for capability of avoiding or substantially lessening significant effects of the project, construction of UCPG's alternative pipeline alignment achieves this goal. First and foremost, it will avoid the removal of City regulated wetlands within University City's sensitive environment. Secondly, it avoids placing the bulk of pipeline construction through busy residential and commercial neighborhoods. Rather, this route places the bulk of the pipeline construction near the 805 freeway and away from homeowners and businesses. Lastly, this alternative avoids noise impacts on residential uses because construction would occur alongside the 805 freeway instead of through residential communities. F12-16

It is important to note that the range of alternatives required in an EIR is governed by a "rule of reason". The "rule of reason" requires the EIR to "set forth only those alternatives necessary to permit a reasoned choice." [(Cal. Code Regs. tit. 14, § 15126.6(f)] "The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public F12-17

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F12-15 This comment accurately summarizes the Project objectives as listed in Chapter 1 of the Draft EIR/EIS. While the City agrees that alternative alignments for the Morena Pipelines would meet the Project objectives, the City does not concur that these alternative alignments would substantially lessen the significant effects of the Project.

F12-16 Please refer to response F12-8. The City would like to note that the commenter is incorrect regarding the potential impacts resulting from implementation of the proposed Morena Pipelines alignment. As discussed in Section 6.4, Biological Resources, of the Draft EIR/EIS, the Morena Pipelines would not impact wetlands.

F12-17 Please refer to response F12-8.

participation and informed decision making." *Id.* Additionally, "An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative." *Id.*

F12-17 Cont.

Here, the draft EIR violates Section 15126.6(f) of CEQA because the general public and decision makers have not been provided with the full ambit of feasible alternatives to the Morena Pipelines alignment. At UCPG's October committee meeting, City staff conceded that UCPG's alternative pipeline alignment was feasible. The Water Department even conducted pre-design review of it. However, City staff's only statement as to why the alternative was not formally studied in the draft EIR was due to "higher costs". While it may seem sensible for the City to study a limited number of alternatives in order to save financial resources and expedite the CEQA process, it is a violation under CEQA Guidelines for an agency to exclude an alternative design that avoids significant effects of the project. CEQA makes it clear that alternatives that are capable of avoiding significant effects of the project, *even if more costly*, should be discussed:

F12-18

F12-19

> "The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the proposed objectives, or would be more costly." [(Cal. Code Regs. tit. 14, § 15126.6(b)].

City staff cannot defend its decision to exclude UCPG's alternative pipeline alignment from the draft EIR solely upon the fact that it may result in higher costs. The draft EIR must include a study of this alternative pipeline alignment because CEQA mandates it. If City staff fails to incorporate it into the draft EIR, then it will be in direct violation of the CEQA process.

F12-20

III. Noise

The Draft EIR Fails to Address Adequately the Potential Disturbance to Area Residents Resulting from Nighttime Construction Operations.

CEQA's significance criteria for evaluating noise is primarily derived from Appendix G of the CEQA Guidelines. While Appendix G does not provide an exact definition of what a significant noise effect is, case law has concluded it as an action with the potential to "increase substantially the ambient noise levels for adjoining areas." *Lewis v. Seventeenth Dist. Agricultural Assn.* (1985) 165 Cal.App.3d 823, 829. Additionally, in *Oro Fino Gold Mining Corporation v. County of El Dorado*, the court ruled that "citizens' personal observations about the significance of noise impacts on their community constituted substantial evidence that the impact may be significant and should be assessed in an EIR, even though the noise levels did not exceed general planning standards." *Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal.App.3d 872, 274.

F12-21

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F12-18 Section 15364 of the CEQA Guidelines defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." Please note that many different alternative alignments may be considered "feasible" to engineer; however, that does not always translate to feasible to implement. Other factors, such as lack of reduction of environmental impacts, as described in responses F12-8 and F12-9, render the suggested alternative infeasible.

F12-19 Please refer to responses F12-8 and F12-13.

F12-20 Please refer to response F12-13. The City has determined that no clarification or revisions are required to the Draft EIR/EIS as a result of this comment; the Draft EIR/EIS meets all CEQA requirements.

F12-21 Comment noted. The comment cites prior case law, and does not require further response.

Noise impacts from the North City Project are addressed in section 6.12 of the draft EIR where it states, " [...] because the majority of the pipeline alignments would be within roadway rights-of-way, the entirety of the North City Pipeline and slightly more than half of the Morena Pipelines work is anticipated to take place during nighttime hours under special permit." (See Page 6.12-12)[4]. "Construction of the pipelines connecting to the reservoirs for both Project Alternatives is proposed largely to be open trench and during nighttime between 9:00 p.m. and 5:00 a.m." (See Page 6.16-8)[5]. "Noise levels during pipeline construction could therefore create temporary substantial noise increases and result in short-term exceedance of construction noise standards, thereby resulting in an adverse impact to nearby noise-sensitive receivers." *Id* at Page 6.12-12. F12-22

Here, the draft EIR fails to address the potential disturbance to area residents resulting from nighttime construction operations. Specifically, the draft EIR omits significant information about the Project's potential interference with sleep, including physiological response and annoyance from increased nighttime construction. The significant increase in noise caused by nighttime construction will fundamentally transform the quiet residential neighborhoods of University City, disrupting sleep, study, work and peaceful enjoyment of residents' homes. The Guidelines provide that the level of detail required in addressing particular impacts should be "in proportion to their severity and probability of occurrence." [Cal. Code Regs. tit. 14, 15143]. In this instance, the severity of noise impact from nighttime construction mandates further study. F12-23

IV. Public Services

The Draft EIR Fails to Adequately Analyze the Project's Impact Upon Fire Protection and Emergency Personnel Response Times.

In Section 6.14.3 of the draft EIR, Issue One examines the impacts of the North City Project on public services such as fire protection and emergency personnel response times. The section concludes under both the Miramar and San Vicente Reservoir Alternatives that, "Construction of pipelines and the Landfill Gas Pipeline has the potential to temporarily impede emergency access for San Diego Fire-Rescue Department due to work within the public right-of-way creating partial road closures. However, partial roadway closures would maintain adequate movement along the roadway and access to surrounding properties at all times." (See Page 6.14-4 and 6.14-5)[6]. F12-24

Even though the draft EIR appears to consider Project impacts to fire protection and emergency personnel response times, it lacks substantial evidence to support the conclusion that adequate movement along the roadway will be maintained during construction of the pipelines. An EIR that asserts conclusions not based on evidence is in direct violation of CEQA Guidelines. Here, no actual studies were conducted to confirm fire personnel will be able to service surrounding properties during construction of the Project. The draft EIR makes conclusory statements that fire personnel will be able to access these roadways; however, the EIR fails to explain how this goal will be achieved. Considering local traffic congestion already F12-25

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F12-22 Comment noted. The comment cites portions of the Draft EIR/EIS's noise section (Section 6.12) pertaining to the construction noise impacts, and does not require further response.

F12-23 Construction noise impacts were addressed in Section 6.12.3.2 (Impacts) of the Draft EIR/EIS, as well as in Section 5.0 (Project Impacts Analysis) of the North City EIR/EIS Noise Technical Report (Appendix H of the Draft EIR/EIS). As stated in these documents, the nearest noise-sensitive receptors would be located along the North City Pipeline and the Morena Pipelines. The relevant information as it relates to residents within the University City neighborhoods is the estimated noise levels from the Morena Pipelines Project component, in which the nearest residences would be located approximately 150 feet from the alignment, at which time the loudest construction noise levels would be approximately 76 A-weighted decibels equivalent sound level (dBA L_{eq}). It was acknowledged in the Draft EIR/EIS and Noise Technical Report that construction noise levels could exceed the City of San Diego's noise standard for construction of 75 dBA L_{eq} over a

	12-hour period, and that slightly more than half of the Morena Pipeline work is anticipated to take place during nighttime hours. This would occur under special permit in order to reduce temporary traffic congestion or avoid inconveniences to neighboring businesses. Noise levels during pipeline construction could therefore create temporary substantial noise increases and result in short-term exceedance of construction noise standards, thereby resulting in an adverse impact to nearby noise-sensitive receivers. It was further recognized and acknowledged (Section 6.12.4, Level of Impact After Mitigation) that even with implementation of construction noise mitigation measures MM-NOI-1 through MM-NOI-3,[1] the noise impacts

[1] Mitigation measure MM-NOI-1 provides a listing of best management practices including (but not limited to) the requirement that mufflers, silencers, shrouds be in operating condition meeting or exceeding original factory specification; that idling of equipment be minimized; that stockpiles, staging areas and parking/maintenance areas be located as far as practicable from noise-sensitive uses, and that stationary equipment be shielded from noise-sensitive uses using barriers or enclosures. MM-NOI-1 also requires that construction hours, allowable workdays, and the phone number of the job superintendent be clearly posted to allow surrounding property owners to contact the job superintendent if necessary. In the event the City receives a complaint, appropriate corrective actions shall be implemented and a report of the action provided to the reporting party. MM-NOI-2 specifies that construction activities shall not occur between the hours of 7:00 p.m. and 7:00 a.m. or on legal holidays or on Sundays unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator, in accordance with City of San Diego Municipal Code Section 59.5.0404. All terms and conditions of said permit shall be complied with. MM-NOI-3 specifies that in order to avoid daytime

	related to construction activities under both the Miramar Reservoir Alternative and San Vicente Reservoir Alternative would remain significant and unavoidable. With this acknowledgment, however, it should also be recognized that for the most part, construction work along the pipeline alignment would be relatively brief at any one location. As stated in Section 5.4.1, Mitigation Measures, of the North City EIR Noise Technical Report, "Temporary noise impacts (typically, *two to three days at any one location*) would occur at noise sensitive receivers within 200 feet during construction of the North City and San Vicente Pipelines during trenched and trenchless construction and the Morena Pipeline during trenched construction." Because the pace of pipeline alignment work is generally quite rapid, any particular residence would only experience significant noise impacts for a period of several days. **F12-24** Comment noted. The comment cites portions of the Draft EIR/EIS's public services section

traffic jams or service outages, nighttime work will be planned to minimize the number and type of operating equipment, restrict the movement of equipment adjacent to the noise-sensitive receivers, and minimize noise from back-up alarms.

	(Section 6.14.3) pertaining to fire protection and emergency personnel response times, and does not require further response. **F12-25** Traffic control plans are incorporated into Project design and are described in Section 3.4.6, Traffic Control Plan, of the Draft EIR/EIS. As stated in Section 3.4.6, the traffic control plans would include provisions for coordinating with emergency service providers regarding construction times and to ensure emergency vehicle passage at all times, and include signage and flaggers when necessary to allow the heavy equipment to utilize surrounding streets. The traffic control plans would include provisions for coordinating with local school hours and emergency service providers regarding construction times. The City does not have a standalone standard for traffic control plans, but does require all traffic control plans to comply with http://www.dot.ca.gov/trafficops/camutcd/standards. Additionally, as presented in Section 6.14, Public Services, in all cases, pipeline construction within roadways would result only in temporary partial closures, with movement along the roadway and

persists at high rates on these roadways, it is unlikely emergency services will be able to service surrounding properties without exceeding designated response times. F12-25 Cont.

The only "support" the draft EIR provides in regards to maintaining adequate movement along theses roadways are so called Traffic Control Plans. "Prior to pipeline and Landfill Gas Pipeline construction that requires encroachment into public roadways, a Traffic Control Plan (TCP) would be prepared by the City in conformance with the City's traffic control regulations. The TCP would be prepared to ensure that all access, including San Diego Fire Department access, would not be restricted, and no adverse effects would occur." (See Page 6.14-5)[7]. Yet nowhere in the draft EIR does it state what the TCP consists of. There is no evidence that these plans will actually accomplish what they claim. F12-26

Even more misleading is the fact that the draft EIR directs the reader to a different section in order for them to learn about these TCPs. The draft EIR states, "Refer also to Section 5.13, Transportation, Circulation, and Parking, for more detail regarding the TCP." *Id*. However, Section 5.13 is not "Transportation, Circulation, and Parking", but rather it is labeled as "Paleontological Resources". Within the "Paleontological Resources" section there is no mention of TCPs. Not only does the draft EIR mislead its readers by forcing them to jump back and forth from section to section to find information on TCPs, but also it fails to present evidence that supports its conclusions on fire protection. F12-27 F12-28

Construction of the Morena pipelines under Genesee Avenue in particular would impede emergency access for fire personnel. Genesse Avenue has been and will continue to be under massive construction from another project that is widening on-ramps and off-ramps to the 5 freeway. With the build-up of already existing traffic, Genesse Avenue will face certain gridlock once construction of the Morena Pipelines goes into effect. Over 30,000 vehicles travel across Genesse Avenue daily. If you combine this high volume of cars with lane closures from multiple construction projects then fire personnel will be unable to service the surrounding residential and commercial properties. F12-29

V. Aesthetics/Visual Effects and Neighborhood Character

The Draft EIR Fails to Explain Why the Project is Being Proposed Despite Significant and Unavoidable Impacts to Landform.

"Consideration and Discussion of Environmental Impacts" within the CEQA Guidelines states that, "an EIR must explain potentially significant impacts of the project that cannot be mitigated, and are therefore unavoidable." [Cal. Code Regs. tit. 14, §15126(b)]. An EIR must "[D]escribe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described." [Cal. Code Regs. tit. 14, 15126.2(b)]. F12-30

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access for emergency vehicles to surrounding properties maintained at all times. Additionally, all construction contracts have conditions mandating emergency access into and through the site at all times. Therefore, the Draft EIR/EIS provides evidence to support adequate emergency access during pipeline construction with roadways.

F12-26 Please refer to response F12-25.

F12-27 The commenter has identified a typographical error within the Draft EIR/EIS. In response to this comment, Section 6.14, Public Services, of the Final EIR/EIS has been revised to correct the section cross reference.

Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies or makes insignificant modifications does not require recirculation.

F12-28 Please refer to responses F12-24 and F12-27.

F12-29 Please refer to response F12-25. Traffic is discussed in Sections 5.16 and 6.16 of the Draft

	EIR/EIS. Refer to Table 5.16-1, which outlines proposed construction work hours along the Morena Pipelines. As shown in the table, the majority of Genesee Avenue construction would take place during nighttime hours to avoid AM and PM peak traffic hours. Therefore, the potential combined daytime/commute traffic, construction traffic, and emergency vehicle traffic would be avoided along the majority of Genesee Avenue. In any case, emergency vehicle access would be required to be maintained at all times. **F12-30** Comment noted.

In Section 6.2 of the draft EIR, it addresses the impacts to landform after "mitigation" under the San Vicente Reservoir Alternative. Specifically it states, "No mitigation has been identified that would substantially reduce the anticipated impact to landform alteration from the Mission Trails Booster Station and therefore this impact would be significant and unavoidable." (See page 6.2-31)[8]. Here, the draft EIR acknowledges a significant and unmitigable impact to landform under the San Vicente Reservoir Alternative. Upon acknowledging this, the draft EIR must also discuss why the alternative is being proposed despite its significant impact to landform. Since the draft EIR fails to discuss *any reasons* as to why the alternative is being proposed despite its impact to landform, it is in violation of CEQA Guidelines. F12-31

VI. Land Use

The Draft EIR Lacks Substantial Evidence to Support its *Assumption* that Construction of the Morena Pipelines Can Occur in Existing Utility Corridors.

On page 5.2-16 of the draft EIR it states that, "Proposed pipelines and the electrical transmission line are primarily proposed to be located in existing roadways and/or would follow existing access roads and utility corridors."[9] However, the EIR lacks substantial evidence to support its *assumption* that construction of the Morena Pipelines can even occur in existing utility corridors under Genesee Avenue. It is highly probable that other utility lines already occupy the space under Genesee Avenue and would interfere with positioning of any new pipelines. In order to defend its conclusion that construction of the Morena Pipelines is feasible in existing utility corridors, the draft EIR must implement an utility investigation. F12-32

Once City staff acknowledges that an utility investigation is required, the draft EIR must then consider the impacts such an investigation will have upon transportation, circulation and parking in University City. This utility investigation will likely require extensive excavation under Genesee Road in order to inspect the existing utility corridor. Such an excavation will result in more traffic delays and further congestion for local residents. Until City staff conducts this investigation, the draft EIR lacks evidence to support its assumption that construction can occur in existing utility corridors. F12-33

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Thank you in advance for considering these objections to the North City Project, Pure Water San Diego Program. We hope that you will do the right thing and not approve the Project. At the very least, we hope you will consider UCPG's proposed pipeline alignment as an alternative pipeline alignment for the Morena Pipelines. F12-34

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F12-31 Discussion regarding potential changes to landform resulting from the San Vicente Reservoir Alternative is found in Section 6.2.3 of the Draft EIR/EIS. Please refer to Subsection 6.2.3.3, Mitigation, Monitoring, and Reporting, for discussion regarding the potential significant and unavoidable impacts to landform resulting from the Mission Trails Booster Station and reasons for absence of feasible mitigation. Therefore, the disclosure and analysis of potential landform alteration presented in the Draft EIR/EIS is in compliance with the CEQA Guidelines.

F12-32 Discussion regarding potential utility conflicts resulting from the Morena Pipelines is found in Section 6.15, Public Utilities, of the Draft EIR/EIS. As stated in Section 6.15, the Morena Pipelines and North City Pipeline would both be located primarily within existing roadways, which are areas of highly congested utilities. Careful consideration and a number of design changes have been implemented to both pipeline alignments to avoid conflicts with existing utilities. Existing utilities were identified using the SanGIS database and all utilities equal to and greater than 8 inches, as well as high-

	pressure gas lines, were included in the plan and profile sheets for the pipeline designs. The City has already field verified locations of existing utilities via potholing, the actions of which are exempt from CEQA. Design plans and preliminary studies have shown that placement of the Morena Pipelines within existing roadways is feasible. As disclosed in Section 6.15 of the Draft EIR/EIS, design guidelines have incorporated the Department of Health Services, Department of Drinking Water's Guidance Memo No. 2003-02: Guidance Criteria for the Separation of Water Mains and Non-Potable Pipelines. Despite careful consideration of the pipeline placements, in some cases, design standards requiring minimum separation of utilities may not be able to be met and could result in an adverse impact. Therefore, mitigation measure MM-PU-1 is incorporated, which requires consultation and special design considerations to ensure protection of utility lines. Therefore, a utility investigation requiring physical excavation of roadways as suggested by the commenter is not required. The City believes that the Draft EIR/EIS adequately analyzes

	potential utility conflicts and that preliminary design properly considers known utilities available within databases, without the need of physical inspection. **F12-33** Please refer to response F12-32. **F12-34** The commenter's objections to the North City Project are noted and will be included in the administrative record for this Project.

Index of Exhibits

1. Pure Water San Diego Program, North City Project EIR/EIS, Page 3-6
2. Pure Water San Diego Program, North City Project EIR/EIS, Page 3-1
3. Pure Water San Diego Program, North City Project EIR/EIS, Page 1-4
4. Pure Water San Diego Program, North City Project EIR/EIS, Page 6.12-12
5. Pure Water San Diego Program, North City Project EIR/EIS, Page 6-16.8
6. Pure Water San Diego Program, North City Project EIR/EIS, Page 6.14-4 and 6.14-5
7. Pure Water San Diego Program, North City Project EIR/EIS, Page 6.14-5
8. Pure Water San Diego Program, North City Project EIR/EIS, Page 6.2-31
9. Pure Water San Diego Program, North City Project EIR/EIS, Page 5.2-16

F12-35

Page 9 of 9

F12-35 The commenter has attached nine exhibits, which are excerpts from the Draft EIR/EIS. Please see responses above related to these exhibits. No additional response is necessary.

Approximately 6 MGD AADF of brine (produced as a by-product of the advanced water purification treatment process) and 6 MGD AADF of centrate (product remaining after centrifugation at MBC) will be conveyed via a new 30-inch-diameter gravity flow line from the new NCPWF back to Morena Pump Station, and then to a sanitary sewer located in Friars Road where it will ultimately flow to the Point Loma WWTP. The brine/centrate line will combine with the 60-inch diameter overflow sewer and would discharge downstream of the diversion structures back to the Mission Valley Interceptor with sufficient distance as to not recirculate brine flows into the screening facility of the pump station.

The Morena Pipelines will follow the alignment as depicted in Figures 3-6A through 3-6C, Morena Wastewater Forcemain and Brine/Centrate Line Alignment. The alignment would begin in an open cut section near the north corner of the Morena Pump Station site, entering the public street right-of-way (ROW) on Custer Street. The alignment would generally head north along Sherman Street, Morena Boulevard, and West Morena Boulevard. The alignment would cross Tecolote Creek just to the east of Tecolote Road bridge, then continue generally heading north and east along Ingulf Street, Denver Street, Clairemont Drive, Clairemont Mesa Boulevard, and Genesee Avenue. It would cross near the bridge at San Clemente Canyon near the State Route 52 (SR-52) on-ramp. Following the bridge, the alignment would continue along Genesee Avenue, crossing SR-52 and the Metropolitan Transit System (MTS) railroad tracks. After the railroad tracks, the alignment will continue north along Genesee Avenue to the intersection of Nobel Drive and Genesee Avenue. After the intersection, the alignment will head east on Nobel Drive and then continue heading north on Towne Centre Drive. The alignment would turn east on Executive Drive and cross I-805. The alignment would end at NCWRP. Three trenchless installations are proposed along the Morena Pipelines alignment and include the following: (1) San Clemente Canyon at the SR-52 eastbound off-ramp/on-ramp; (2) railroad tracks owned by the MTS at Rose Canyon north of University City High School and (3) the I-805 at the terminus of Executive Drive to the NCWRP. An additional trenchless installation would occur where the overflow pipeline crosses MTS right-of-way near the Morena Pump Station.

F12-35
Cont.

North City Water Reclamation Plant Expansion

The NCWRP is an existing facility located south of Eastgate Mall and east of I-805, and is currently developed with wastewater treatment facilities, an operations building, a power generation facility, and the Demonstration Project (see Figure 3-7, North City Water Reclamation Plant Expansion Site). The NCWRP would be

CHAPTER 3 PROJECT DESCRIPTION/ALTERNATIVES

The National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) require that environmental documents identify and analyze a reasonable range of feasible alternatives that could be implemented to meet the North City Project purpose and need and objectives. In addition, CEQA and NEPA focus on alternatives that would avoid or substantially lessen any of the significant/adverse effects of the North City Project. This Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) evaluates the No Action/No Project Alternative and two Project Alternatives.

3.1 LOCATION OF THE PROJECT ALTERNATIVES

The North City Project Alternatives include a variety of facilities located throughout the central coastal areas of San Diego County in the North City geographic area. Figures 3-1 and 3-2 show the location of proposed facilities and pipelines for the alternatives. A new pure water facility, expanded water reclamation facility, and three pump stations would be located within the corporate boundaries of the City of San Diego (City). Proposed pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside and other areas of unincorporated San Diego County. The proposed North City Pure Water Pipeline (North City Pipeline) and Landfill Gas (LFG) Pipeline would traverse federal lands within Marine Corps Air Station (MCAS) Miramar.

3.2 NO PROJECT/NO ACTION ALTERNATIVE

CEQA Guidelines, Section 15126.6(e) and NEPA regulations (40 CFR 1502.14(d)), require that a No Project (CEQA) and No Action (NEPA) alternative be analyzed in an EIR and an EIS, respectively, to allow decision makers to compare the impacts of not approving the action with those of approving the action. In the remainder of this document, references to the No Project Alternative are synonymous with the No Action Alternative.

Under CEQA Guidelines Section 15126.6(e), the No Project Alternative assumes existing conditions at the time that the Notice of Preparation is filed or at the time the environmental analysis commenced. This document reflects existing conditions through 2016. In addition, to satisfy NEPA requirements, this EIR/EIS also considers foreseeable actions that are likely to occur without implementation of the Pure Water Program.

F12-35
Cont.

1.3 PROJECT OBJECTIVES

The North City Project would implement the first phase of the Pure Water Program. The Final Program EIR (City of San Diego 2016a) contains broad goals related to the Pure Water Program. Specifically, the North City Project goals and objectives include the following:

1. Produce 30 MGD of local, high-quality purified water to serve the San Diego region.
2. Reduce dependence on imported water.
3. Increase use of recycled water.
4. Reduce flows to the Point Loma Wastewater Treatment Plant and reduce total suspended solids discharged at the Point Loma ocean outfall.
5. Exceed the target online dates for the first phase of the Pure Water Program agreed to in the 2014 Cooperative Agreement[1] and meet the revised Compliance Schedule for the Pure Water San Diego Potable Reuse Tasks, Phase 1 of the Order No. R9-2017-0007[2].

1.4 CEQA REQUIREMENTS

CEQA requires the preparation of an EIR for any project that a lead agency determines may have a significant impact on the environment. According to Section 21002.1(a) of the CEQA statutes, "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." CEQA also establishes mechanisms whereby the public and decision makers can be informed about the nature of the project being proposed, and the extent and types of impacts that the project and its alternatives would have on the environment if they were to be implemented. This EIR/EIS has

[1] In 2014, the City negotiated a Cooperative Agreement with Coastkeeper, Surfrider, Coastal Environmental Rights Foundation, and the San Diego Audubon Society (collectively referred to as the environmental stakeholders) for purposes of supporting potable reuse of wastewater and secondary equivalency.

[2] Modified permit that commits to the goal of implementing a potable reuse program and obtaining legislative or administrative actions such that the Point Loma ocean outfall discharge is recognized as equivalent to secondary treatment for purposes of compliance with the Clean Water Act (secondary equivalency).

F12-35
Cont.

Table 6.12-3
Construction Noise Summary – Miramar Reservoir Alternative (dBA L_{eq})

Project Component	Construction Phase	Construction Noise Level at Nearest Source – Receiver Distance (dBA L_{eq})	Construction Noise Level at Typical Source – Receiver Distance (dBA L_{eq})
Miramar Water Treatment Plant Improvements		400'	900'
	Building Construction	65	59
	Demolition	68	61
	Summary (Maximum level by phase)	**68**	**61**

As shown in Table 6.12-3, construction noise levels would range from approximately 49 dBA L_{eq} to 82 dBA L_{eq}. The nearest noise-sensitive receptors would be located along the North City Pipeline (residences located at 50 feet from the alignment) and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines; residences located at 150 feet from the alignment). The loudest construction noise levels would occur at these noise-sensitive receivers (82 dBA L_{eq} and 76 dBA L_{eq} for the North City Pipeline and Morena Pipelines, respectively). At these locations, construction noise levels could exceed the City of San Diego's noise standard for construction of 75 dBA L_{eq} over a 12-hour period.

Additionally, because the majority of the pipeline alignments would be within roadway rights-of-way, the entirety of the North City Pipeline and slightly more than half of the Morena Pipelines work is anticipated to take place during nighttime hours under special permit in order to reduce temporary traffic congestion or avoid inconveniences to neighboring businesses. Noise levels during pipeline construction could therefore create temporary substantial noise increases and result in short-term exceedance of construction noise standards, thereby resulting in an adverse impact to nearby noise-sensitive receivers.

As shown in Table 6.12-3, none of the other project components associated with the Miramar Reservoir Alternative would create temporary substantial noise increases or exceed the City of San Diego's construction noise standard.

F12-35
Cont.

The North City Project trip distribution was developed based on existing traffic patterns, surrounding land uses, and access to freeways. Based upon the assumed Project trip distribution, as well as the anticipated Project trip generation, daily Project trips were assigned to the adjacent roadway network. Figures showing North City Project trip distribution and assignment are provided in Appendix I.

North City Project Construction

Construction of the pipelines connecting to the reservoirs for both Project Alternatives is proposed largely to be open trench and during nighttime (between 9:00 p.m. and 5:00 a.m.), with trenches backfilled and steel plated in order to open travel lanes during the day. As a result, typical commute AM and PM peak hour (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) trips are not anticipated to be generated during the construction of these pipelines, thus no peak hour intersection analysis was conducted for the North City Pipeline and San Vicente Pipeline. However, construction of the Morena Pipelines will include daytime construction on some roadway segments and will require some lane closures as described in Section 5.16.2, Environmental Setting. Therefore, both a roadway and intersection analysis was conducted for the Morena Pipelines. The results of this analysis are presented separate from the Project Alternatives even though the Morena Pipelines are included in both Project Alternatives.

North City and San Vicente Pipelines

It is assumed that truck trips (excavation, material transport, utility trucks, etc.) and worker trips will be generated during construction. Based on information from the City of San Diego Public Utilities Department, the open-trench excavation will be approximately 10 feet deep and 6 feet wide and 75 feet long per day, and the same number of workers and heavy vehicles will be required per day throughout the construction duration for both the North City Pipeline and San Vicente Pipeline. As a worst-case scenario, it was assumed that all workers would drive individual vehicles to the construction sites. As shown in Table 6.16-4, construction of either the North City Pipeline or San Vicente Pipeline is anticipated to generate approximately 280 daily construction trips. The trip rate for construction employees was based on the assumption that each employee commutes to and from work every day (two trips a day) and that approximately 50% of employees would make two extra trips (inbound and outbound) during their shift for reasons such as a lunch.

F12-35
Cont.

lighting on the exterior of structures, paths, and the entrance would be provided as necessary. The main entrance would include a secure access via a guard shack at the entrance and the perimeter of the facility would be fully fenced. These security measures would reduce the need for police protection from SDPD.

The NCPWF and NCWRP are located within established areas currently served by SDPD, and the nearest station is located approximately 1 mile away. Therefore, with the combination of staffing, 24-hour monitoring, and implementation of security measures, the facilities would not result in a substantial increase in demand for police protection services, and no adverse effects would occur.

With regards to population growth, of the 60 new permanent workers, any portion may currently live within the region, and therefore, would not contribute to an incremental increase in police services. However, some of the new permanent workers may relocate to the area (along with their families). Any workers that would relocate could reside in any location within the City of San Diego or neighboring jurisdictions. The new workers and their families would result in a permanent incremental increase in demand for police protection. However, as their potential relocation to the area could be at any location within the City of San Diego and neighboring cities, the effect of this increase in demand would be distributed and minimal.

The Miramar Reservoir Alternative is not anticipated to represent an additional quantity of water supply over and above what is already contemplated for the San Diego region. Rather, it would offset supplies that would have otherwise been obtained through another method, such as importing. Therefore, it is not anticipated that implementation of the Miramar Reservoir Alternative would have any effect on planned growth within the service area. As such, the long-term operation of the Miramar Reservoir Alternative would not result in a substantial incremental increase in regional demand for police protection services such that service ratios would be adversely affected, and no adverse effects would occur. For additional information regarding growth, refer to Chapter 9 of this Environmental Impact Report/Environmental Impact Statement (EIR/EIS).

Fire

Construction

Pipelines

Construction of pipelines and the LFG Pipeline would have similar potential to temporarily impede emergency access for San Diego Fire-Rescue Department

F12-35
Cont.

(SDFD) due to work within the public right-of-way creating partial road closures. However, partial roadway closures would maintain adequate movement along the roadway and access to surrounding properties at all times. Additionally, prior to pipeline and LFG Pipeline construction that requires encroachment into public roadways, a TCP would be prepared by the City in conformance with the City's traffic control regulations. The TCP would be prepared to ensure that all access, including SDFD access, would not be restricted, and no adverse effects would occur. Refer also to Section 5.13, Transportation, Circulation, and Parking, for more detail regarding the TCP.

Facilities and Pump Stations

Staging areas for facilities and pump stations would be located within the facility footprints. Staging areas and equipment would be placed to maintain access to construction sites and existing facilities in the event of an emergency. Therefore, construction of the facilities and pump stations would not affect the ability of SDFD to adequately respond to emergency calls, and no adverse effects would occur.

Operation

Pipelines

Operation and maintenance of pipelines and the LFG Pipeline would have similar potential to affect fire protection services as described for police protection above. Any potential for calls for fire services associated with these maintenance activities would not be permanent. Therefore, it is not expected that pipeline and LFG Pipeline maintenance activities would result in a substantial increase in demand for fire protection services, and no adverse effects would occur.

Facilities and Pump Stations

Similar to police services, the NCPWF, improved facilities, and pump stations would not be expected to result in a substantial increase in demand for fire protection services due to location relative to existing development and existing fire stations. Improvements at NCWRP, Metropolitan Biosolids Center, and Miramar Water Treatment Plant would not alter emergency fire access to the sites. The NCPWF, pump stations, and improvements at all other facilities would meet design and construction standards of SDFD and the City of San Diego Municipal Code with respect to fire hazard safety prior to approval. These standards can include fire apparatus access requirements, landscaping standards, and automatic fire

F12-35
Cont.

San Vicente Reservoir Alternative

No mitigation would be required.

6.2.7 LEVEL OF IMPACT AFTER MITIGATION

With the exception of construction activities associated with the MTBS phase of the San Vicente Reservoir Alternative, impacts to visual resources from implementation of the North City Project Alternatives would be **less than significant**.

Construction activities associated with the San Vicente Reservoir Alternative and more specifically, the MTBS, would result in a substantial change to the natural topography of the proposed site. Base on the conceptual site layout, development of the MTBS would require a substantial amount of excavation work at the site. In order to reduce the impact, the MTBS would need to be redesigned to reduce the facility footprint (and reduce associated grading), reshape cuts and fills to appear as natural forms, retain trees to screen earthwork contrasts, or be relocated to an area with less slope where less excavation would be required, the feasibility and analysis of which is outside the scope of this EIR/EIS.

No mitigation has been identified that would substantially reduce the anticipated impact to landform alteration from the MTBS and therefore this impact would be **significant and unavoidable**.

F12-35
Cont.

refine citywide policies, designate land uses, and make additional site-specific recommendations as needed (City of San Diego 2015a). The Land Use and Community Planning Element establishes the structure to respect the diversity of each community and includes policy direction to govern the preparation of community plans.

Table LU-4, General Plan and Community Plan Land Use Categories, provides a description of each General Plan Land Use designation. The General Plan land use designation of lands underlying proposed aboveground structures (i.e., NCPWF, Pump Stations, etc.) is listed below:

- Morena Pump Station: Industrial Employment
- NCWRP: Institutional & Public/Semi-Public Facilities
- NCPWF and NCPWF Influent Pump Station: Industrial Employment and Institutional & Public/Semi-Public Facilities
- MBC: Military Use
- Dechlorination Facility: Industrial Employment
- MTBS: Commercial Employment, Retail & Services, and Open Space, Parks & Preserves

Proposed pipelines and the electrical transmission line are primarily proposed to be located in existing roadways and/or would follow existing access roads and utility corridors. Land use designation and zoning underlying lands associated with project components is discussed in greater detail in Section 5.1, Land Use.

University Community Plan

According to the University Community Plan, the dominant existing land uses include University of California–San Diego; University Towne Center; and research, corporate headquarters, and medical centers in the northern portion of the planning area. Further, and in regard to the Miramar Subarea of the community plan (the NCPWF, North City Pump Station, and NCPWF Influent Pump Station are proposed to be located in the Miramar Subarea; the NCWRP is an existing facility in the community plan boundaries), the community plan states that "visual character [of the area] will be dominated by open spaces with restricted industrial development" (City of San Diego 2016). Per the community plan, the subarea is developed with industrial uses, including warehouses,

F12-35
Cont.

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Comment Letter F13

From: tom donnelly
To: DSD EAS
Subject: pure water sewar line location
Date: Sunday, November 19, 2017 10:16:33 PM

I recently read the comments on the route of the proposed sewar line through Clairemont.
I don't think it should follow Clairemont Drive, where there would be a large impact on residents.
Instead it should either:
A. follow Morena to Rose Canyon
or B. follow the SDGE easement which is roughly 1/2 mile east of Clairemont Drive

F13-1

vr,
Tom Donnelly
San Diego
td3@inbox.com

Response to Comment Letter F13

Tom Donnelly
November 19, 2017

F13-1 The commenter's preference for an alternative alignment for the Morena Pipelines is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required.

An alternative route in Rose Canyon would be infeasible since it would conflict with City Council policies 400-13 and 400-14 that

	prohibit new wastewater forcemains in canyons and other environmentally sensitive lands (City of San Diego 2002a and City of San Diego 2002b). This alternative route would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway right-of-way (City of San Diego 2015a). An alternative route along the SDG&E alignment would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway right-of-way (City of San Diego 2015a). Additionally, it would require trenchless tunneling construction methods that would result in increased air quality, geology, and noise impacts, as well as the potential for additional biological resources impacts.

Comment Letter F14

November 20, 2017

Louis Rodolico
5906 Dirac Street
San Diego, CA 92122
lourodolico@yahoo.com

Mark Brunette, Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue
MS 501
San Diego, CA 92101
DSDEAS@sandiego.gov

Re: Pure Water San Diego North City Project Draft Environmental Impact Report (EIR)
Responses Post Release of 10% Design Solution and 60% Engineering Documents

Mr. Brunette;

Let me start out by saying I have toured both the Pure Water Plant and the Metro Bio-Solids Center. The future belongs to these technologies. However, I do not think most people realize that sewer lines are almost always at zero PSI and move due to gravity. However the forcemains in this EIR proposal are transporting raw sewage under very high pressures, uphill through residential neighborhoods. We must mitigate the risk they impose on the community or find another answer. Below are some questions that came to mind after reviewing the 10% design solution and 60% Engineering drawings that were released a few weeks ago: F14-1

1) Why not have the forcemains follow the amtrack line up to 805 and Rose canyon? This would be the most even change in elevation and have the least amount of water hammer conditions? F14-2
2) Why did you eliminate the path under the SDGE Easement shown on yellow in map? F14-3
3) The SDGE path represents the type of forward thinking that is associated with California, do you agree? F14-4
4) Would it make sense to have the main pump for the SDGE path to have; the main high pressure pump at the base of the SDGE run and a smaller pump with pipes with a high factor of safety running through Morena? F14-5
5) Why did you choose the path through Clairemont and up through Genesee Ave to the Miramar treatment plant? Shown as red dashed line on map. F14-6
6) Since the Regents Road Bridge was never built why not cross the forcemains at Regents and leave the congested Genesee corridor alone? F14-7
7) Was your decision not to cross at Regents based on the likelihood of a legal challenge to the EIR? F14-8
8) Why was a path through Rose Canyon not chosen given there is a sewer in Rose Canyon already? F14-9
9) Was that decision based on the likelihood of a legal challenge to the EIR? F14-10
10) Was your decision not to place the forcemains on Regents or through Rose Canyon influenced by the likelihood that The Friends of Rose Canyon would be able and likely to sue and challenge the EIR? F14-11
11) Was the path, shown in red on map, that you choose based on the likelihood of a group coming up with the funding to challenge the EIR?
12) How would you rate the following, high, medium or low:
    a) Public Safety
    b) Disruption during construction
    c) Risk of EIR Challenge
    d) Project cost
13) Was the path you choose to not go in front of the Westfield Mall and the Coasta Verde Shopping Center based on the likelihood of them coming up with the funding to challenge the EIR?
14) Why did you eliminate a path next to highways? Was it based on the likelihood Caltrans could come up with the funding to challenge the EIR?

Response to Comment Letter F14

Louis Rodolico, Letter 2
November 20, 2017

F14-1 Comment noted. The City does not agree that the transport of sewage under pressurized conditions poses a significant risk of upset or leaks, and therefore, no mitigation would be required.

The wastewater forcemain would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut

	down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shutdown when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shutdown in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring.

	As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely.

	F14-2	The commenter's preference for an alternative alignment for the Morena Pipelines is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required. As stated above, the City does not concur that the transport of sewage under pressurized conditions poses a significant risk of upset or leaks. Therefore, while an alternative route may meet the basic objectives of the Project, no significant effects related to this issue would result that could be lessened by an alternative. As stated in the Caltrans Encroachment Manual,

	Chapter 5, Section 606.1, "Caltrans' policy prohibits the placement of longitudinal encroachments within controlled access rights-of-way…[r]equests for placement of longitudinal encroachments are permitted only when approved through Caltrans' design exception process, and approved by the DOD [Division of Design], Chief, when no other reasonable alternative is available, and it has been determined that there is available space" (Caltrans 2018a). Proposed longitudinal encroachments within the access control right-of-way of freeways or expressways on a highway identified as part of the freeway and expressway system are also prohibited per the Caltrans Project Development Procedures Manual, Chapter 17 (Caltrans 2018b). These policies and practices have been confirmed through City communications with Caltrans (Caltrans 2017). As such, the feasibility for an alternative route within freeway right-of-way is limited, and since impacts would not be substantially reduced, are not considered further. Additionally, construction within Rose Canyon would have additional wetland and other biological impacts and would conflict with City Council policies 400-13 and 400-14 that prohibit new wastewater

	force mains in canyons and other environmentally sensitive lands (City of San Diego 2002a, City of San Diego 2002b). This alternative route would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway right-of-way (City of San Diego 2015). Water hammer, or transient analysis, was not used as a criteria for selection of the most appropriate alignment for the Morena Pipelines. Transient flow protection was discussed in the 10% Design Report (Brown and Caldwell 2015). Transient flow conditions could result in a worst-case scenario during which a loss of power occurs when running four pumps at the peak flow rate. Wastewater being pumped uphill would reach a speed of zero, then flow backward until the Morena Pump Station's check valves close. Flow further along the alignment would continue to flow toward North City Water Reclamation Plant (NCWRP), creating a vacuum condition at the pipeline's high points. A water hammer condition could form during this condition; however, it would have no adverse impact on the pipeline or valves. The vacuum conditions would be

		addressed by attaching flywheels on the pump/motor trains to increase the rotational moment of inertia and allow additional air into the pipeline. Additional locations for air vacuum/air release assemblies will be determined during final design.
	F14-3	Refer to response F14-2. An alternative route within the SDG&E alignment would reduce but not eliminate potential traffic impacts, including cumulative, by locating the pipeline outside of roadway right-of-way; however, this is contradictory to the City's Sewer Design Guide which prioritizes the construction of sewer facilities within roadway right-of-way (City of San Diego 2015). Additionally, this alternative route would require trenchless tunneling construction methods to construct the Morena Pipelines along most of the route, which would result in increased air quality and noise impacts when compared to the proposed alignment. Extreme low points along the alignment would require very deep tunnel shafts. Therefore, there is an elevated risk that the pipeline could be impacted by geotechnical conditions. There is also an increased risk to existing facilities due to settlement or vibration

	from the tunneling work. This alternative route would also have potential wetland and other biological impacts at entrance and exit pit locations along the trenchless tunnels and would conflict with City Council policy related to locating sewer facilities outside of canyons and other environmentally sensitive lands. **F14-4** Refer to response F14-3. **F14-5** Refer to response F14-2. The City conducted an extensive alternative alignments analysis and chose a preferred alignment based on factors including, but not limited to, environmental impacts, community disruption, traffic impacts, and the potential necessity for property and easement acquisitions **F14-6** Refer to responses F14-2 and F14-5, above, regarding City Council policies 400-13 and 400-14 that prohibit new wastewater forcemains in canyons and other environmentally sensitive lands. **F14-7** Refer to response F14-2. **F14-8** Refer to responses F14-2.

	F14-9 The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. Also refer to response F14-2. **F14-10** The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. Also refer to response F14-2. **F14-11** Please refer to response F14-2.

15) Why not process all raw sewage down at Morena so we would not incur the risks associated with high pressure sewage leaks, especially in residential neighborhoods? F14-12
16) Currently Caltrans allows transport of irrigation quality water next to highways. Why not process the water to an irrigation standard down at Morena so Caltrans would allow transit of irrigation quality water next to the highways? F14-13
17) Why was the 10% Design solution not released to the general public back in March 2016? Who was it released too? F14-14
18) 300 pages is the recommendation maximum for a Public Review Draft, per CEQA 15141 Page Limits. Are you aware that a 1758 page Draft EIR would be difficult for citizens to comprehend? F14-15
19) Does Pure Water think it is ethical for agencies to place utilities based on an areas ability to raise the funds to challenge an EIR. F14-16
20) If the answer to the above is yes do you plan to challenge the validity of the CEQA process and or the notification of the public in general?
21) Did engineering consider the large amount of water hammer conditions in the redline route as compared to the small amount in the yellow line route and route along the Amtrack corridor? F14-17
22) We have all seen the amount of force ½" copper pipes can generate with water hammer. How will water hammer work over time to stress the forcemains given their area cross section is 10,000 times greater than ½" copper pipe?
23) The SDGE yellow route contains the forcemains in a tunnel so when there is a raw sewage leak it can be contained and not get into the environment. Was this type of construction considered for the EIR red route? Was cost a factor? F14-18
24) After the first high pressure raw sewage leak in residential neighborhoods what will be the backup plan if forced to abandon the forcemains? F14-19
25) Per 24 above will the position be regarding the investment in the forcemains and the delivery agreements you need to honor? Can these agreements force the continuation of an unsafe condition? F14-20
26) Per 24 what are the mitigating methods besides time and dispersal? F14-21
27) With single wall pipe, in the EIR, it would be unrealistic to expect that enough valves could be put in place to prevent raw sewage getting into the environment, how do you plan to protect citizens along with our; canyons, streams, bays and ocean? F14-22
28) A rupture of a four foot high pressure raw sewage main less than 2 diameters underground is likely to eject a substantial aerosol geyser, how do you plan to train and equip emergency personnel? F14-23
29) Would you consider the University proposed route shown in green? F14-24
30) The 60% engineering drawings for the EIR red path show a 12-15 foot open ditch just east Governor. How do you plan to save the Torrey Pine trees given the damage to their root systems? F14-25
31) Sewage and water leaks are a part of the record, can you post the links to these records so we can review them? F14-26

I believe that Pure Water is on the right track with it's pure water program but is on the wrong track with its method. An EIR with thousands of pages makes it difficult for citizens to grasp what the city is doing and implies obfuscation. When pipes break, how do you intend to mitigate and contain toxic sewage? Please be specific. In my opinion you should improve your design to protect us and in the long run the Pure Water program. F14-27

Thank You

Louis Rodolico

F14-12 Please refer to responses F14-1 and F14-2. The commenter is suggesting to process all wastewater near the proposed Morena Pump Station rather than at the NCWRP. As described in Chapter 3, Alternatives, the City is proposing to expand the capacity of the NCWRP. In order to accomplish the commenter's suggestion, an entirely new water reclamation plant would be required near the proposed Morena Pump Station to treat wastewater to a tertiary level, rather than expanding an existing facility. An entirely new Pure Water Facility and similar pipeline alignments would still be required under the commenter's suggested alternative. The commenter's suggested alternative would result in environmental impacts related to construction of a new water reclamation plant and hence not reduce or eliminate potentially significant impacts for issue areas such as traffic, air quality, or greenhouse gas emissions. Therefore, the commenter's suggested alternative is not considered further.

F14-13 Please refer to response F14-2.

	F14-14 As stated in the Public Notice of a Draft EIR, technical reports and documents were available to the public by request. **F14-15** The Draft EIR/EIS is a combination EIR and EIS prepared for two different lead agencies and addresses a complex range of issues. The City has determined that the length of the EIR/EIS is necessary to present a thorough discussion of all relevant environmental issues. **F14-16** The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. **F14-17** Please refer to response F14-2. **F14-18** Please refer to responses F14-2 and F14-3. **F14-19** Please refer to response F14-1. **F14-20** The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. **F14-21** Please refer to response F14-1.

	F14-22 Please refer to response F14-1. **F14-23** Please refer to response F14-1. **F14-24** Please refer to response F14-2. This alternative alignment would follow the same route along the southern two-thirds of the alignment and would likely result in the same noise and traffic impacts as the proposed alignment within this area; therefore, this alternative route would not alleviate the significant and unavoidable impacts that would result with construction of the Morena Pipelines. Noise and traffic impacts occurring within the University Community Planning Group area would merely be transferred east to other communities and would also result in significant and unavoidable impacts. **F14-25** The Torrey pines within the median along Genesee Avenue were planted and are not considered a native population. Only native populations of this species are covered by the Multiple Species Conservation Program as stated in Attachment A of the San Diego Municipal Code, Land Development Code—Biology Guidelines. Additionally, the Project

would not result in conflicts with City Policy 900-19 because none of the trees in the median are designated as Heritage/Conserved or Parkway Resource Trees. The Torrey pines within the median along Genesee Avenue are not protected, and the Morena Pipelines would not result in direct impacts to these trees.

F14-26 Please refer to response F14-1. Sewage spill statistics are posted on the City's website and can be accessed here: https://www.sandiego.gov/mwwd/sewerspill/stats.

F14-27 The commenter's support of the Project and opposition to the current design and proposed route for the Morena Wastewater Forcemain is noted and will be included in the administrative record. Please refer to responses F14-1 and F14-15.

Pure Water Facility
Metro Bio-Solids Center
Morena Pump Station
Executive
Nobel
Genesee
Balboa
Clmt Dr
Morena Blv
SDGE Lines
Clmt Mesa Blv
Miramar Landfill
Cintas
LA JOLLA VILLAGE
UNIVERSITY CITY
BAY HO
CLAIREMONT
CLAIREMONT MESA EAST
PACIFIC BEACH
LINDA VISTA
MISSION BAY
MISSION VALLEY
San Diego Mesa College
De Anza Cove Park
Mission Bay Park
Tecolote Canyon Natural Park
Fiesta Island Park
Riverwalk Golf Club
Valley View Casino Center
52
163
805
5
8
City Proposed EIR
SDGE Alternative
Interstate Alternative
University Alternative
LAR 11/17/2017

Comment Letter F15

From: Rey Yturralde
To: DSD EAS
Subject: Pure Water San Diego North City Project Draft Environmental Impact Report
Date: Monday, November 20, 2017 3:43:54 PM

Fm: Rey F. Yturralde Jr.
4155 Bonanza Avenue
San Diego, CA 92117

To: Mark Brunette
Senior Environmental Park Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, CA 92101

Mark,

The Effluent of the Affluent Drinking Water for Seniors and middle to Lower Income Resident Experiment is a more accurate title for the North City Project Pure Water San Diego Program. F15-1

Pharmaceuticals and personal care products are not completely removed in the water purification process. Test results show pharmaceutical (opioids: cocaine, heroin, meth, fentanyl, carfentanyl) and personal care product levels like Viagra are only **below** EPA Health Reference levels or at non-detection levels. Those thresholds can rise or fall with each new administration. In the past, the city adopted a program to spread sludge dried at Fiesta Island onto City park lands. Whenever the parks were watered, the sludge smelled like feces. It wasn't too long before the San Diego Union reported children playing at those parks were developing rashes from sliding on the grass. The city abandoned the dried sludge distribution to the parks program. My mother lived adjacent to one of those parks. Soon after that dried sludge experiment: my mother contracted flesh-eating bacteria from the thorn of a bougainvillea growing over her backyard fence from the park. Doctors at Sharps cut flesh from her arm to remove the rapidly spreading infection. F15-2 F15-3

Under a shroud of economy, the Pure Water San Diego Program appears to be targeting Miramar reservoir with the treated water to force feed a majority of senior and lower to middle income residents living in Mira Mesa and Clairemont. F15-4

Pumping the effluent of the affluent at 260 Psi from a few feet above sea level thru the Rose Canyon fault and the heart of Clairemont then pumping the salts and other contaminants removed from the effluent back along the same route to Point Loma, will expose Clairemont's residents to a potential 200' high plume of effluent or blast of salts and other contaminants.

The North City Project Pure Water San Diego Program planners should have visualized what a volume of effluent flowing out of a ruptured 4' diameter pipe at 260 psi would look like cascading down Clairemont Drive towards Mission Bay. Long ago the North City Project Pure Water San Diego Program should have at least planned to route their high-pressure waste pipes through Tecolote Canyon at the eastern edge of the Rose Canyon fault to tuck the pipes safely away from humans. F15-5

Environmental activist must have realized the potential danger a 260 psi effluent pipe line posed to animals given their recent success in getting Tecolote Canyon designated a National Park effectively blocking that route for the city's high pressure effluent pipelines.

Routing a 4' diameter pipe with effluent flowing at 260 psi adjacent Sharps hospital near 163 and Artillery Drive or along Morena Blvd with planned high-density housing, are bad ideas.

Regardless of cost, the North City Project Pure Water San Diego Program planners need to get their heads out of the box. It's never too late to do the right thing. North City Project Pure Water San F15-6

Response to Comment Letter F15

Rey Yturralde Jr.
November 20, 2017

F15-1 Comment noted.

F15-2 Chapter 2, Environmental Setting, of the Draft EIR/EIS summarizes the extensive testing and monitoring activities that have occurred at the Water Purification Demonstration Project facility. The water quality of the purified water has been compared to regulatory limits to verify that purified water met all applicable water quality standards in almost 30,000 tests. The commenter is referred specifically to Draft EIR/EIS pages 2-23 and 2-24, which explain the testing for contaminants of emerging concern and unregulated contaminants (which includes pharmaceuticals). The referenced Drinking Water Equivalent Level or the U.S. Environmental Protection Agency-identified Health Reference Level are the most appropriate benchmark against which to compare results and are set extremely low based on appropriate toxicological studies and conservative assumptions. Further information

	on the Water Purification Demonstration Project Testing and Monitoring can be found on the City's website at https://www.sandiego.gov/water/purewater/purewatersd/reports.
	F15-3 The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the EIR/EIS; therefore, no additional response is provided or required.
	F15-4 Section 6.5, Environmental Justice, of the Draft EIR/EIS analyzes whether the North City Project would result in disproportionately high adverse effects on minority and/or low-income populations. As stated in this section, "No adverse effects would be borne disproportionately by a minority or low-income population related to short-term construction effects or long-term operational effects for either Project Alternative."
	F15-5 The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure are likely. It would be constructed of welded steel

	pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity. The City has provided this additional clarification of the wastewater forcemain design within Chapter 3 of the Final EIR/EIS. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation. As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further

	discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the

	event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014).

Diego Program planners should rethink their effluent sourcing plans or the location of the purification plant or both.

Demonstrate leadership and relocate the city's filtration plant investment to Imperial Beach/Tijuana River. Purify the effluent outflow from Tijuana: solve a huge growing problem for San Diego, Coronado, and the south bay. Today, the initiative might receive federal monies and assistance (including land) to smooth and expedite success.

F15-6 Cont.

Regards,

Rey Yturralde Jr.

F15-6 The commenter's preference for an alternative project is noted and will be included in the administrative record for this Project as part of the Final EIR/EIS.

Comment Letter F16

SheppardMullin

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File Number: 0STP-199765

November 20, 2017

VIA MESSENGER

Mark Brunette
Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS—501
San Diego, CA 92101

Re: North City Project
Pure Water San Diego Program
Public Review Draft, September 2017
Environmental Impact Report/Environmental Impact Statement
SCH #2106081016 / PTS #499621 (the "Draft EIR")

Dear Mr. Brunette:

This firm represents Murphy Development Company, Inc. ("Murphy"), the Managing Member of Scripps Ranch Technology Park, LLC ("SRTP"). This letter and the materials attached hereto and submitted herewith are provided on behalf of Murphy as comments to the Draft EIR referenced above. All such materials attached hereto and submitted herewith are incorporated herein by reference.

SRTP is the owner of 5 parcels of real property in the Scripps Ranch area, often commonly referred to as Phase III of Scripps Ranch Business Park, and shown on Attachment 1 to this letter, as Lots 3, 6, 7, 8 and 10. The Pure Water project referenced above (the "Project") includes, among other things, a pipeline for which the proposed location of concern in this letter and materials is as shown in Attachment 2 to this letter (the "Pipeline"). More precisely, this letter and materials address the proposed location of the Pipeline ("Project Proposed Location") as shown on Attachment 2 (referred to on such drawing as the DEIR Preferred Location). F16-1

Beginning in April of 2016, when Murphy first became aware of the location initially proposed for this section of the Project, it engaged in dialogue with the Project team, in which it registered objection to the Project going through the fully entitled lots it owns at SRTP. The City came back with the Project Proposed Location in August 2016, but it wasn't until February 2017 that the size and depth of the pipe at this location was communicated by the City to Murphy. Murphy then formally opposed the pipeline in a March meeting with the Project staff, and suggested that the Project team evaluate alternate locations, including (without limitation) an alternate location which would proceed from the intersection of Hoyt Park Drive and Scripps Ranch Boulevard up Scripps Ranch Boulevard to Scripps Lake Drive and then eastward south of Scripps Lake Drive to a point near the branch library and then tunnel under and thus cross F16-2

Response to Comment Letter F16

Shepard Mullin
Christopher B. Neils
November 20, 2017

F16-1 Comment noted. The proposed pipeline location within the Scripps Ranch Technology Park (SRTP) is also noted.

F16-2 This comment presents a history of communications between the Murphy Development Company Inc. (Murphy) and the City of San Diego (City) and will be included in the administrative record. The City acknowledges the commenter's opposition to the location of the North City Pipeline within SRTP.

SheppardMullin

Mark Brunette
November 20, 2017
Page 2

the aqueduct facility of the San Diego County Water Authority ("SDCWA") and ultimately reach the same destination as that of the Pipeline in the Project Proposed Location. The location of the alternative pipeline route suggested by Murphy is shown on Attachment 2 hereto, and is labelled thereon as Murphy Alternative Location 1 ("Murphy Alternative Location One"). Copies of such 2016 dialogue are attached hereto as Attachment 3.

In the spring of 2017, in a series of letters to the City submitted by attorney James Sandler, representing Murphy, further objections were raised regarding the impact to SRTP of the Project Proposed Location, and Sandler urged the Project team to evaluate Murphy Alternative Location One. Recently, in a letter dated October 30, 2017, Sandler has provided additional input to the City on this topic. Copies of all the Sandler letters are attached hereto as Attachment 4.

In its dialogue to the City's Project team, Murphy has made it clear that it supports in concept the Pure Water Program, and the North City Project. This is consistent with the long record of Murphy as being a responsible corporate citizen of San Diego.

Despite the communications from Murphy referred to above, the Draft EIR does not contain an evaluation of Murphy Alternative Location One. Murphy Alternative Location One is a reasonable alternative, is viable, and would be a means to accomplish the goals of the Project for this portion of the Pipeline without direct negative impact to the SRTP land, all as pointed out in the referenced dialogue. The Murphy team believes that the Draft EIR is fatally defective in violation of the requirements of the California Environmental Quality Act ("CEQA"), in failing to have addressed and fairly considered and evaluated as a Project alternative, the pipeline in Murphy Alternative Location One.

Collection of additional Technical Comments. A well-known environmental consulting firm has been retained by Murphy to review and provide comments on the Draft EIR. These comments on Project Alternatives, as well on the areas of Land Use, Biology, Traffic and Project Description, all require City response. Their comments are attached hereto as Attachment 5.

Further Murphy Alternative. In anticipation of the possibility of a concern about the angle of crossing of the aqueduct facility owned by the SDCWA, Murphy has also identified a further alternative for such crossing, which is shown on Attachment 2, and is labelled thereon as Murphy Alternative Location 2 ("Murphy Alternative Location Two," and together with Murphy Alternative Location One, the "Murphy Alternative Locations").

Cost comparisons. Besides not complying with the CEQA requirement to evaluate and discuss the reasonable Murphy Alternative Location One, there is persuasive evidence that the results of an impartial cost comparison would show that the total cost of putting the Pipeline in Murphy Alternative Location One versus the Project Proposed Location would be very similar. The same analysis as to Murphy Alternative Location Two produces a similar result. And, that is without counting the additional cost to the Project of (a) land acquisition through eminent domain condemnation and (b) severance and/or impact damages, if the Project tries to proceed with the Project Proposed Location alignment. If so, then there is no valid "costs saving" rationale for choosing a route which impacts existing businesses. A sample of cost comparison

F16-2 Cont.
F16-3
F16-4
F16-5
F16-6
F16-7

F16-3 The commenter's support of the Project is noted and will be included in the administrative record.

F16-4 As discussed in Chapter 3, Alternatives, of the Draft EIR/EIS, CEQA requires a discussion of alternatives to the project be provided. Specifically, Section 15126.6(a) of the CEQA Guidelines states that an EIR shall, "[d]escribe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Section 15126.6(f) further states, "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." This is defined in the same section of the CEQA Guidelines as not meaning every conceivable alternative to the project, but only a reasonable range of potentially feasible alternatives.

	Additionally, an EIR must consider a reasonable range of alternatives to the project, or to the location of the project, which (1) offer substantial environmental advantages over the project proposal and (2) may be feasibly accomplished in a successful manner considering the economic, environmental, social, and technological factors involved (*South County Citizens for Smart Growth versus County of Nevada*, 221 Cal. App. 4th 316 (2013)). The City of San Diego disagrees that a reasonable range of alternatives was not considered in the Draft EIR/EIS. The City has conducted an extensive analysis of alternative routes for each of the proposed pipeline alignments as summarized in Section 3.7.2, Current Alternative Screening, including the North City Pipeline. Three alignments (shown on Figure 3-31A of the Draft EIR/EIS) were initially evaluated for the North City Pipeline, and "Alternative B" was advanced to the 10% Design Phase. During the 30% and 60% design efforts, further refinements were made to Alternative B for both technical and environmental reasons.

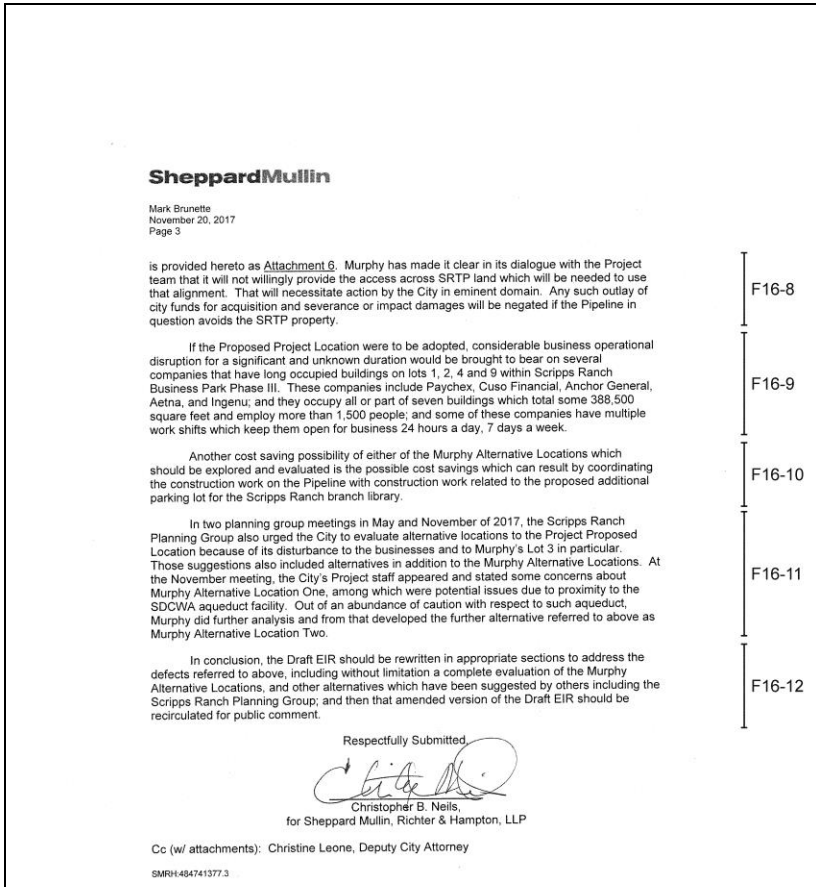
	Additionally, in response to discussions with Murphy over concerns of the pipeline route through the SRTP, the City evaluated nine alternative routes for the North City Pipeline between Scripps Ranch Boulevard and Miramar Reservoir (as shown on Figure 3-31B of the Draft EIR/EIS). An early alignment (shown in an attachment to an email from Jeff Soriano to Kaitlin Arduino on August 16, 2016, at 8:23 a.m.) was rerouted to Meanley Drive to avoid impacts to parcels 4 through 8 of the SRTP, thus only impacting parcel 3 of the SRTP. Impacts to parcel 3 of the SRTP would be within the landscape setback of the parcel and would not prohibit or conflict with planned development. This alignment was later refined to follow Hoyt Park Drive to Meanley Drive, then cross Assessor's Parcel Number 319-170-22, and was ultimately chosen by the City as their preferred alignment and was analyzed as part of the Project in the Draft EIR/EIS. In addition, the City changed the construction hours for this part of the alignment to be during the nighttime hours as a means to reduce impacts to local businesses.

	The Murphy Alternative Location One is similar to the Scripps Lake Drive Alternative, as shown on Figure 3-31B of the Draft EIR/EIS, which follows Alignment C to Alignment A3. The Murphy Alternative Location One is also similar to the Scripps Ranch Planning Group's proposed alternative route south of Scripps Lake Drive. The proposed alternative is located south of Scripps Lake Drive outside of the roadway right-of-way (ROW). The "North City Pure Water Pipeline Alignment Analysis" (City of San Diego 2017a) identifies numerous engineering constraints associated with the SRPG's proposed alternative route south of Scripps Lake Drive, including, but not limited to, the following: construction outside of the ROW would require considerable grading and backfill within the existing slope to support the pipeline; approval from the State Division of Safety of Dams (DSOD) would be required to backfill over critical drainage infrastructure south of Scripps Lake Drive; long stretches of tunneling would be required to avoid conflicts with other utilities; tunneling would occur in the Santiago Peak Volcanic Formation geologic unit, which is difficult to bore through and would require blasting; blasting may damage

	San Diego County Water Authority (SDCWA) large-diameter aqueducts located within the roadway ROW; construction duration would be increased; the receiving shaft of the tunnel would need to be located in the Scripps Ranch Library parking lot, and additional staging and work space would be needed to ensure safety of the public; tunneling would be located directly in front of the earthen dam supporting Miramar Reservoir, approval of which would be required from DSOD; and crossing of SDCWA property would occur at an angle, which would complicate approval. These technical constraints all limit the feasibility of the proposed Murphy Alternative Location One and result in increased potential environmental impacts related to air quality (from longer construction duration and more tunneling), biological resources (from fill in canyon areas and re-grading of the slope which could impact wetlands), geologic impacts (from blasting for tunnels), noise (from increased tunneling), and public utilities (from additional conflicts with DSOD and SDCWA infrastructure). Additionally, significant and unavoidable short-term traffic impacts

	associated with construction of the North City Pipeline would not be alleviated as a result of this alternative route. Therefore, Murphy Alternative Location One would have limited feasibility and would not lessen the significant environmental effects of the Project.
	F16-5 Please refer to responses F16-14 through F16-29 for responses to the comments contained in Attachment 5.
	F16-6 Please refer to response F16-4. The Murphy Alternative Location Two follows the same alignment as Murphy Alternative One with the exception of continuing along south of Scripps Lake Drive just east of Evans Pond before turning north. The commenter notes that this alternative would alleviate conflicts with SDCWA facilities. While this may be true, the Murphy Alternative Location Two would still be considered infeasible for all other reasons described in response F16-4 for Murphy Alternative Location One.
	F16-7 Please refer to response F16-4; the City does not concur that Murphy Alternative Location One requires further analysis in the Final

	EIR/EIS. This comment relates to cost comparisons of alternative pipeline routes and does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.



SheppardMullin

Mark Brunette
November 20, 2017
Page 3

is provided hereto as Attachment 6. Murphy has made it clear in its dialogue with the Project team that it will not willingly provide the access across SRTP land which will be needed to use that alignment. That will necessitate action by the City in eminent domain. Any such outlay of city funds for acquisition and severance or impact damages will be negated if the Pipeline in question avoids the SRTP property. F16-8

If the Proposed Project Location were to be adopted, considerable business operational disruption for a significant and unknown duration would be brought to bear on several companies that have long occupied buildings on lots 1, 2, 4 and 9 within Scripps Ranch Business Park Phase III. These companies include Paychex, Cuso Financial, Anchor General, Aetna, and Ingenu; and they occupy all or part of seven buildings which total some 388,500 square feet and employ more than 1,500 people; and some of these companies have multiple work shifts which keep them open for business 24 hours a day, 7 days a week. F16-9

Another cost saving possibility of either of the Murphy Alternative Locations which should be explored and evaluated is the possible cost savings which can result by coordinating the construction work on the Pipeline with construction work related to the proposed additional parking lot for the Scripps Ranch branch library. F16-10

In two planning group meetings in May and November of 2017, the Scripps Ranch Planning Group also urged the City to evaluate alternative locations to the Project Proposed Location because of its disturbance to the businesses and to Murphy's Lot 3 in particular. Those suggestions also included alternatives in addition to the Murphy Alternative Locations. At the November meeting, the City's Project staff appeared and stated some concerns about Murphy Alternative Location One, among which were potential issues due to proximity to the SDCWA aqueduct facility. Out of an abundance of caution with respect to such aqueduct, Murphy did further analysis and from that developed the further alternative referred to above as Murphy Alternative Location Two. F16-11

In conclusion, the Draft EIR should be rewritten in appropriate sections to address the defects referred to above, including without limitation a complete evaluation of the Murphy Alternative Locations, and other alternatives which have been suggested by others including the Scripps Ranch Planning Group; and then that amended version of the Draft EIR should be recirculated for public comment. F16-12

Respectfully Submitted,

Christopher B. Neils,
for Sheppard Mullin, Richter & Hampton, LLP

Cc (w/ attachments): Christine Leone, Deputy City Attorney

SMRH:484741377.3

F16-8 Comment regarding eminent domain is noted. This comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

F16-9 Comment regarding disruption to businesses is noted. Sections 6.12 and 6.16 of the Draft EIR/EIS adequately analyze potential impacts related to noise, and transportation, circulation and parking. Additionally, as noted above in response F16-4, the City changed the construction hours for this part of the alignment to be during the nighttime hours as a means to reduce impacts to local businesses. Access to these properties for tenants and property owners is to be retained on a 24-hour basis during construction.

F16-10 This comment is noted and will be included in the administrative record for the Project.

F16-11 Please refer to response F16-4.

F16-12 Please refer to response F16-4. The City has evaluated a reasonable range of alternatives in the Draft EIR/EIS. Modifications to the pipeline route would not result in a considerably different

	alternative to those already analyzed in the Draft EIR/EIS, and therefore, do not require more detailed analysis in the Final EIR/EIS. No clarification or revisions are required.

F16-13 Attachment 1 is an exhibit showing a general site plan of the SRTP 55-acre Corporate Campus. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. This exhibit will be included in the administrative record for the Project.

Attachment 2 is an exhibit showing the alignment of the North City Pipeline as analyzed in the Draft EIR/EIS, as well as the two alternative routes proposed by Murphy. Please refer to response F16-4 for a discussion of these alternative routes. This comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. This exhibit will be included in the administrative record for the Project.

Attachment 3 contains copies of the email dialogue between Murphy and the City and does not contain specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS. Please also refer to response F16-2. This comment will be included in the

F16-13
Cont.

administrative record for the Project.

Attachment 4 contains copies of the letters submitted to the City by attorney James Sandler and does not contain specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS. This comment will be included in the administrative record for the Project.

(1)

ATTACHMENT 3

Kaitlin Arduino

From: Kaitlin Arduino
Sent: Monday, April 25, 2016 3:47 PM
To: Soriano, Jeff
Cc: Andy Irwin; Jim Roberts; Gamboa, Wendy
Subject: RE: Miramar Pure Water Pipeline

Hi Jeff. If you would like to come to MDC to discuss the project then we are open to doing that as a courtesy. We are not giving authorization for you to enter our property though at this point. We would request that only project managers and engineers attend the meeting, not biologists or CEQA staff.

Please give us some times you are available.

Thanks,

Kaitlin M. Arduino | **Murphy Development** | 619.710.8000 x.15

From: Soriano, Jeff [mailto:JSoriano@sandiego.gov]
Sent: Monday, April 25, 2016 11:24 AM
To: Kaitlin Arduino <karduino@murphydev.com>
Cc: Andy Irwin <airwin@murphydev.com>; Jim Roberts <jroberts.lomita@me.com>; Gamboa, Wendy <WGamboa@sandiego.gov>
Subject: Miramar Pure Water Pipeline

Hello Kaitlin,

We are having great difficulty finding room for our pipeline within the already utility congested street right-of-way. Can we please meet so that we can brief you on our project, the difficulties we face in finding routes around your 3 parcels, our possible need to obtain and compensate you for easements through Scripps Technology Park property, and to gather your concerns and input? We believe your proposed development will likely have a setback from the street right of way, and would like to discuss this with you as well. Thank you in advance for your consideration.

Jeff Soriano
Project Manager
City of San Diego
Public Works Department

(858) 292-6336

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1

F16-13
Cont.

From: Kaitlin Arduino [mailto:karduino@murphydev.com]
Sent: Thursday, April 07, 2016 4:16 PM
To: Soriano, Jeff <JSoriano@sandiego.gov>
Cc: Andy Irwin <airwin@murphydev.com>; Jim Roberts <jroberts.lomita@me.com>
Subject: RE: Follow-up : Environmental Field Survey - Miramar Pure Water Pipeline

Hi Jeff. No, Lot 15 is owned and controlled by the Scripps Ranch Business Park Unit 3 Association. We are members of the Association Board (I am not but Andy Irwin is). We would be happy to help facilitate the visit if approved by the Board. We would need the property release for the association.

On one of our lots, Lot 6, we are anticipating starting construction next spring, and finishing by the end of next year. The other contiguous lots north of Lot 15 is undecided. We may be starting around the same time frame, or it may be delayed a bit longer depending on the deals we make.

There are already water and sewer lines in the street (Hoyt Park Dr and Meanley Dr) so we would just need to connect on site. I don't believe we will be upsizing any mains.

Thanks,

Kaitlin M. Arduino | **Murphy Development** | 619.710.8000 x.15

From: Soriano, Jeff [mailto:JSoriano@sandiego.gov]
Sent: Thursday, April 07, 2016 1:03 PM
To: Kaitlin Arduino <karduino@murphydev.com>
Cc: Andy Irwin <airwin@murphydev.com>; Jim Roberts <jroberts.lomita@me.com>
Subject: RE: Follow-up : Environmental Field Survey - Miramar Pure Water Pipeline

Kaitlin,
We'll take you up on the offer for assisting to help facilitate scheduling a visit through lot 15. As soon as I hear when our consultants want to schedule that, I will let you know.
I have a few questions: Is lot 15 owned by Scripps Ranch Technology Park LLC too? For the purposes of coordinating our underground work with your construction...Can you tell me what your estimate for construction start and completion is? Will your work include water and sewer connections, upsizing mains etc.?

Thanks,
Jeff

From: Kaitlin Arduino [mailto:karduino@murphydev.com]
Sent: Wednesday, April 06, 2016 1:33 PM
To: Soriano, Jeff <JSoriano@sandiego.gov>
Cc: Andy Irwin <airwin@murphydev.com>; Jim Roberts <jroberts.lomita@me.com>
Subject: RE: Follow-up : Environmental Field Survey - Miramar Pure Water Pipeline

I should add that if you want to take a look at the already dedicated open space land in Lot 15, please let us know and we can help facilitate through the Owners Association.

Thanks,

Kaitlin M. Arduino | **Murphy Development** | 619.710.8000 x.15

2

F16-13
Cont.

From: Soriano, Jeff [mailto:JSoriano@sandiego.gov]
Sent: Wednesday, April 06, 2016 9:13 AM
To: Kaitlin Arduino <karduino@murphydev.com>
Cc: Andy Irwin <airwin@murphydev.com>; Jim Roberts <jroberts.lomita@me.com>
Subject: RE: Follow-up : Environmental Field Survey - Miramar Pure Water Pipeline

Hi Kaitlin,

Thank you for sharing the information regarding the planned improvements for this land. This helps tremendously in evaluating the proposed alignment for our Pure Water pipeline. We're going to use what you've provided to attempt to find ways around this area. We'll keep you updated. In the meantime, can we obtain access to perform the environmental studies required. I didn't have your email but I did send the attached email to Andy. We can provide the letter that you requested to ease the concerns that you brought up in our phone conversation. Please let us know if this will be okay, and I'll draft something up.

Thank you,
Jeff

From: Kaitlin Arduino [mailto:karduino@murphydev.com]
Sent: Tuesday, April 05, 2016 12:50 PM
To: Soriano, Jeff <JSoriano@sandiego.gov>
Cc: Andy Irwin <airwin@murphydev.com>; Jim Roberts <jroberts.lomita@me.com>
Subject: RE: Follow-up : Environmental Field Survey - Miramar Pure Water Pipeline

Jeff, pursuant to our conversation yesterday, I am attaching the leasing brochure for our Scripps Ranch Technology Park. In particular pages 8-12 show site plans for Lots 7 & 8, and Lot 6 (A4, A3 and A5 respectively). It would be very difficult to put a 30' easement there when we would need the area for stormwater and buildings.

I am also attaching a map that will show you lot 15, the association controlled lot, that may be an option for the City. You could connect thru Canyon Lake Dr perhaps?

Best,

Kaitlin M. Arduino | **Murphy Development** | 619.710.8000 x.15

From: Soriano, Jeff [mailto:JSoriano@sandiego.gov]
Sent: Wednesday, March 30, 2016 7:06 AM
To: Andy Irwin <airwin@murphydev.com>
Cc: Kaitlin Arduino <karduino@murphydev.com>
Subject: Follow-up : Environmental Field Survey - Miramar Pure Water Pipeline

Good Morning Andy,

We previously sent Scripps Ranch Technology Park LLC, a letter regarding the subject project dated March 3, 2016, but have not received your response.

The subject project is part of the City of San Diego's Pure Water program (Pure Water).

This program is scheduled to occur in phases, the first phase ending in 2021. The pipeline projects associated with the first phase are in the preliminary design phase and the current pipeline alignment is being refined. A pipeline may be proposed to be installed on or near your property.

3

F16-13
Cont.

In order for us to complete this critical project, we need your help. We need to perform an environmental field survey between March and July, which will have no physical impacts. This survey will only include walking thru the parcels shown in the attached map (APNs 319-170-27-00, 319-170-26-00 and 319-170-25-00) to look at the vegetation, associated species, soil, etc… It will be non-invasive. We estimate the work will only take a few hours to complete.

Please complete the attached Permit to Do Work on Private Property form, indicate a phone number where we can contact you to coordinate the survey date, and return it to us using the enclosed stamped and addressed envelope. This permit will grant us, or our designated representative permission to enter your property to perform this work.

If you have any questions about this project, or need any further information, please contact me. Thank you in advance for your cooperation.

Jeff Soriano
Project Manager
City of San Diego
Public Works Department

(858) 292-6336
jsoriano@sandiego.gov

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F16-13
Cont.

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2

Kaitlin Arduino

From: Kaitlin Arduino
Sent: Monday, August 29, 2016 5:57 PM
To: 'Soriano, Jeff'
Cc: James Roberts; Andy Irwin
Subject: RE: Pure Water Revised Alignment

Hi Jeff, thanks for the follow up. We have additional questions and concerns regarding the easement. We would like to know pipe size, easement width and construction timeline, amongst other things. I would like you to call our engineering consultant Jim Roberts to discuss. Jim is copied here and his number is 619-405-8737.

Thank you,

Kaitlin M. Arduino | **Murphy Development** | 619.710.8000 x.15

Please note I will be out of the office from August 31st through September 12th with limited access to emails.

From: Soriano, Jeff [mailto:JSoriano@sandiego.gov]
Sent: Tuesday, August 16, 2016 8:23 AM
To: Kaitlin Arduino <karduino@murphydev.com>
Cc: Gamboa, Wendy <WGamboa@sandiego.gov>; Marquez, Francis Albert <FMarquez@sandiego.gov>; Alejandro, Jocker <JAlejandro@sandiego.gov>; McCarty, Sean <McCartyS@sandiego.gov>
Subject: Pure Water Revised Alignment

Good Morning Kaitlin,

Since we last met, the City's design team has evaluated ways around Scripps Ranch Technology Park's three parcels that were discussed with you. As we mentioned at that meeting, our pipeline is required to have a connection to the City's recycled water tank at the end of Meanley Dr. Although both Meanley Dr. and Hoyt Park Dr. are already congested with underground utilities, we feel you will be pleased that we may have found some space to construct our pipeline within Meanley Drive to get to the tank. However, due to this alignment revision, we are now faced with locating a new route from the tank to Miramar Lake. As you will see in the attached sketch, the path to the lake is limited. I've provided a sketch showing how this proposed alignment revision will require obtaining an easement through Scripps Ranch Technology Park's lot 3. Please feel free to contact me to discuss or if you'd like I can set up a meeting.

Thank you,

Jeff Soriano
Project Manager
City of San Diego
Public Works Department

(858) 292-6336

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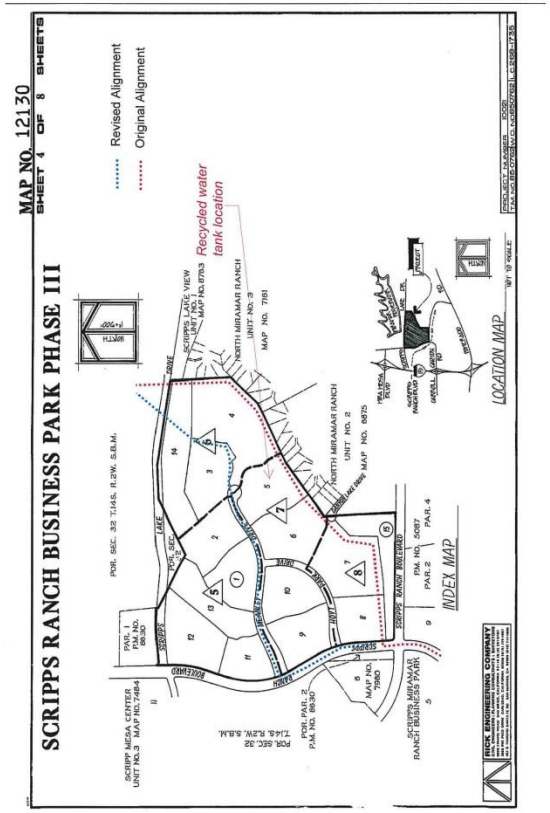
SCRIPPS RANCH BUSINESS PARK PHASE III
MAP NO. 12130
SHEET 4 OF 8 SHEETS
Revised Alignment
Original Alignment
Recycled water tank location
INDEX MAP
LOCATION MAP
NOT TO SCALE
ROCK ENGINEERING COMPANY

F16-13
Cont.

3

Kaitlin Arduino

From: Soriano, Jeff <JSoriano@sandiego.gov>
Sent: Thursday, February 02, 2017 11:33 AM
To: James roberts
Cc: Kaitlin Arduino
Subject: RE: Murphy Development Lot - Geo Boring
Attachments: Scripps Ranch Technology Park Proposed Alignment REVISED 2 2 17.pdf

Hi Jim,
I had to ask my consultant to alter the alignment because the version that I shared with you yesterday shows our pipeline encroaching into the other property somewhat at station 379+00 (top of the existing paved driveway). You'll see in the revised map that we had shifted the alignment slightly.

Jeff

From: Soriano, Jeff
Sent: Wednesday, February 01, 2017 2:05 PM
To: 'James roberts' <jroberts.rce@outlook.com>
Cc: 'karduino@murphydev.com' <karduino@murphydev.com>
Subject: RE: Murphy Development Lot - Geo Boring

Jim,
Attached is what we are tentatively proposing for the alignment and easement width. As you'll see we pushed the alignment into the slope area as you had indicated you'd like for us to do.

Looking forward to hearing your thoughts.

Thanks,
Jeff

From: James roberts [mailto:jroberts.rce@outlook.com]
Sent: Tuesday, January 31, 2017 2:53 PM
To: Soriano, Jeff <JSoriano@sandiego.gov>
Cc: 'karduino@murphydev.com' <karduino@murphydev.com>
Subject: RE: Murphy Development Lot - Geo Boring

Jeff,

Site condition is OK.

Keep us posted as your design progresses. If you end up proposing an alignment through lot 3 involve us early. A design that avoids parking or building impacts will be best for all. Thanks.

Regards,
Jim
James M Roberts, PE
619-405-8737
Jroberts.rce@outlook.com

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F16-13
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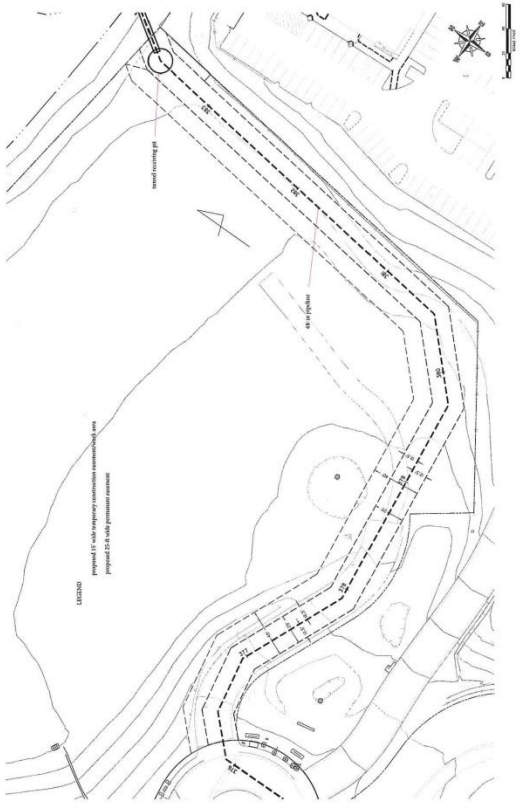

F16-13
Cont.

4

Kaitlin Arduino

From: Soriano, Jeff <JSoriano@sandiego.gov>
Sent: Wednesday, March 22, 2017 10:54 AM
To: James roberts
Cc: Kaitlin Arduino
Subject: RE: Pure Water Proposal - SRTP Lot 3

Jim,
An "engineers" meeting is a great suggestion. The times our engineer team is available are next Monday between 1-2pm or Tuesday between 8-9am? Please let me know which time/date best work for you. Our offices are at 9192 Topaz Way in Kearny Mesa.

Thanks,
Jeff

From: James roberts [mailto:jroberts.rce@outlook.com]
Sent: Wednesday, March 22, 2017 10:13 AM
To: Soriano, Jeff <JSoriano@sandiego.gov>
Cc: 'karduino@murphydev.com' <karduino@murphydev.com>
Subject: RE: Pure Water Proposal - SRTP Lot 3

Jeff,

I suggest an "engineers" meeting to go over the design for the water line and our site development. We have evaluated all of the impacts of the waterline on our site development and I can review with you team. Let me know some times next week that work for you. I can come to your office.

Regards,
Jim

James M Roberts, PE
619-405-8737
Jroberts.rce@outlook.com

From: Soriano, Jeff [mailto:JSoriano@sandiego.gov]
Sent: Wednesday, March 22, 2017 9:34 AM
To: James roberts <jroberts.rce@outlook.com>
Subject: RE: Pure Water Proposal - SRTP Lot 3

Hi Jim,
I was wondering if you have any updates on your review of our proposed. Furthermore, we recently found the need to include two air vacs at the far end, close to our tunnel pit. What are your thoughts on allowing us permanent above ground appurtenances here? We would work with you on the best location for these if it's something that will be considered.

Thanks,
Jeff

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F16-13
Cont.

From: James roberts [mailto:jroberts.rce@outlook.com]
Sent: Wednesday, March 08, 2017 10:51 AM
To: Soriano, Jeff <JSoriano@sandiego.gov>
Subject: Pure Water Proposal - SRTP Lot 3

Jeff,

We are presently evaluating the impacts of the 48" water line to Lot 3. Areas we are looking at include: proposed structures, wet and dry utilities, construction phasing and restoring the site. I plan to have input from all of our disciplines next week.

Regards,

Jim

James M Roberts, PE
619-405-8737
Jroberts.rce@outlook.com

F16-13
Cont.

2

ATTACHMENT 4

Sandler · Lasry · Laube
Byer & Valdez LLP

402 West Broadway, Suite 1700 • San Diego, California 92101-3542
Phone (619) 235-5655 • Facsimile (619) 235-5648 • www.sllbv.com

James G. Sandler • Direct (619) 615-6772 • Email jsandler@sllbv.com

April 13, 2017

VIA E-MAIL

Jeff Soriano
Project Manager
City of San Diego
Public Works Department
City of San Diego

Re: Scripps Ranch Technology Park/Miramar Pure Water Pipeline and Pump Station Project

Dear Mr. Soriano:

This firm represents Scripps Ranch Technology Park LLC (SRTP) with regard to the City's plans to construct the Miramar Pure Water Pipeline and Pump Station.

The Scripps Ranch Technology Park is a full vested, fully entitled development project. Entitlements date back to 1986, when a Planned Industrial Development Permit was obtained. The EIR for the project has been approved. Lots are graded, streets, curbs and sidewalks are in place. SRTP intends to fully develop the entire Park, including Lot 3. Lot 3 is the portion of SRTP's property which the City, as of August 2016, now wishes to encroach upon to construct the Miramar Pure Water Pipeline and Pump Station.

We understand that the City's most recent proposal is to seek to acquire a permanent easement and a temporary construction easement across SRTP's single point of access to Lot 3 of the SRTP project, effectively denying access to Lot 3 for the duration of the still unscheduled construction of the City's project. Without access to the property, and depending on when the City elects to take the easement, development of the property becomes unfeasible and/or the developed property becomes uninhabitable. In either scenario the City's action will constitute a full taking of a 6 acre property, the fair market value of which, **today**, before any buildings are constructed, may exceed $11M.

We also understand that other alternatives are available to the City to fulfill the purposes for which acquisition of easements from SRTP is sought. None of the alternatives will render any property unbuildable or uninhabitable, as would be the effect of the City's current plans regarding SRTP Lot 3. For example, the City could choose a route involving NO taking or

F16-13
Cont.

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April 13, 2017
Page 2

acquisition of private property by routing the project along public right of ways (Scripps Ranch Boulevard and Scripps Lake Drive).

If the City persists in its intention to take easements across the only ingress and egress to SRTP Lot 3, attempted exercise of the City's eminent domain powers will be necessary. Considering the available alternatives, the City will not be able to fulfill the requirements of California Code of Civil Procedure Section 1245.230 which provides in pertinent part that no Resolution of Necessity can issue, and no condemnation can proceed, unless:

> "The proposed project is planned or located in the manner that will be most compatible with the greatest public good and the least private injury."

With these facts in mind, SRTP urges the City to reconsider its plans. SRTP is prepared to meet with City representatives to assist the City in considering alternatives to the current plan to take easements across the only ingress and egress to SRTP Lot 3. SRTP sees no possibility, however, of cooperation or compromise which would lead to agreement on any variation of the current City plans if Lot 3 is to be involved.

F16-13
Cont.

SRTP looks forward to the City's moving on from current plans and adoption of alternatives.

Your response may be made directly to Kaitlin Arduino at Murphy Development. I will appreciate your also forwarding a copy of this letter to the appropriate representative of the City Attorney's office; contact from the City Attorney's office should be made to me.

Thank you.

Very truly yours,

James G. Sandler

cc: Scripps Technology Business Park

From: James G. Sandler
To: KBalo@sandiego.gov
Subject: Scripps Ranch Technology Park/Miramar Pure Water Pipeline and Pump Station Project
Date: Wednesday, April 26, 2017 10:31:16 AM
Attachments: Scripps Ranch Pure Water Pipeline MDC Opposition Letter April 13 2017.pdf

Ms. Balo –

My firm represents Scripps Ranch Technology Park (SRTP). My letter of April 13, 2017 to Jeff Soriano regarding the City's plans to construct the Miramar Pure Water Pipeline and Pump Station Project is attached. To date, the letter has not been acknowledged, let alone the subject of a response.

In light of the issues raised in the letter regarding the destructive effect the current plan proposal will cause to the Scripps Ranch Technology Park's fully vested, fully entitled development project, as well as the fact that no Environmental Impact Report has yet been completed or released regarding the City's current plan proposal, my client was surprised to learn of the upcoming May 4, 2017 community planning meeting to present the Pure Water Program's North City Project and apparently seek a vote at that meeting approving the project.

Scripps Ranch Technology Park will appreciate the City's response to my April 13 letter as well as an advance understanding of how the concerns of SRTP will be addressed at the May 4 meeting. We will also appreciate your input on the reason for scheduling a voting meeting with at least the SRTP issue up in the air, and in the absence of an EIR.

F16-13
Cont.

As with the request to Mr. Soriano, you are welcome to respond directly to Kaitlin Arduino of SRTP, with a copy of any writing to me. As also requested of Mr. Soriano, please provide a copy of this communication to the Deputy City Attorney handling this matter, and please provide me the contact information for that person, as well.

Thank you.

Jim Sandler

This is an e-mail from Sandler, Lasry, Laube, Byer & Valdez LLP.
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Our postal address is 402 West Broadway, Suite 1700, San Diego, CA 92101-3542.
If you receive this e-mail in error, we would appreciate it if you would telephone our office manager, Marcella Smith 619.235.5655 or e-mail msmith@SLLBV.com.

Sandler · Lasry · Laube
Byer & Valdez LLP

402 West Broadway, Suite 1700 • San Diego, California 92101-3542
Phone (619) 235-5655 • Facsimile (619) 235-5648 • www.sllbv.com

James G. Sandler • Direct (619) 615-6772 • Email jsandler@sllbv.com

May 8, 2017

VIA E-MAIL

Keli Balo
Jeff Soriano
City of San Diego
Public Works Department
City of San Diego

Re: Scripps Ranch Technology Park/Miramar Pure Water Pipeline and Pump Station Project

Dear Ms. Balo and Mr. Soriano:

As you know from our April 13, 2017 and April 26, 2017 correspondence, this firm represents Scripps Ranch Technology Park LLC (SRTP) with regard to the City's plans to construct the Miramar Pure Water Pipeline and Pump Station ("Project").

Although you have elected to not respond to our correspondence, SRTP wishes to note the following from your May 4, 2017 presentation to the Scripps Ranch Planning Group:

- Your current projection is for Project construction to continue into 2021. Assuming that projection is based on the absence of delays at any time, for any reason, between now and the completion of the construction, any party potentially interested in the SRTP lots will assume that construction related issues will continue well into the next decade.
- The City's change in plans to now construct the Project along Hoyt Park Drive will materially add to the damages the City will cause to the SRTP project. Not only will the City Project make development of SRTP Lot 3 infeasible, resulting in a full taking of Lot 3 by the City (as previously noted) but the construction on, and closure of, Hoyt Park Drive well into the next decade will also make it infeasible to market SRTP Lots 6, 7, 8 and 10. Indeed, the revised City plans may soon chill the market interest already generated in those lots.
- Particular note was made of the many potential alternative routes raised by the Planning Group which both avoid the Technology Park lots and seem to not have been considered by the City.

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F16-13
Cont.

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May 8, 2017
Page 2

- With regard to alternatives, one of Mr. Soriano's comments particularly stood out to SRTP. He stated that the dismissal of one alternative route which would avoid the Technology Park was based on the property owner's unwillingness to cooperate in providing an easement to the City. In light of the fact that the City's current route will require easements on SRTP Lot 3 which (1) will require exercise of eminent domain because SRTP will not grant the easements voluntarily; and (2) will destroy the development potential of fully vested Lot 3, SRTP questions why the standard stated by Mr. Soriano does not apply to SRTP.

Copies of SRTP's April 13, 2017 and April 26, 2017 correspondence are enclosed and are should be considered incorporated into these comments.

SRTP continues to urge the City to reconsider its plans, and remains willing to meet with City representatives to assist the City in considering alternatives.

In the event you elect to respond, your response may be made directly to Kaitlin Arduino at Murphy Development, with any written response also copied to me. As requested before, I will appreciate your also forwarding a copy of this letter to the appropriate representative of the City Attorney's office; contact from the City Attorney's office should be made to me.

Thank you.

Very truly yours,

James G. Sandler

cc: Kaitlin Arduino
R. Michael Murphy

F16-13
Cont.

Sandler · Lasry · Laube
Byer & Valdez LLP

402 West Broadway, Suite 1700 • San Diego, California 92101-3542
Phone (619) 235-5655 • Facsimile (619) 235-5648 • www.slibv.com

James G. Sandler • Direct (619) 615-6772 • Email jsandler@slibv.com

April 13, 2017

VIA E-MAIL

Jeff Soriano
Project Manager
City of San Diego
Public Works Department
City of San Diego

Re: Scripps Ranch Technology Park/Miramar Pure Water Pipeline and Pump Station Project

Dear Mr. Soriano:

This firm represents Scripps Ranch Technology Park LLC (SRTP) with regard to the City's plans to construct the Miramar Pure Water Pipeline and Pump Station.

The Scripps Ranch Technology Park is a full vested, fully entitled development project. Entitlements date back to 1986, when a Planned Industrial Development Permit was obtained. The EIR for the project has been approved. Lots are graded, streets, curbs and sidewalks are in place. SRTP intends to fully develop the entire Park, including Lot 3. Lot 3 is the portion of SRTP's property which the City, as of August 2016, now wishes to encroach upon to construct the Miramar Pure Water Pipeline and Pump Station.

We understand that the City's most recent proposal is to seek to acquire a permanent easement and a temporary construction easement across SRTP's single point of access to Lot 3 of the SRTP project, effectively denying access to Lot 3 for the duration of the still unscheduled construction of the City's project. Without access to the property, and depending on when the City elects to take the easement, development of the property becomes unfeasible and/or the developed property becomes uninhabitable. In either scenario the City's action will constitute a full taking of a 6 acre property, the fair market value of which, **today**, before any buildings are constructed, may exceed $11M.

We also understand that other alternatives are available to the City to fulfill the purposes for which acquisition of easements from SRTP is sought. None of the alternatives will render any property unbuildable or uninhabitable, as would be the effect of the City's current plans regarding SRTP Lot 3. For example, the City could choose a route involving NO taking or

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April 13, 2017
Page 2

acquisition of private property by routing the project along public right of ways (Scripps Ranch Boulevard and Scripps Lake Drive).

If the City persists in its intention to take easements across the only ingress and egress to SRTP Lot 3, attempted exercise of the City's eminent domain powers will be necessary. Considering the available alternatives, the City will not be able to fulfill the requirements of California Code of Civil Procedure Section 1245.230 which provides in pertinent part that no Resolution of Necessity can issue, and no condemnation can procced, unless:

> "The proposed project is planned or located in the manner that will be most compatible with the greatest public good and the least private injury."

With these facts in mind, SRTP urges the City to reconsider its plans. SRTP is prepared to meet with City representatives to assist the City in considering alternatives to the current plan to take easements across the only ingress and egress to SRTP Lot 3. SRTP sees no possibility, however, of cooperation or compromise which would lead to agreement on any variation of the current City plans if Lot 3 is to be involved.

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SRTP looks forward to the City's moving on from current plans and adoption of alternatives.

Your response may be made directly to Kaitlin Arduino at Murphy Development. I will appreciate your also forwarding a copy of this letter to the appropriate representative of the City Attorney's office; contact from the City Attorney's office should be made to me.

Thank you.

Very truly yours,

James G. Sandler

cc: Scripps Technology Business Park

James G. Sandler

From: James G. Sandler
Sent: Wednesday, April 26, 2017 10:31 AM
To: 'KBalo@sandiego.gov'
Subject: Scripps Ranch Technology Park/Miramar Pure Water Pipeline and Pump Station Project
Attachments: Scripps Ranch Pure Water Pipeline MDC Opposition Letter April 13 2017.pdf

Ms. Balo –

My firm represents Scripps Ranch Technology Park (SRTP). My letter of April 13, 2017 to Jeff Soriano regarding the City's plans to construct the Miramar Pure Water Pipeline and Pump Station Project is attached. To date, the letter has not been acknowledged, let alone the subject of a response.

In light of the issues raised in the letter regarding the destructive effect the current plan proposal will cause to the Scripps Ranch Technology Park's fully vested, fully entitled development project, as well as the fact that no Environmental Impact Report has yet been completed or released regarding the City's current plan proposal, my client was surprised to learn of the upcoming May 4, 2017 community planning meeting to present the Pure Water Program's North City Project and apparently seek a vote at that meeting approving the project.

Scripps Ranch Technology Park will appreciate the City's response to my April 13 letter as well as an advance understanding of how the concerns of SRTP will be addressed at the May 4 meeting. We will also appreciate your input on the reason for scheduling a voting meeting with at least the SRTP issue up in the air, and in the absence of an EIR.

As with the request to Mr. Soriano, you are welcome to respond directly to Kaitlin Arduino of SRTP, with a copy of any writing to me. As also requested of Mr. Soriano, please provide a copy of this communication to the Deputy City Attorney handling this matter, and please provide me the contact information for that person, as well.

Thank you.

Jim Sandler

This is an e-mail from Sandler, Lasry, Laube, Byer & Valdez LLP.

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Our postal address is 402 West Broadway, Suite 1700, San Diego, CA 92101-3542.

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If you receive this e-mail in error, we would appreciate it if you would telephone our office manager, Marcella Smith 619.235.5655 or e-mail msmith@SLLBV.com.

F16-13 Cont.

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Sandler · Lasry · Laube
Byer & Valdez LLP

402 West Broadway, Suite 1700 • San Diego, California 92101-3542
Phone (619) 235-5655 • Facsimile (619) 235-5648 • www.sllbv.com

James G. Sandler • Direct (619) 615-6772 • Email jsandler@sllbv.com

June 20, 2017

VIA E-MAIL

Keli Balo
Jeff Soriano
City of San Diego
Public Works Department
City of San Diego

Re: Scripps Ranch Technology Park/Miramar Pure Water Pipeline and Pump Station Project

Dear Ms. Balo and Mr. Soriano:

As you know from our April 13, 2017, April 26, 2017 and May 8, 2017 correspondence, this firm represents Scripps Ranch Technology Park LLC (SRTP) with regard to the City's plans to construct the Miramar Pure Water Pipeline and Pump Station ("Project").

Neither you nor any other representative of the City of San Diego has elected to respond to any of our correspondence (other than acknowledging receipt in two instances, without other comment).

In the meantime, your Project plans, your Project website and your lack of interest in working cooperatively with my clients to resolve the problems your Project is causing SRTP are now contributing to the potential for real economic loss for SRTP, loss for which SRTP will seek to hold the City economically responsible should the loss become final.

Among other issues, your Project alignment plans, graphically presented on your website, have not escaped the attention of the real estate brokerage community nor the prospective users for the SRTP sites and potential competitor sites.

- Prospective users have now expressed reservations based on the proposed alignment, the alignment's impact on the SRTP lots and the very lengthy construction timeline for the Project.
- Brokers and/or principals representing competing properties are now attempting – apparently with some success – to discourage users who have been keenly interested in

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June 20, 2017
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the SRTP lots to look elsewhere due to the perceived problems the Project will pose for SRTP.

Unfortunately, SRTP agrees that if the City proceeds with the current alignment development of the SRTP lots will be physically impossible and economically infeasible, all due to the City's actions.

If the City will not change the present alignment, eminent domain proceedings will be required. Because the City's change in plans to construct the Project along Hoyt Park Drive will result in a full taking of Lots 3, 6, 7, 8 and 10 (as well as lots owned by other parties). SRTP's claims, alone, will likely exceed $50,000,000, perhaps significantly.

In addition to adopting an alignment configuration which avoids the Scripps Ranch Technology Park (otherwise known as Scripps Ranch Business Park Phase III), the City can assist in mitigating the already present damages in at least the following manner:

- Issuing public statements that the now proposed alignment is not final and that alternatives avoiding Scripps Ranch Technology Park are being considered.
- Including in the public statements that the City acknowledges that Scripps Ranch Technology Park is a fully vested, fully entitled development project, with entitlements dating back to 1986, when a Planned Industrial Development Permit was obtained.
- Making similar statements on the Project website.
- Publicly acknowledging the Scripps Ranch Planning Group's May 4th opposition to the present alignment through the Scripps Ranch Technology Park.
- Taking down from the website any aerials or other graphics reflecting an alignment through Scripps Ranch Technology Park.
- Withdrawing the alignment through the Scripps Ranch Technology Park as soon as possible.

Should the City continue on the present course – refusal to meaningfully communicate, publication of information injurious to SRTP's economic interests and demonstrating a general lack of interest in SRTP's concerns please be assured SRTP will challenge the City's EIR and will challenge any attempt by the City to condemn SRTP property.

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June 20, 2017
Page 3

Viable alternatives exist which will certainly be in the economic best interests of the City and of the Scripps Ranch community. The City's response and cooperation is requested.

SRTP's April 13, 2017, April 26, 2017 and May 8, 2017 correspondence should be considered incorporated into these comments.

In the event you elect to respond, your response may be made directly to Kaitlin Arduino at Murphy Development, with any written response also copied to me. As requested before, I will appreciate your also forwarding a copy of this letter to the appropriate representative of the City Attorney's office; contact from the City Attorney's office should be made to me.

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Thank you.

Very truly yours,

James G. Sandler

cc: Kaitlin Arduino
R. Michael Murphy

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Byer & Valdez LLP

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October 30, 2017

VIA E-MAIL

Christine Leone
Deputy City Attorney
San Diego City Attorney's Office
1200 3rd Ave Suite 1100
San Diego, CA 92101

Re: Scripps Ranch Technology Park/Miramar Pure Water Pipeline and Pump Station Project

Dear Christine:

Thank you for your October 27, 2017 letter.

It seems clear that my clients and the City will not be in agreement regarding the impact the City's proposed 40' easement across the single access point of Scripps Ranch Technology Park Lot 3 will have

Without reiterating all previous communications, but as an example of the many issues the City has failed to adequately consider, your letter reflects that the City has not yet addressed the fact that the City's Project, as planned, will make access to and from Lot 3 impossible during the hours of construction. At our recent meeting SRTP principal Mike Murphy made specific reference to SRTP having been in serious discussions with a potential user of Lot 3 requiring 24 hour access to accommodate three shifts of workers. Based on current City plans, this user is disqualified because even if limited by the City to nighttime construction, the complete lack of access during construction will make Lot 3 unmarketable to any evening or 24 hour users as well as raise fire safety issues.

This puts Lot 3 at a significant competitive disadvantage with competing sites for the life science, defense, financial, corporate and any other users with staff that needs access 24/7. The City staff's position that night work avoids all problems is simply incorrect.

This is only one of many issues which, SRTP believes, will expose the City to a multi-million dollar condemnation award if the Project proceeds as planned.

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Christine Leone
October 30, 2017
Page 2

Finally, for this letter, I want to respond to your footnoted legal argument. For the record, **Border Business Park, Inc. v. City of San Diego** is an inverse condemnation case. Court rulings are quite clear that the rules regarding impairment of access for condemnation cases are quite different than for inverse condemnation – **Border Business Park** will have no application to the valuation of severance damages arising from the City's taking of an easement across the SRTP property.

Similarly, condemnor's use of the ruling in **People v. Ayon** beyond its restriction on severance damages related to Right In/Right Out limitations has long since been superseded by many cases, including the **Baca** case discussed earlier and **Metropolitan Water District of Southern California v. Campus Crusade for Christ, Inc.** (2007) 41 Cal.4th 954. As there are no Right In/Right Out issues involved in this matter, **People v. Ayon** has no application here.

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Cont.

Scripps Ranch Technology Park respectfully requests that the City reconsider its position and adopt one of the alternative routes for the Project.

Very truly yours,

James G. Sandler

cc: Michael Murphy
Kaitlin Arduino
Christopher Neils

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ATTACHMENT 5

North City Project Pure Water San Diego Program
EIR/EIS Review Comments
November 20, 2017

We have reviewed the Pure Water San Diego Program North City Project Public Review Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (SCH #2106081016/PTS #499621) dated September 2017 as it relates to the Scripps Ranch Technology Park (SRTP). Specifically, our review has focused on the preferred and potential alternative alignments of the North City Pure Water Pipeline (NCPWPL) through and adjacent to the SRTP and the adequacy of the EIR/EIS in evaluating the potential environmental impacts of each. Our specific comments on the draft EIR/EIS are listed below by environmental topic: F16-14

1. **Project Alternatives**

   a. The evaluation of a possible Scripps Lake Drive Alternative is summarily dismissed on pages 3-53 and 3-55 (Alignment C) as an alternative that was considered but not carried forward with a detailed analysis in the EIR/EIS. There is no detailed explanation regarding the utilities that currently exist in the roadway and why they would preclude evaluation of an alternative alignment along Scripps Lake Drive. The EIR acknowledges the disadvantage of the preferred alternative through the SRTP for the Miramar Reservoir Alternative, but makes no attempt to evaluate an alternative route along Scripps Lake Drive. An alternative that uses Scripps Lake Drive would avoid the identified potentially significant impacts to historic resources and the necessary easement acquisitions in SRTP associated with the preferred alignment and should be fully presented in the Final EIR/EIS. This alternative should be detailed and included in the Final EIR/EIS in order to provide a reasonable range of project alternatives that can avoid or reduce significant environmental impacts. F16-15

   b. There is no mention of alternative locations for the Dechlorination Facility. We believe that it would be possible to co-locate the Dechlorination Facility with the Miramar Water Treatment Plant and provide an on-site loop system that would provide the adequate contact time needed to remove chlorine from the treated water. A discussion of alternative locations for the Dechlorination Facility should be added to the Final EIR to allow for the consideration of a reasonable range of project alternatives. F16-16

   c. Significant impacts requiring mitigation are identified in the EIR/EIS from the potential vibration impacts to the Meanley complex from the directional drilling beneath Evans Pond. As such, an alternative that avoids this potentially significant impact, such as the Scripps Ranch Boulevard Alignment described above, must be addressed in the EIR/EIS. F16-17

Page 1

F16-14 Please refer to responses F16-15 through F16-29.

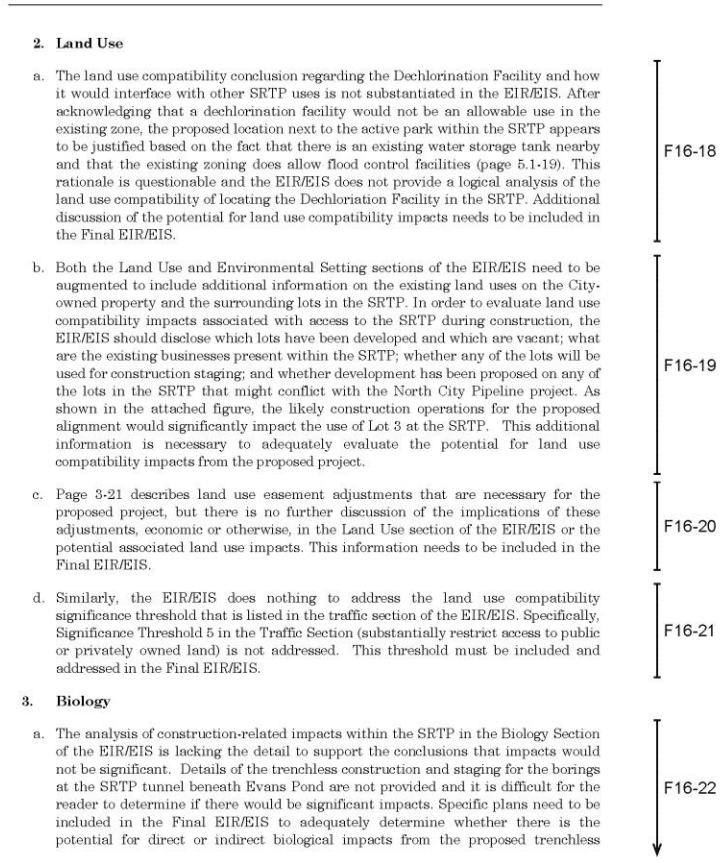
F16-15 Please refer to responses F16-4 and F16-12.

F16-16 The Draft EIR/EIS is not required to analyze every feasible alternative route or facility site for all Project components within a Project Alternative.

The siting of the Dechlorination Facility was determined by the location of the proposed North City Pipeline alignment, as opposed to the siting of the Dechlorination Facility determining the alignment. As such, potential siting of the Dechlorination Facility relied on the routing of feasible alignments; please refer to response C3-24 regarding feasibility and practicality of suggested potential North City Pipeline routing alternatives. Within the proposed North City Pipeline alignment, two possible locations for the Dechlorination Facility were identified during 10% design. These locations include in the south shore of Miramar Reservoir on the Miramar Water Treatment Plant (Miramar WTP) site, and the Miramar Recycled Water Storage Tank and North City Pump Station site, located approximately 2,000 feet downstream of the

	Miramar WTP site. Both sites are existing site facilities and properties. Requirements for the Dechlorination Facility site include an approximately 22-foot by-22-foot bermed or sunken secondary containment area with allowance for truck access. The design requires a sodium bisulfite chemical storage or a 7,500-gallon high-density polyethylene (HDPE) tank to provide 14 days of storage, metering pumps, transfer pump, emergency shower and eyewash, and control panel. As design progressed, the City eliminated the Miramar WTP site because it would result in an impact on public parking to Miramar Reservoir, or impact an area of the Miramar WTP set aside for future plant improvements. It would also not provide adequate response time. Regarding response time, the sodium bisulfite will react with purified water within a relatively short distance. The measurement of chlorine residual and oxygen reduction potential will measure the residual chlorine in the North City Pure Water Pipeline after the static mixer located in Meanley Drive. An additional distance from the static mixer to the Miramar Reservoir is needed to allow City Forces the

	ability to properly shutdown the North City Pump Station and prevent off-spec (chlorinated) purified water from entering Miramar Reservoir. Five minutes was selected as a minimum response time (1,200 feet) at maximum speed velocity of 4 feet per second. For these reasons, the Miramar WTP site was not selected. **F16-17** This comment correctly identifies the potential vibration impacts to the Meanley complex from directional drilling beneath Evans Pond, as discussed in Section 6.10 of the Draft EIR/EIS; these impacts would be less than significant with mitigation. The City assumes the commenter is referring to the Scripps Lake Drive Alignment alternative in this comment. Given the approximate distance between the proposed alignment and suggested alternative, the City believes that potential vibration impacts would still occur. Please refer to response F16-4 regarding feasibility of the suggested alternative.



2. Land Use

a. The land use compatibility conclusion regarding the Dechlorination Facility and how it would interface with other SRTP uses is not substantiated in the EIR/EIS. After acknowledging that a dechlorination facility would not be an allowable use in the existing zone, the proposed location next to the active park within the SRTP appears to be justified based on the fact that there is an existing water storage tank nearby and that the existing zoning does allow flood control facilities (page 5.1-19). This rationale is questionable and the EIR/EIS does not provide a logical analysis of the land use compatibility of locating the Dechloriation Facility in the SRTP. Additional discussion of the potential for land use compatibility impacts needs to be included in the Final EIR/EIS.

b. Both the Land Use and Environmental Setting sections of the EIR/EIS need to be augmented to include additional information on the existing land uses on the City-owned property and the surrounding lots in the SRTP. In order to evaluate land use compatibility impacts associated with access to the SRTP during construction, the EIR/EIS should disclose which lots have been developed and which are vacant; what are the existing businesses present within the SRTP; whether any of the lots will be used for construction staging; and whether development has been proposed on any of the lots in the SRTP that might conflict with the North City Pipeline project. As shown in the attached figure, the likely construction operations for the proposed alignment would significantly impact the use of Lot 3 at the SRTP. This additional information is necessary to adequately evaluate the potential for land use compatibility impacts from the proposed project.

c. Page 3-21 describes land use easement adjustments that are necessary for the proposed project, but there is no further discussion of the implications of these adjustments, economic or otherwise, in the Land Use section of the EIR/EIS or the potential associated land use impacts. This information needs to be included in the Final EIR/EIS.

d. Similarly, the EIR/EIS does nothing to address the land use compatibility significance threshold that is listed in the traffic section of the EIR/EIS. Specifically, Significance Threshold 5 in the Traffic Section (substantially restrict access to public or privately owned land) is not addressed. This threshold must be included and addressed in the Final EIR/EIS.

3. Biology

a. The analysis of construction-related impacts within the SRTP in the Biology Section of the EIR/EIS is lacking the detail to support the conclusions that impacts would not be significant. Details of the trenchless construction and staging for the borings at the SRTP tunnel beneath Evans Pond are not provided and it is difficult for the reader to determine if there would be significant impacts. Specific plans need to be included in the Final EIR/EIS to adequately determine whether there is the potential for direct or indirect biological impacts from the proposed trenchless

Page 2

F16-18

F16-19

F16-20

F16-21

F16-22

F16-18 Potential impacts to land use and planning is found in Section 6.1, Land Use, of the Draft EIR/EIS. Specifically, consistency with applicable environmental goals, objectives, and recommendations of the City's General Plan, Municipal Code, and other applicable plans is found in Section 6.1.3 of the Draft EIR/EIS. The Industrial Park (IP-2-1) zone allows for research and development uses with some limited manufacturing; as noted in Section 5.1.2.2 of the Draft EIR/EIS, dechlorination facilities are not expressly permitted. However, as described in Section 6.1.3 of the Draft EIR/EIS, given the concentration of existing industrial uses in the immediate area, including water utilities, construction and operation of the Dechlorination Facility would be a compatible land use within its existing setting. Similar to the Dechlorination Facility, research and development, light manufacturing, and high technology uses permitted in the Industrial Employment and Industrial Park land use designations may also store chemicals on site. For these reasons, and additional reasons provided in Section 6.1.3 of the Draft EIR/EIS, no adverse effects between the Dechlorination Facility and the applicable environmental

goals, objectives, and recommendations of the City of San Diego General Plan would occur.

F16-19 As stated in Section 6.1.2 of the Draft EIR/EIS, the significance thresholds for analyzing potential land use impacts are as follows:

1. Be inconsistent with or conflict with the environmental goals, objectives, and recommendations of the City of San Diego General Plan (General Plan), the City of San Diego Municipal Code, the various community plans where the project would be located, or other applicable land use plans including the [Marine Corps Air Station] MCAS Miramar Integrated Natural Resources Management Plan?
2. Conflict with adopted environmental plans for the area including an adopted local habitat conservation plan?

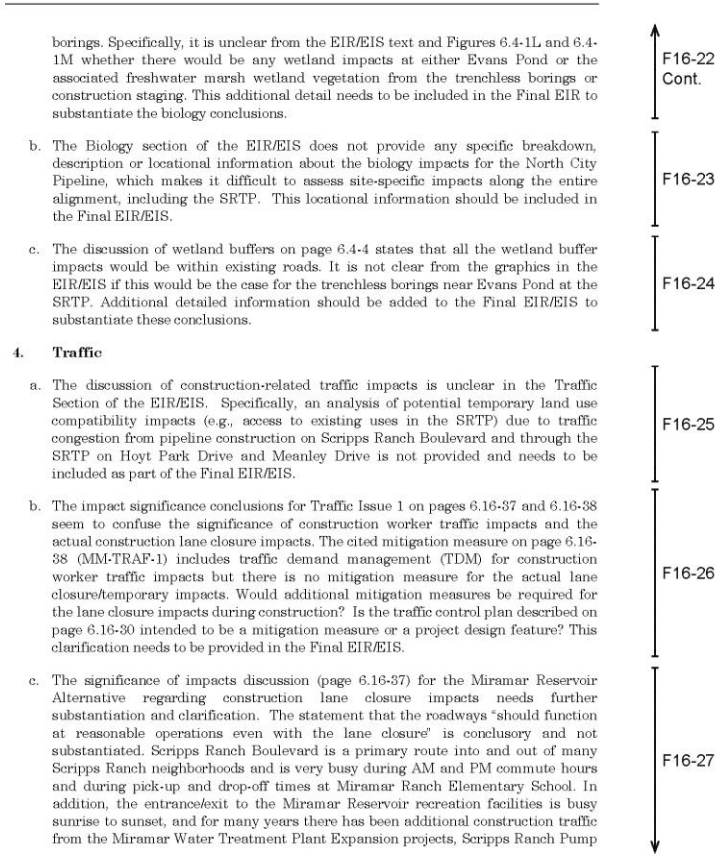
The analysis of potential impacts presented in Section 6.1 of the Draft EIR/EIS then focuses on consistency with the environmental goals, objectives, and recommendations of the General Plan, the City of San Diego Municipal Code, the various community plans where the

	Project would be located, or other applicable land use plans, rather than explicit compatibility with existing land uses. In order to evaluate consistency with applicable plans and ordinances, the existing land use designations, zoning, planning areas, and applicable codes are described in Section 5.1 of the Draft EIR/EIS and shown on Figures 5.1-1A through 5.1-5C. Existing land uses and descriptions of the area surrounding the proposed Dechlorination Facility are also described in various places in the Draft EIR/EIS, including Sections 5.1, 5.2, and 6.1. A specific lot-by-lot description of this area is not required to provide adequate analysis of consistency with applicable plans and ordinances per the significance thresholds. In addition, compatibility with existing and surrounding land uses associated with the Dechlorination Facility is discussed in Section 6.1.3; please refer to Response to Comment F16-21. Therefore, the City believes that the analysis of potential land use impacts of the Dechlorination Facility is adequate as presented in the Draft EIR/EIS.

		Regarding construction staging and access, as stated in Section 3.4.5 of the Draft EIR/EIS, staging areas for facilities and pump stations, which includes the Dechlorination Facility, would be located within the facility footprints. Pipeline staging areas will be located within developed parking lots or other developed and disturbed areas to minimize traffic and road disruptions and would move frequently as construction progresses along the alignment. Access to properties surrounding pipeline alignments would be maintained at all times during construction. It should also be noted that construction of this segment of the North City Pipeline within the public ROW would occur at nighttime (see Table 5.16-3 of the Draft EIR/EIS); these work hours would avoid causing disruptions to access during normal business hours of the surrounding properties. Construction outside of the public ROW on private property would occur during typical allowable daytime construction hours; construction on private property would not impede access to surrounding properties.
	F16-20	Please refer to Section 3.3 for a description of the additional easement required for the

		proposed Landfill Gas Pipeline. Additionally, as stated in Section 3.5.2, permanent easements along pipeline alignments would allow access for inspection and maintenance. The potential economic effects resulting from land use easement adjustments are not required to be analyzed under CEQA 15131(a).
	F16-21	The North City Project would not result in substantial restriction in access to publicly or privately owned land. Please refer to response F16-22 below regarding construction access. As described in Section 3.4.5 of the Draft EIR/EIS, staging areas for facilities and pump stations would be located within the facility footprints; therefore, facilities and pump station construction and operation would not restrict access to other properties. Pipeline staging areas will be located within developed parking lots or other developed and disturbed areas to minimize traffic and road disruptions and would move frequently as construction progresses along the alignment. Traffic Control Plans have been incorporated into Project design as described in Section 3.4.6 of the Draft EIR/EIS. In all cases, pipeline construction within roadways would result only in

		temporary partial closures, with movement along the roadway and access to surrounding properties maintained at all times. In response to this comment, Section 6.16 of the Draft EIR/EIS has been revised to include additional discussion regarding access to private and public lands. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Sections 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.
	F16-22	The existing biological resources, including vegetation communities, sensitive species, and jurisdictional resources, found within the North City Pipelines alignment and Dechlorination Facility site are described in Section 5.4.2.2 of the Draft EIR/EIS. Please also refer to Tables 5.4-10, 5.4-11, and 5.4-17 for acreage summaries of biological resources within these components. See also Figures 5.4-1L and 5.4-1M for a visual display of biological resources within and around Evans Pond and the SRTP. Please also refer to the Biological Resources Report for the North City Project, City of San Diego,



borings. Specifically, it is unclear from the EIR/EIS text and Figures 6.4-1L and 6.4-1M whether there would be any wetland impacts at either Evans Pond or the associated freshwater marsh wetland vegetation from the trenchless borings or construction staging. This additional detail needs to be included in the Final EIR to substantiate the biology conclusions.

b. The Biology section of the EIR/EIS does not provide any specific breakdown, description or locational information about the biology impacts for the North City Pipeline, which makes it difficult to assess site-specific impacts along the entire alignment, including the SRTP. This locational information should be included in the Final EIR/EIS.

c. The discussion of wetland buffers on page 6.4-4 states that all the wetland buffer impacts would be within existing roads. It is not clear from the graphics in the EIR/EIS if this would be the case for the trenchless borings near Evans Pond at the SRTP. Additional detailed information should be added to the Final EIR/EIS to substantiate these conclusions.

4. **Traffic**

a. The discussion of construction-related traffic impacts is unclear in the Traffic Section of the EIR/EIS. Specifically, an analysis of potential temporary land use compatibility impacts (e.g., access to existing uses in the SRTP) due to traffic congestion from pipeline construction on Scripps Ranch Boulevard and through the SRTP on Hoyt Park Drive and Meanley Drive is not provided and needs to be included as part of the Final EIR/EIS.

b. The impact significance conclusions for Traffic Issue 1 on pages 6.16-37 and 6.16-38 seem to confuse the significance of construction worker traffic impacts and the actual construction lane closure impacts. The cited mitigation measure on page 6.16-38 (MM-TRAF-1) includes traffic demand management (TDM) for construction worker traffic impacts but there is no mitigation measure for the actual lane closure/temporary impacts. Would additional mitigation measures be required for the lane closure impacts during construction? Is the traffic control plan described on page 6.16-30 intended to be a mitigation measure or a project design feature? This clarification needs to be provided in the Final EIR/EIS.

c. The significance of impacts discussion (page 6.16-37) for the Miramar Reservoir Alternative regarding construction lane closure impacts needs further substantiation and clarification. The statement that the roadways "should function at reasonable operations even with the lane closure" is conclusory and not substantiated. Scripps Ranch Boulevard is a primary route into and out of many Scripps Ranch neighborhoods and is very busy during AM and PM commute hours and during pick-up and drop-off times at Miramar Ranch Elementary School. In addition, the entrance/exit to the Miramar Reservoir recreation facilities is busy sunrise to sunset, and for many years there has been additional construction traffic from the Miramar Water Treatment Plant Expansion projects, Scripps Ranch Pump

Page 3

California prepared by Dudek, dated September 2017 (provided as Appendix C).

As stated in Section 6.4 of the Draft EIR/EIS, direct impacts from construction of the North City Pipeline include open-cut trenching, excavation of jacking and receiving pits, staging areas, and the subaqueous pipeline staging and laydown area. The North City Pipeline would result in 38.19 acres of temporary impacts and 0.06 acre of permanent impacts. Impacts to sensitive vegetation communities, as defined by the City's biological guidelines, include non-native grassland, 0.10 acre. All wetlands and other sensitive vegetation that cross the pipeline alignment would be avoided using trenchless construction methods. Please also refer to Figure 6.4-1M of the Draft EIR/EIS. Therefore, the Draft EIR/EIS adequately discusses potential biological impacts within the area identified by the commenter.

F16-23 Specific biological impacts related to the North City Pipeline can be found throughout the analysis presented in Section 6.4 of the Draft EIR/EIS. As stated in Section 6.4.3.1, the North City Pipeline would result in 38.19 acres of

	temporary impacts and 0.06 acre of permanent impacts. Impacts to sensitive vegetation communities, as defined by the City's biological guidelines, include non-native grassland, 0.10 acre. All wetlands and other sensitive vegetation that cross the pipeline alignment would be avoided using trenchless construction methods. As stated in Section 6.4.4.1, the design of the North City Pipeline has taken into careful consideration the location of jurisdictional aquatic resources and has been designed to avoid these resources through the use of trenchless construction methods; therefore, no direct impacts would occur to jurisdictional aquatic resources associated with the construction and installation of the North City Pipeline. As stated in Section 6.5.4.1, no sensitive wildlife species were observed or have a moderate to high potential to occur in the North City Pipeline footprint. However, 1.38 acres of eucalyptus woodland would be temporarily impacted by the North City Pipeline alignment. The tables provided throughout Section 6.4 of the Draft EIR/EIS provide a summary of the biological impacts from each alternative as a whole, and Figure 6.4-1 shows the impact area as

	associated with biological resources. Therefore, the Draft EIR/EIS provides adequate information related to biological resources impacts to determine significance under CEQA.
	F16-24 It is unclear which portion of the Draft EIR/EIS is referred to by this comment. The terms "wetland" or "wetland buffer" do not appear on page 6.4-4 of the Draft EIR/EIS. However, as stated in Section 6.4 of the Draft EIR/EIS, all wetlands and other sensitive vegetation that cross the pipeline alignment would be avoided using trenchless construction methods. Impacts would occur from the North City Pipeline's work area easement within 100 feet of Evan's Pond, as stated in Section 6.4.4.1 on page 6.4-44. However, impacts from the North City Pipeline would occur within an existing roadway, as shown on Figure 6.4-1M, which does not provide valuable transitional upland habitat that serves in slowing and absorbing flood waters for flood and erosion control, sediment filtration, water purification, or groundwater recharging. Therefore, construction of the North City Pipeline is not expected to impact the wetland buffer around Evan's Pond.

	F16-25 Access during pipeline construction is discussed in several sections of the Draft EIR/EIS. Section 3.4.6, Traffic Control Plan, describes traffic control plans for pipeline construction to specifically address construction traffic within the City's public ROWs. The traffic control plans would include provisions for construction times and control plans for allowance of access throughout construction. Additionally, as further specified in Section 6.14, Public Services, pipeline construction within roadways would result only in temporary partial closures, with movement along the roadway and access to surrounding properties maintained at all times. This includes properties along the North City Pipeline alignment within the SRTP. Therefore, access to surrounding properties has be adequately analyzed within the Draft EIR/EIS. **F16-26** For the traffic impact analysis during construction of the North City Pipelines, please refer to Table 6.16-9 of the Draft EIR/EIS which displays near-term roadway traffic volumes with and without construction traffic. Note that Table 6.16-9 includes a column labeled "Functional Classification," which accounts for

lane closures. Table 6.16-10 also provides a summary of impact duration during construction of the North City Pipeline.

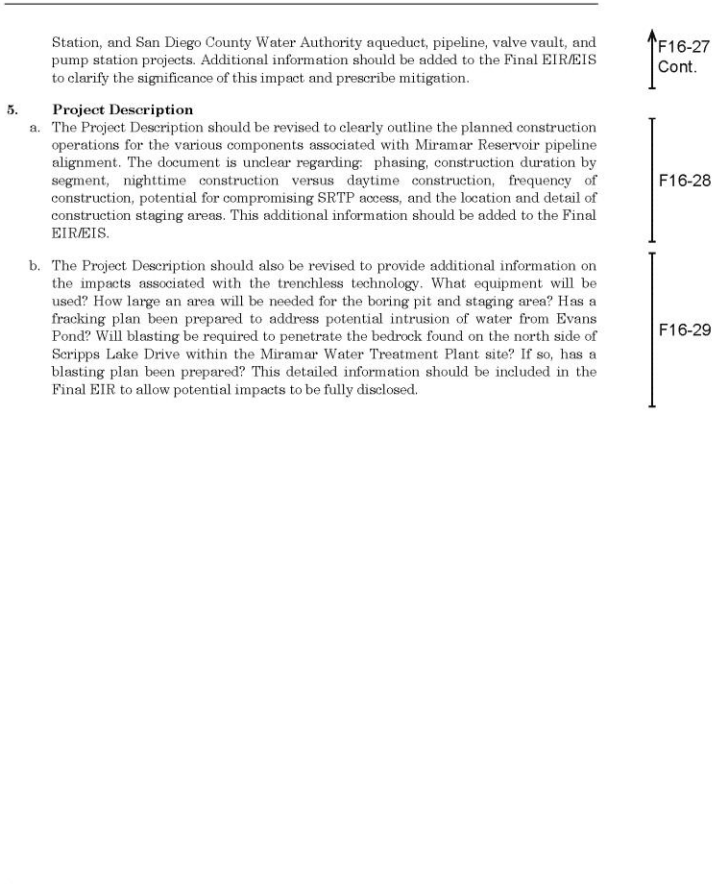
As shown in Table 6.16-9, the following five roadway segments are projected to operate at substandard Level of Service (LOS) E or F both with and without construction traffic under near-term conditions:

- Eastgate Mall, between the North City Pure Water Facility (NCPWF) and North City Water Reclamation Plant (NCWRP) driveway and Miramar Road – LOS F
- Miramar Road, between Eastgate Mall and Camino Santa Fe – LOS F
- Miramar Road, between Carroll Road and Camino Ruiz – LOS E
- Miramar Road, between Camino Ruiz and Black Mountain Road – LOS F
- Miramar Road, between Black Mountain Road and Kearny Villa Road – LOS F

Of the five segments listed above, one exceeds the thresholds in Table 6.16-9, and therefore, meets the threshold criteria for a significant

		impact: Eastgate Mall between NCPWF and NCWRP driveway and Miramar Road. A Traffic Control Plan, as described in Section 3.4.6 of the Draft EIR/EIS, is incorporated into Project design and is not a mitigation measure. The analysis presented within Section 6.16 of the Draft EIR/EIS accounts for the preparation of a traffic control plan for the North City Pipeline. MM-TRAF-1 provides feasible mitigation beyond the Project design feature traffic control plan to reduce construction traffic impacts. However, even with a traffic control plan and incorporation of feasible mitigation, impacts would remain significant and unavoidable during construction of the North City Pipeline. Therefore, the Draft EIR/EIS properly analyzed traffic impacts resulting from lane closures from the North City Pipeline.
	F16-27	Please refer to Response to Comment F16-26. Table 6.16-9 of the Draft EIR/EIS which displays near-term roadway traffic volumes with and without construction traffic and accounts for lane closures. Table 6.16-9 and Appendix I of the Draft EIR/EIS provides LOS analysis during construction. One segment exceeds the

	thresholds in Table 6.16-9, and therefore, meets the threshold criteria for a significant impact: Eastgate Mall between NCPWF and NCWRP driveway and Miramar Road. The commenter notes that many land uses in the area of SRTP contribute to traffic congestion during the daytime and AM/PM commute hours. However, as noted in Table 5.16-3 of the Draft EIR/EIS, the segments of concern of the North City Pipeline would have nighttime construction work hours to avoid peak travel times. With the incorporation of a traffic control plan, nighttime work hours, and the analysis presented in Table 6.16-9, the City believes that the statement "roadways should function at reasonable operations even with the lane closure" is justified within the Draft EIR/EIS. Please note, that despite this statement, the Draft EIR/EIS discloses a potentially significant and unavoidable impact due to pipeline construction. Therefore, the Draft EIR/EIS properly analyzed traffic impacts resulting from lane closures from the North City Pipeline.



Station, and San Diego County Water Authority aqueduct, pipeline, valve vault, and pump station projects. Additional information should be added to the Final EIR/EIS to clarify the significance of this impact and prescribe mitigation.

F16-27 Cont.

5. **Project Description**

a. The Project Description should be revised to clearly outline the planned construction operations for the various components associated with Miramar Reservoir pipeline alignment. The document is unclear regarding: phasing, construction duration by segment, nighttime construction versus daytime construction, frequency of construction, potential for compromising SRTP access, and the location and detail of construction staging areas. This additional information should be added to the Final EIR/EIS.

F16-28

b. The Project Description should also be revised to provide additional information on the impacts associated with the trenchless technology. What equipment will be used? How large an area will be needed for the boring pit and staging area? Has a fracking plan been prepared to address potential intrusion of water from Evans Pond? Will blasting be required to penetrate the bedrock found on the north side of Scripps Lake Drive within the Miramar Water Treatment Plant site? If so, has a blasting plan been prepared? This detailed information should be included in the Final EIR to allow potential impacts to be fully disclosed.

F16-29

Page 4

F16-28 Please refer to Responses to Comment F16-25 and F16-27 regarding access and circulation during construction of the North City Pipeline. Construction information is provided in Section 3.4 of the Draft EIR/EIS. Additionally, construction hours and duration related to proposed pipelines can be found in Section 5.16 of the Draft EIR/EIS.

F16-29 Please refer to Section 3.4 of the Draft EIR/EIS for a detailed description of trenchless construction methods. A fracking and blasting plan have not been prepared and are not expected to be required.

Attachment 6 – Cost Comparison

November 20, 2017

Review of the Pure Water Program DEIR/DEIS
SCH #2106081016 / PTS #499621

The City of San Diego prepared a memo titled Pure Water Pipeline Alignment Alternatives dated July 27, 2017 ("City Memo"). The memo included a cost comparison of three basic alignments with two additional variations. The basic alignments included the DEIR Preferred Alignment through Scripps Ranch Business Park III ("SRBP III") Lot 3, an alignment via Scripps Lake Drive similar to the Murphy Alternative Location One (for the purposes of this memo it will be considered the "Murphy Alternative Location One"), and an alignment through SRBP III Lot 4. There were also two variations on the Lot 3 and 4 alignments. The cost comparison in this attachment will evaluate the DEIR Preferred Alignment through SRBP III Lot 3 versus the Murphy Alternative Locations, as shown on Attachment 2.

There are several assumptions in the City Memo that change the conclusion of the analysis:

1. Location of the De-chlorination facility – the City Memo assumed that the de-chlorination facility needed to be located within City owned SRBP III Lot 5. This assumption favors the DEIR Preferred Alignment and adds significant cost to either Murphy Alternative Location. At the September 7, 2017 Scripps Ranch Planning Group meeting, City staff acknowledged that the de-chlorination facility location could be moved as long as there was adequate residence time between the de-chlorination facility and the discharge location into Lake Miramar. Eliminating this constraint significantly reduces the cost of the Murphy Alternative Locations.

2. The City Memo assumed that the Murphy Alternative Location One would conflict with existing utilities. This assumed the Pure Water pipeline is located in the travelled roadway. The alignment proposed in this cost comparison is located south of the travelled roadway and substantially avoids existing utilities.

3. The City Memo assumed that the Murphy Alternative Location One would encounter Santiago Peak Volcanic Formations that required blasting. Based on a review of the SRBP III As-graded Geotechnical Report dated June 9, 1988, the Murphy Alternative Location One alignment would be within stadium conglomerate and compacted fill material. Testing would be required to determine if any hard rock was present in the tunneling section.

4. The City cost comparison did not include other items that will affect the cost:

    a. Slow production – work in SRBP III will be limited to night work. Open trench production could be as little as 50 feet per night and tunneling could be as little as 25 feet per night. Their cost analysis did not account for the additional cost of traffic control nor any impact to businesses.
    b. Trench spoil will need to be hauled off and backfill material hauled in. This cost was not included.

F16-30

F16-30 This comment discusses the assumptions for the cost comparison included in the City memo titled "Pure Water Pipeline Alignment Alternatives" dated July 27, 2017, and does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS. Please refer to responses F16-4 and F16-16 for additional information regarding the Murphy Alternative Locations.

5. The cost comparison did not include severance damages. Our expert in condemnation law has estimated this cost could be up to $11,000,000 for the DEIR Preferred Alignment through SRBP III Lot 3.

6. It appears that the DEIR Preferred Alignment in Meanley Drive and Hoyt Park Drive will be adjacent to the northerly curb line. There will likely need to be reconstruction of curb, gutter, sidewalk and potentially landscaping when the width of the trench is factored into the cost.

At the November 2, 2017 Scripps Ranch Planning Group meeting the City staff distributed a new memo titled North City Pure Water Pipeline Alignment Analysis dated November 2017. The memo listed several disadvantages that mischaracterize the impact and do not list the benefits of the Murphy Alternative Location One alignment. Listed below is a response to these items if they have an affect on the cost comparison.

7. The de-chlorination facility can be located south of Scripps Lake Drive on City owned property. There is easy vehicle access and there will be sufficient residence time in the pipe. The cost of the de-chlorination facility is not included in the comparisons.

8. Grading in the canyon. This is an advantage. The canyon fill can be built with suitable trench spoil, which will reduce overall project costs. The resulting pad could also be used for an expansion to the library parking. The outfall pipe is an ordinary storm drain that was originally extended with the SRBP III. Reimbursement from the library project may be possible.

9. The tunneling for the Murphy Alternative Locations is longer, however the DEIR preferred Alignment also includes almost 700 lineal feet of tunneling.

10. The memo states that the tunneling would be in Santiago Peak Volcanics. This has not been verified and is not consistent with the Geocon As-Graded report for SRBP III. Borings would verify.

11. The cost comparison includes Murphy Alternative Location One and Murphy Alternative Location Two since a review by the San Diego County Water Authority ("CWA") has not been completed. Alternative Two is a 90° crossing of the CWA pipelines. This is similar to the DEIR Preferred Alignment crossing. Alternative One is a skewed crossing of the CWA pipelines.

12. A reputable environmental consulting firm has evaluated the biologic and jurisdictional water impacts of the Murphy Alternative Locations and determined that impacts are mitigable, consistent with other segments of the Pure Water Pipeline. The cost comparison includes an ample allowance for mitigation.

13. The Murphy Alternative Locations will require an easement through the northerly portion of SRBP III Lot 12. The estimated cost for the right of way is included in the comparison. This alignment would not require payment of severance damages as the lot access would not be affected during construction. That lot is not being actively marketed for sale or lease unlike Lot 3.

F16-30
Cont.

General assumptions and limitations of the cost comparison:

14. Starting point of each estimate is the Hoyt Park Drive / Scripps Ranch Boulevard intersection.

15. To the extent possible, unit prices are the same as the unit prices in the City Memo. Other unit prices were obtained from contractors experienced with large diameter waterline construction in urban environments. Each alignment used the same unit prices for similar work items for a fair comparison.

16. Franchise utility relocation costs are not included.

17. Unit prices for night work are higher than unit prices for daytime work.

18. Estimate is for comparison only. Design, permitting and construction management services have not been included.

19. The cost comparison is for evaluating the relative cost of each alternative. Actual construction costs will vary.

F16-30
Cont.

Pure Water
North City Conveyance System

Comparison of Probable Construction and Right of Way Costs

Item Description	Unit	DEIR Preferred Alignment			Murphy Alternative Location 1 (Skirted CWA Pipeline Crossing)			Murphy Alternative Location 2 (90° CWA Pipeline Crossing)		
		Quantity	Unit Cost	Cost	Quantity	Unit Cost	Cost	Quantity	Unit Cost	Cost
Open Cut Trench Construction	feet	2,750	$ 1,054	$ 2,898,500	2,300	$ 1,054	$ 3,056,600	2,300	$ 1,054	$ 3,056,600
Tunnel launch Shaft (depth)	feet	92	$ 7,000	$ 644,000	92	$ 7,000	$ 644,000	92	$ 7,000	$ 644,000
Tunneling	feet	681	$ 2,232	$ 1,519,992	950	$ 2,232	$ 2,120,400	1,500	$ 2,232	$ 3,348,000
Tunnel Receiving Shaft (depth)	feet	36	$ 3,000	$ 108,000	50	$ 3,000	$ 150,000	100	$ 3,000	$ 300,000
18" stormdrain remove and replace	lump sum	1	$ 114,000	$ 114,000			$ -			$ -
60" RCP stormdrain extension	lump sum				1	$ 150,000	$ 150,000	1	$ 150,000	$ 150,000
habitat and jurisdictional waters mitigation	lump sum				1	$ 500,000	$ 500,000	1	$ 500,000	$ 500,000
PCC driveway - remove and replace	lump sum	1	$ 3,000	$ 3,000			$ -			$ -
PCC sidewalk remove and replace	square feet	7,500	$ 10	$ 75,000			$ -			$ -
PCC Curb and Gutter replace	feet	1,500	$ 15	$ 22,500						
Pavement remove and replace	square feet	18,400	$ 10	$ 184,000	16,000	$ 10	$ 160,000	16,000	$ 10	$ 160,000
Embankment	cubic yards				60,000	$ 4	$ 240,000	60,000	$ 4	$ 240,000
Trench spoil disposal	cubic yards	8,300	$ 150	$ 1,230,000	6,800	$ 100	$ 680,000	6,800	$ 100	$ 680,000
Traffic control (night work)	days	75	$ 2,000	$ 150,000						
Pavement restoration	square feet	8,000	$ 10	$ 80,000	8,000	$ 10	$ 80,000	8,000	$ 10	$ 80,000
Utility relocation	lump sum	7			7			7		
Easement (25' wide)	square feet	20,000	$ 30	$ 600,000	15,000	$ 30	$ 450,000	15,000	$ 30	$ 450,000
Temporary construction easement (15' wide)	square feet	12,000	$ 4	$ 48,000	9,000	$ 4	$ 36,000	9,000	$ 4	$ 36,000
Project severance damages / lot 3 taking	lump sum	1	$ 11,000,000	$ 11,000,000						
Pure Water Project savings - using canyon fill site for trench disposal	cubic yards				40,000	$ (50)	$ (2,000,000)	40,000	$ (50)	$ (2,000,000)
Total				**$ 18,876,992**			**$ 6,267,092**			**$ 7,844,592**
				$ (11,000,000)						
Total without any severance damages				$ 7,876,992						

Murphy

Estimate Notes and Assumptions:
1. Starting point for each estimate is the Hoyt Park Drive/Scripps Ranch Boulevard Intersection
2. Unit prices from City Alignment Alternatives Memo and input from recent contractor bids
3. Estimate is for comparison only, design, permitting and construction management costs have not been included
4. Costs associated with the tiltrain parking expansion such as environmental mitigation and grading may be reimburseable to the Pure Water project
5. Trench spoil was not included in City cost comparisons. This is a relatively high cost item for night work
6. Unit cost for night time trench spoil based on input from large pipeline contractors
7. More detailed design and/or field testing may alter unit prices however any changes would affect all alternatives in a similary way.

2H-Nov-17

F16-30
Cont.

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Comment Letter F17

From: Carole
To: DSD.EAS
Cc: Carole Pietras
Subject: Subject: North City Project, Pure Water San Diego Program; Project Number 499621/SCH No. 2106081016
Date: Monday, November 20, 2017 8:10:28 PM

Mr. Brunette:

I am writing to object to the proposed alignment of the pipelines along Genesee and other neighborhoods. How can this possibly be safe for the University City Community when you consider the following: F17-1

Westbound Governor approaching Genesee - November 9, 2017 5:16 p..m. F17-2

- Both westbound left turn lanes are backed up beyond the designated lanes blocking the center lane.
- The right turn lane to Northbound Genesee is backed up
- Westbound traffic past Genesee is also backed up.
- There was no accident or obstruction on Governor Dr.

CONSIDER THE FOLLOWING: F17-3

- **Governor Dr.** is the **ONLY east/west street** running the length of our

Response to Comment Letter F17

Carole Pietras
November 20, 2017

F17-1 The commenter's opposition to the proposed Morena Pipelines alignment is noted and will be included in the administrative record for the Final EIR/EIS.

F17-2 Traffic is discussed in Sections 5.16 and 6.16 of the Draft EIR/EIS. Refer to Table 5.16-1, which outlines proposed construction work hours along the Morena Pipelines. As shown in the table, the majority of Genesee Avenue construction within the public right-of-way would take place during nighttime hours to avoid AM and PM peak traffic hours.

F17-3 Please refer to Response to Comment F17-2 regarding traffic.

community from I805 to Stresemann.

- **With a few exceptions, streets in south UC have to connect with Governor Dr. to get to Genesee or Regents Rd.**
- **Genesee is the only North/South artery**connecting Clairemont, and University City to the businesses, UCSD, hospitals, medical facilities, commercial and residential complexes north of Rose canyon.
- Over **57,000** people travel to, through or within the Golden Triangle every day!
- Over **3400** students, attend UCHS*, Standley Middle School,* Curie Elementary* and Spreckels Elementary* school including students from Doyle Elementary and areas throughout the city. **UCHS is on Genesee. Curie, Standley and Spreckels are on Governor.*
- Many workers in the business condos and Governor Business Park near I-805 drive west on Governor to Genesee to SR52 because 805 is backed up.
- There are **over 50 public and private projects**already under construction or slated for construction in the Golden Triangle area.

F17-3 Cont.

F17-4

How can you even consider closing the intersection of Genesee and Governor Dr for construction?

How can you consider taking up one lane of traffic during construction when there is no other north south street?

F17-5

How can you consider running pressurized pipes with raw sewage next to the schools and residences?

Please protect the citizens of our community.

F17-6

Respectfully,
Carole Pietras

F17-4 The Draft EIR/EIS analyzes potential cumulative impacts in Chapter 7. Due to the broad geographical extent of the North City Project area, the cumulative impact analysis in the Draft EIR/EIS relies primarily on adopted planning documents consistent with Section 15130(b)(1)(B) of the CEQA Guidelines and NEPA requirements. In addition, certain projects have been determined to have a high potential for cumulative impacts due to their nature, location, or scale, and therefore, are also discussed in Chapter 7.

F17-5 Refer to response F17-2. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

F17-6 The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent

6917 Lipmann St San Diego CA 92122 Sent from my iPhone	corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity. As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in

	the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through

	2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely

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Comment Letter F18

From: Katie Nelson Rodolico
To: DSD EAS
Subject: SCH #2106081016 / PTS #499621 North City Project Pure Water San Diego Program Public Review Draft Environmental Impact Report
Date: Tuesday, November 21, 2017 11:23:29 AM
Attachments: purWaterSchedNorth.jpg
purWaterSchedSouth.jpg

Attn: Mark Burnette
Re: Pure Water DEIR, SCH #2106081016 / PTS #499621

I am a supporter of recapture of water, which this Pure Water Project represents. However, this particular implementation doesn't address certain realities. My issues are primarily with the alignment of the Morena Pipeline and it's unmitigated impacts to our community. F18-1

Concern #1: Pumping raw sewage, under pressure, along our major roadways is asking for disaster. We have non-pressurized sewer lines leaking along the Rose Canyon Sewer Trunk (currently out for bid for repair). Now we will be running sewage **under pressure** – putting a lot more stress on the piping – through neighborhoods and past homes. I am concerned that where the pipe bends and at pipe joints, the stress of this pressurized sewage will cause failures. The pressure has to be high enough to go up and down hills through several canyons. I have seen little discussion of mitigation of this very real risk. The only mitigation I saw was that pumps would turn off if a pressure change were detected. How much sewage would be spilled in that scenario? What are the odds of it being aerosolized as it shoots into the air and becoming a health risk for those with lesser immune systems like seniors and small children? Why weren't alternatives to the proposed path of the Morena pipeline included in the draft EIR? As seen in the two recent water main breaks in our county in recent weeks (Mission Bay and Escondido)- the damage of a main, under pressure, can be significant. Imagine if those water main breaks were raw sewage forcemain breaks. The city has an imperfect record of maintaining pipelines and the risks, if a pipeline were to break, are much higher with a pipeline pumping raw sewage. The DEIR does not adequately address this risk, nor does it mitigate it. F18-2

Presenting only one route for the Morena Pipeline is not adequate for the CEQA process. Other routes, especially the SDGE alignment, should have been presented in the DEIR. Failure to include alternatives defeats the CEQA process. F18-3

Concern #2: The path of the Morena line and the disruption during construction. This is not a small project. The construction between SR-52 and Nobel Drive will take more than half a year. The construction is being done at night – despite the fact it goes past several residences. (La Jolla Park West and Regency Villas for example.) There will be trenching across Governor Drive – adjacent to gas stations with open cases of leaking underground storage tanks. What mitigation is there for the "potentially significant" risk of toxic vapors so close to Curie Elementary, Standley Middle School, the preschool at the Lutheran church on Radcliffe, and the senior housing at Regency Villas. This is a noted risk but no mitigation is offered. F18-4 F18-5

Concern #3: The traffic analysis is dismissive. Yes, Genesee already has horrible traffic. The traffic analysis seems to think that because the traffic already LOS E or F – it doesn't matter or have an impact if it is *far* worse during construction. The traffic analysis does not consider the impacts on parallel freeways as people avoid commuting southbound on Genesee during evening rush hour. It does not look at the impact to side streets that cross the areas impacted by the construction… for example the backups on Governor Drive while the construction moves along Genesee between SR-52 and Nobel. Or the traffic impacts on Decoro. This failure to analyze traffic impacts during construction other than the 324 ADT added by construction is inadequate. F18-6

Concern #4: Expanding construction schedule. The Draft EIR table 6.16-7 shows 71 days of construction for the segment on Genesee between Governor and Nobel. On October 11, 2017, the project was presented to the University Community Planning Group (UCPG). They presented a graphic on a poster board (see attached pictures) that suggests it is closer to 200 days. I suspect the actual construction schedule will be even longer than that. This inconsistency shows that the EIR was rushed before the data was in. When I asked the utility department which was correct, the EIR 71 day schedule or the graphics presented in October suggesting a timeframe 2.5 times longer, I was told the 71 day time frame was correct. This suggests there is confusion, even within the department planning and promoting this project. F18-7

Concern #5: Emergency service response times to south University City. There is only one route north/south connecting South UC and North UC across Rose Canyon. The closest fire station and closest police station are on the north side of Rose Canyon. With nighttime construction along Genesee, involving lane closures, the response times, and times for ambulances to reach the hospitals to the north, will be significantly impacted. This was noted in the DEIR, but no mitigation was offered. Since the Pure F18-8

Response to Comment Letter F18

KATIE RODOLICO, LETTER 1

November 21, 2017

F18-1 Comment noted.

F18-2 The wastewater forcemain would be designed and constructed such that the City does not agree that a risk of spills or upset are likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be

	shut down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring.

	As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plan each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely.

	F18-3	Please refer to response F18-2 regarding potential risk of upset. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required. An alternative alignment in the SDG&E easement would likely reduce potential traffic impacts; however it would merely transfer noise impacts to other areas within the community. Additionally, because it would require trenchless tunneling construction along the majority of the alignment, air quality and noise impacts would be increased. Extreme low points along the alignment would require very deep tunnel shafts. Therefore, there is an elevated risk that the pipeline could

		be impacted by geotechnical conditions. There is also an increased risk to existing facilities due to settlement or vibration from the tunneling work. This alternative would also have potential wetland and other biological impacts at entrance and exit pit locations along the trenchless tunnels and would conflict with City Council policies 400-13 and 400-14 that prohibit new wastewater forcemains in canyons and other environmentally sensitive lands (City of San Diego 2002a, 2002b). This alternative route would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway right-of-way (City of San Diego 2015a).
	F18-4	As stated in Section 5.16 of the Draft EIR/EIS, based on information provided by City of San Diego Public Utilities Department and Construction Management and Field Services, the construction of several segments within the public right-of-way is proposed to take place during the nighttime, between 9:00 p.m. and 5:00 a.m., with daytime construction along some segments of the pipeline alignment. Table 5.16-1 provides the work hours proposed for the roadway segments analyzed for the Morena

	Pipelines construction. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.
	F18-5 As discussed in mitigation measure MM-HAZ-4 in Section 6.9.5.3 of the Draft EIR/EIS, all applicable procedures outlined in the City of San Diego's "WHITEBOOK" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances will be followed (City of San Diego 2015) to ensure that appropriate investigation, sampling and remedial actions are taken where the potential to encounter hazardous substances or recognized environmental conditions. Compliance with these procedures would adequately mitigate any potential risk and would ensure that at risk groups such as seniors and children are not exposed to contaminated soil and/or vapors. The City has adequately disclosed potential impacts resulting from vapor intrusion in the Draft EIR/EIS in Section 6.9.5. As cited in the Draft EIR/EIS, Phase I Environmental Site Assessments (ESAs) were prepared for the

	Morena Pump Station, WW Force Main and Brine Conveyance (Allied Geotechnical Engineers Inc. 2015a); Miramar Pipeline/Pump Station (Allied Geotechnical Engineers Inc. 2016); and the North City to San Vicente Reservoir Pipeline Project (Allied Geotechnical Engineers Inc. 2015b). The conclusions of the Phase I ESAs are consistent with those found in the Draft EIR/EIS as they related to potential vapor intrusion.
	F18-6 The North City Project Traffic Impact Study (provided as Appendix I to the Draft EIR/EIS) and Sections 5.16 and 6.16, Transportation, Circulation, and Parking of the Draft EIR/EIS have been prepared consistent with the City of San Diego Traffic Impact Study Manual Guidelines and standard traffic engineering practice for the San Diego region. The impact analysis addresses potential impacts to the level of service (LOS) and roadway volumes from construction. The comment specifically notes that the traffic analysis does not consider impacts during evening rush hour along Genesee and surrounding roadways. Proposed construction

	work hours for the Morena Pipeline are detailed in Table 5.16-1 of the Draft EIR/EIS. As shown on the table, all construction along Genesee Avenue, with the exception of southbound Genesee Avenue between Appleton Street and Clairemont Mesa Boulevard, is proposed to occur during nighttime, with the intent to avoid traffic commute peak hours. For the traffic impact analysis during construction of the Morena Pipelines, please refer to Table 6.16-6 of the Draft EIR/EIS which displays Near-Term roadway traffic volumes with and without construction traffic. Note that Table 6.16-6 includes a column labeled "Functional Classification" which accounts for lane closures. Therefore, the Draft EIR/EIS properly analyzed traffic impacts resulting from lane closures in addition to estimated construction worker trips from the Morena Pipelines.
	F18-7 The construction schedule disclosed within the Draft EIR/EIS was determined through discussions between City of San Diego traffic engineers, pipeline engineers, and the traffic consultants based on typical construction

Water program presentation at the October UCPG meeting suggests the time frame of construction along the Genesee corridor between Genesee and Nobel could take 6 months or longer, this is a risk that is unacceptable. F18-8 Cont.

Concern #6: The draft EIR does not mention the risk/damage to the Torrey Pine trees along the median of Genesee, just north of Governor. The city's Climate Action Plan calls for more trees. Removing existing trees is in conflict with the city's Climate Action Plan. These torrey pines are iconic and part of the aesthetics of our neighborhood. That is not address in the DEIR. The trenching is to take place adjacent to the center divide and is certain to have an impact on these trees' root structure. F18-9

Concern #7: The draft EIR has an incomplete list of current/active projects in the University Community. It fails to include projects in the area from UCSD. The Mesa Housing project is moving forward and the North Torrey Pines living and learning project, as well as the UCSD fire station, are out for public comment on their EIRs. This information should have been considered in both the traffic analysis and the cumulative impacts. F18-10

We have suffered the traffic impacts of the Westfield UTC Mall construction which is finally wrapping up after several years. We have suffered the traffic impacts of the mid coast trolley utility moving project which should wrap up within a few months. Then we will face the construction of the midcoast trolley lasting several more years. We are currently suffering the impact of the large high rise being built at Nobel and Genesee – and the road issues associated with that. While the trolley doesn't directly hit the same part of Genesee as this Pure Water Morena piping, traffic is not isolated to small segments… it impacts neighboring streets. We've had enough! F18-11

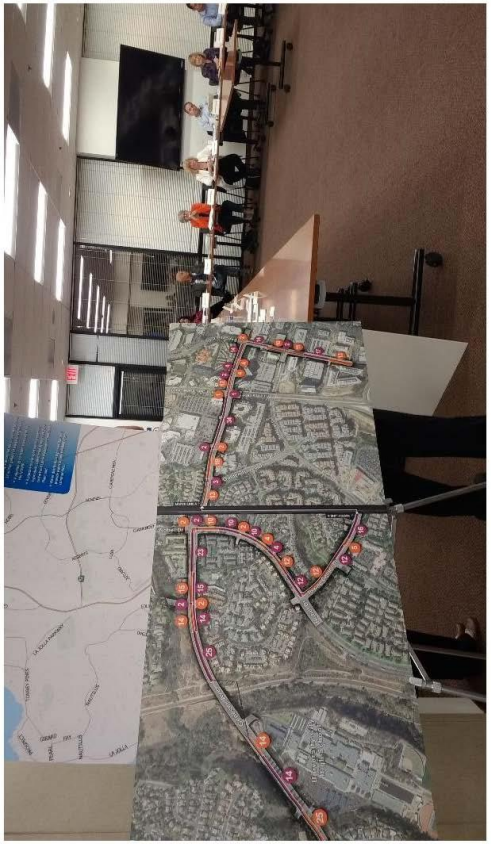
Katie Rodolico, University City Resident
5906 Dirac Street
San Diego, CA 92122

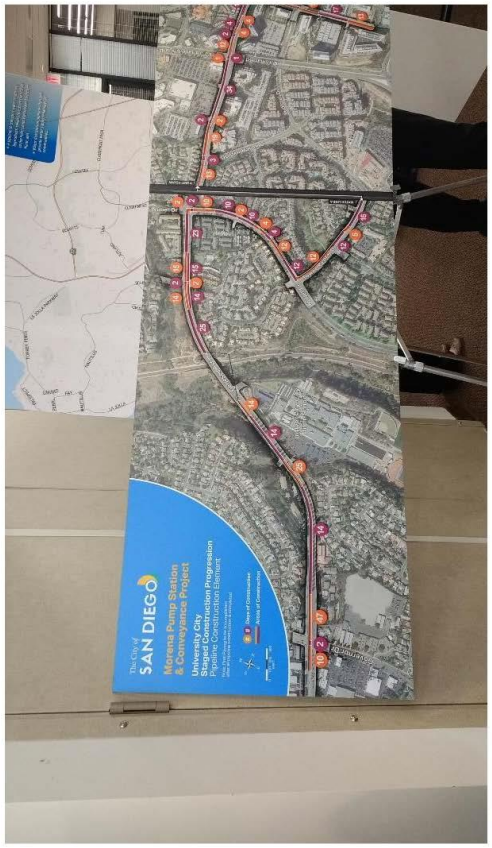
practices and feasibility. The Draft EIR/EIS used a standard production rate of 75 feet per day for all pipelines. The construction schedule shown at the presentation at the UCPG meeting displayed a more general construction schedule including initial traffic control noticing, pavement markings, utility field locating, and site preparation. Actual road closures are anticipated to align with the construction schedule disclosed in the EIR/EIS.

F18-8 Emergency access and response is discussed Section 6.14, Public Services, of the Draft EIR/EIS. Emergency access would be maintained at all times. As discussed in Section 6.14, in all cases, pipeline construction within roadways would result only in temporary partial closures, with movement along the roadway and access to surrounding properties maintained at all times. Prior to pipeline construction that requires encroachment into public roadways, a traffic control plan would be prepared by the City in conformance with the City's traffic control regulations. The traffic control plan would be prepared to ensure that all access, including emergency access, would not be restricted. Additionally, as described in

	Section 3.4.2 and detailed in Section 6.16 of the Draft EIR/EIS, nighttime work hours would be implemented within certain high traffic roadways to avoid peak traffic times. Additionally, all construction contracts have conditions mandating emergency access into and through the site at all times.
	F18-9 The Torrey pines within the median along Genesee Avenue were planted and are not considered a native population. Only native populations of this species are covered by the MSCP as stated in Attachment A of the San Diego Municipal Code, Land Development Code—Biology Guidelines. Additionally, the Project would not result in conflicts with City Policy 900-19 because none of the trees in the median are designated as Heritage/Conserved or Parkway Resource Trees. The Torrey pines within the median along Genesee Avenue are not protected, and the Morena Pipelines would not result in direct impacts to these trees.
	F18-10 Due to the broad geographical extent of the North City Project area, the cumulative impact analysis in the Draft EIR/EIS relies primarily on adopted planning documents consistent with

	Section 15130(b)(1)(B) of the CEQA Guidelines as well as NEPA requirements. In addition, certain projects have been determined to have a high potential for cumulative impacts due to their nature, location or scale, and therefore, are also discussed in Chapter 7. In response to this comment, the following cumulative projects have been added to Section 7.2 of the Draft EIR/EIS for purposes of cumulative analysis: North Torrey Pines Living and Learning Neighborhood Project, Westfield Redevelopment Project, and Mesa House Nuevo West and East Projects. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Sections 15088.5(b), the addition of new information that clarifies, amplifies or makes insignificant modifications does not require recirculation. **F18-11** Please refer to response F18-10. The commenters concern of ongoing construction in the area is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.




The City of
SAN DIEGO
Morena Pump Station
& Conveyance Project
Underground City
Staged Construction Progression
Pipeline Construction Elements

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Comment Letter F19

From: Katie Nelson Rodolico
To: DSD EAS
Subject: North City Pure Water Project SCH #2106081016 / PTS #499621
Date: Tuesday, November 21, 2017 12:32:20 PM

Attn: Mark Brunette

Additional comments on Pure Water DEIR. These comments are to be added to comments sent earlier today. F19-1

The distribution list for the Draft EIR, as listed in front of the document, failed to include at least 3 communities that will be impacted by having a pipeline put in front of their community.

Regency Villas (Senior condominium complex) at 6340 Genesee Ave, San Diego, CA 92122,
La Jolla Park East apartments, 5229 Genesee Cove, San Diego, CA 92122
La Jolla Park West apartments, 5165 Luigi Terrace, San Diego, CA 92122

These communities will have their community ingress/egress impacted by this construction. They will also be dealing with night time construction directly in front of their homes. F19-2

Katie Rodolico

Response to Comment Letter F19

Katie Rodolico, Letter 2
November 21, 2017

F19-1 Comment is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.

F19-2 Distribution and notification of the Draft EIR/EIS was completed in compliance with CEQA. In response to this comment, the City will add these addresses to all future notifications related to the North City Project.

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Comment Letter F20

From: Pat Cramer
To: DSD EAS
Subject: Pure Water SCH #2106081016 / PTS #499621"
Date: Tuesday, November 21, 2017 1:09:06 PM

My family would much prefer desalinated water. But for the pure water route raw sewage pipeline, we also support the alternate route for raw sewage, "alternate route B" that is not routed along genesee. Seems a majority of my neighbors are also for this route, safer also. Aren't Torry Pines protected? Are the bottled water companies behind this? F20-1 F20-2

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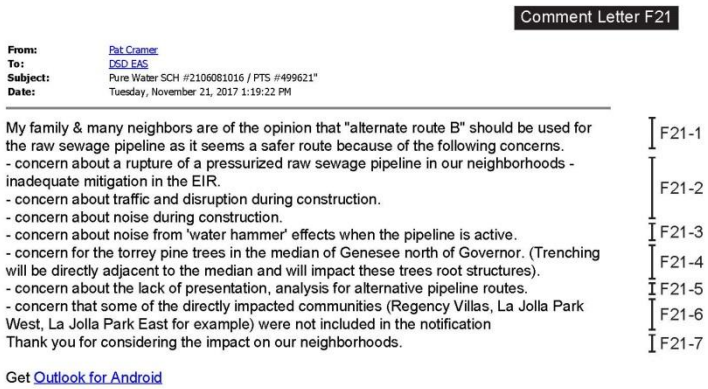
Response to Letter F20

Pat Cramer, Letter 1
November 21, 2017

F20-1 The commenter's preference for desalinated water and for an "alternate route B," rather than the proposed route for the Morena Pipelines is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. Alternate route B is not a naming convention that has been used in the Draft EIR/EIS or other City technical documents; thus, it is unclear as to the specific alignment the commenter is referring to, and therefore, no specific response related to this route is provided.

A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena

	Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required. **F20-2** The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.



Comment Letter F21

From: Pat Cramer
To: DSD EAS
Subject: Pure Water SCH #2106081016 / PTS #499621"
Date: Tuesday, November 21, 2017 1:19:22 PM

My family & many neighbors are of the opinion that "alternate route B" should be used for the raw sewage pipeline as it seems a safer route because of the following concerns. F21-1
- concern about a rupture of a pressurized raw sewage pipeline in our neighborhoods - inadequate mitigation in the EIR. F21-2
- concern about traffic and disruption during construction.
- concern about noise during construction.
- concern about noise from 'water hammer' effects when the pipeline is active. F21-3
- concern for the torrey pine trees in the median of Genesee north of Governor. (Trenching will be directly adjacent to the median and will impact these trees root structures). F21-4
- concern about the lack of presentation, analysis for alternative pipeline routes. F21-5
- concern that some of the directly impacted communities (Regency Villas, La Jolla Park West, La Jolla Park East for example) were not included in the notification F21-6
Thank you for considering the impact on our neighborhoods. F21-7

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RESPONSE TO LETTER F21

PAT CRAMER, LETTER 2
NOVEMBER 21, 2017

F21-1 The commenter's preference for desalinated water and for "alternate route B," rather than the proposed route for the Morena Pipelines is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. Alternate route B is not a naming convention that has been used in the Draft EIR/EIS or other City technical documents; therefore, it is unclear as to the specific alignment the commenter is referring to, and no specific response related to this route is provided.

A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena

		Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required.
	F21-2	The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity. As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing

	flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a

	Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spills are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely.

		Section 6.16 of the Draft EIR/EIS addresses potential traffic impacts and community disruption during construction of the Project pipelines. Section 6.12 of the Draft EIR/EIS addresses construction noise.
	F21-3	Transient flow protection was discussed in the 10% Design Report (Brown and Caldwell 2015). Transient flow conditions could result in a worst-case scenario during which a loss of power occurs when running four pumps at the peak flow rate. Wastewater being pumped uphill would reach a speed of zero, then flow backward until the Morena Pump Station's check valves close. Flow further along the alignment would continue to flow toward the North City Water Reclamation Plant, creating a vacuum condition at the pipeline's high points. A water hammer condition would form during this condition; however, it would have no adverse impact on the pipeline or valves. The vacuum conditions would be addressed by attaching flywheels on the pump/motor trains to increase the rotational moment of inertia and allow additional air into the pipeline. Additional locations for air vacuum/air release assemblies will be determined during final

	design and will reduce potential noise impacts from this condition.
	F21-4 The Torrey pines within the median along Genesee Avenue were planted and are not considered a native population. Only native populations of this species are covered by the Multiple Species Conservation Program as stated in Attachment A of the San Diego Municipal Code, Land Development Code—Biology Guidelines. Additionally, the Project would not result in conflicts with City Policy 900-19 because none of the trees in the median are designated as Heritage/Conserved or Parkway Resource Trees. The Torrey pines within the median along Genesee Avenue are not protected, and the Morena Pipelines would not result in direct impacts to these trees.
	F21-5 A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However,

	modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required. **F21-6** In compliance with Section 15085 of the CEQA Guidelines, the City's Development Services Department filed a copy of the Notice of Completion with the Office of Planning and Research on September 7, 2017. In addition, in compliance with Section 15086 of the CEQA Guidelines, the City circulated the notice to interested local government organizations, community groups, planning groups, and individuals. The notice and copies of the Draft EIR/EIS were made available at seven libraries as well as online. The City also held a public workshop on October 11, 2017, at the Public Utilities Department. **F21-7** Comment noted.

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Comment Letter F22

From: SDCompFIX@aol.com
To: DSD EAS
Subject: Pure Water SCH #2106081016 / PTS #499621 STOP! NOT SAFE- SPILLS !
Date: Tuesday, November 21, 2017 3:04:04 PM

UNSAFE HIGH PRESSURE SEWAGE GOING THROUGH DENSE NEIGHBORHOODS ! F22-1

IT WILL LEAK IN THE FUTURE ! HOW WOULD you! like SEWAGE GEYSER IN YOUR YARD!

No reason to route it through dense neighborhoods? IF must be built, put it in Rose Canyon drainage. F22-2

Processing plant much better sited low down along Sea World Drive by Friars Rd. No high pressure pipes!

Disruption from major trenching of main traffic arteries throughout Clairemont is UNACCEPTABLE ! F22-3

Damage and loss of median trees on Genesee Ave is UNACCEPTABLE ! F22-4

Alternate routes NOT presented to all impacted communities to have an input choice! ILLEGAL ! F22-5

This DISASTER must be stopped BEFORE it is started! There will be lawsuits and protestors! F22-6

Steve W. local Clairemont resident

Response to Comment Letter F22

Steve W
November 21, 2017

F22-1 The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater

	Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan

	(described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely.

	F22-2	The commenter's preference for an alternative alignment for the Morena Pipelines and alternate "processing plant" site is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. An alternative alignment in Rose Canyon would be infeasible since it would conflict with City Council policies 400-13 and 400-14 that prohibit new wastewater force mains in canyons and other environmentally sensitive lands (City of San Diego 2002a, City of San Diego 2002b). This alternative route would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway right-of-way (City of San Diego 2015a). A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant

	environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required. **F22-3** The City acknowledges the commenter's opposition to construction of the Morena Pipelines alignment within roadway right-of-way in Claremont. Section 6.16 of the Draft EIR/EIS provides analysis of construction impacts related to traffic for all proposed pipelines. **F22-4** The Torrey pines within the median along Genesee Avenue were planted and are not considered a native population. Only native populations of this species are covered by the Multiple Species Conservation Program as stated in Attachment A of the San Diego Municipal Code, Land Development Code—Biology Guidelines. Additionally, the project would not result in conflicts with City Policy 900-19 because none of the trees in the median are designated as Heritage/Conserved or Parkway Resource Trees. The Torrey pines within the median along Genesee Avenue are not protected and the Morena Pipelines would not result in direct impacts to these trees.

	F22-5 Please refer to response F22-2. **F22-6** The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the EIR/EIS; therefore, no additional response is provided or required.

Comment Letter F23

From: Jean Hammerl
To: DSD EAS; Councilmember Barbara Bry
Subject: Pure Water San Diego North City Project Draft Environmental Impact Report
Date: Tuesday, November 21, 2017 4:06:07 PM

I am vigorously opposed to the Pure Water pipeline alignment through Clairemont & University City along Genesee Ave. As a U.C. resident, I drive on Genesee more often than any other highway. I'm sure that my neighbors would say the same. F23-1

I support the hiring of an attorney to draft a formal response to the City's Water Dept. draft EIR, because it lacks specific detail of the impact to our communities: traffic, construction materials, quality of life & several other operational concerns that are beyond my ability to describe technically. Planners must find another route, one with less impact on residents in the event of breakdowns, during construction & later in operation. F23-2 F23-3

I'm tired of City Planning in the shade, projects being forced on unsuspecting residents & taxpayers who are expected to foot the bill without fully understanding or being heard. F23-4

I support a City Council resolution to halt planning & seek other routes with lower impact on residents. F23-5

Jean Hammerl
4322 Pavlov Ave.
San Diego, CA 92122

Response to Comment Letter F23

Jean Hammerl
November 21, 2017

F23-1 The commenter's opposition to the proposed route for the Morena Pipelines is noted and will be included in the administrative record as part of the Final EIR/EIS.

F23-2 The comment regarding the hiring of an attorney is noted. The issues raised by the commenter are addressed in several sections of the Draft EIR/EIS. Potential traffic impacts are discussed in Sections 5.16 and 6.16 of the Draft EIR/EIS. Materials to be used during construction are described to the best knowledge available in Chapter 3 of the Draft EIR/EIS and throughout the rest of the document. Potential impacts from operation of the Project are also analyzed as required by CEQA and NEPA throughout Chapter 6 of the Draft EIR/EIS. The City would like to note that there no longer is a "Water Department"; instead, the department is now known as Public Utilities.

F23-3 The commenter's preference for an alternative alignment for the Morena Pipelines is noted and will be included in the administrative

	record for the Project as part of the Final EIR/EIS. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. Since no specific alternative routes are provided by the commenter, no additional clarifications or rationale can be provided.
	F23-4 The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.
	F23-5 Comment noted. Please refer to response F23-3.

Comment Letter F24

From: Deanna Ratnikova
To: DSD EAS
Subject: Pure Water SCH #2106081016 / PTS #499621
Date: Tuesday, November 21, 2017 4:09:28 PM

I am concerned about the following:

- a potential rupture of a pressurized raw sewage pipeline in the University City neighborhood - the EIR does not adequately cover mitigation F24-1
- traffic during construction of the pipeline F24-2
- noise during construction of the pipeline F24-3
- noise from the "water hammer" effects when the pipeline is active F24-4
- impact to torrey pine trees in the median of Genesee north of Governor due to trench work F24-5
- the lack of presentation and analysis for alternative pipeline routes F24-6

Deanna Ratnikova
7989 Caminito Dia, Unit 4
San Diego, CA 92122

Response to Letter F24

Deanna Ratnikova
November 21, 2017

F24-1 The wastewater forcemain would be designed and constructed such that the City does not agree that a risk of spills or upset are likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater

	Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan

	(described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely.

	F24-2 Potential impacts related to traffic from construction of the Project are discussed in Section 6.16 of the Draft EIR/EIS. **F24-3** Potential impacts related to noise from construction of the Project are discussed in Section 6.12 of the Draft EIR/EIS. **F24-4** Transient flow protection was discussed in the 10% Design Report (Brown and Caldwell 2015). Transient flow conditions could result in a worst-case scenario during which a loss of power occurs when running four pumps at the peak flow rate. Wastewater being pumped uphill would reach a speed of zero, then flow backward until the Morena Pump Station's check valves close. Flow further along the alignment would continue to flow toward the North City Water Reclamation Plant, creating a vacuum condition at the pipeline's high points. A water hammer condition would form during this condition; however, it would have no adverse impact on the pipeline or valves. The vacuum conditions would be addressed by attaching flywheels on the pump/motor trains to increase the rotational moment of inertia and allow additional air into the pipeline.

		Additional locations for air vacuum/air release assemblies will be determined during final design and will reduce potential noise impacts from this condition.
	F24-5	The Torrey pines within the median along Genesee Avenue were planted and are not considered a native population. Only native populations of this species are covered by the Multiple Species Conservation Program as stated in Attachment A of the San Diego Municipal Code, Land Development Code—Biology Guidelines. Additionally, the Project would not result in conflicts with City Policy 900-19 because none of the trees in the median are designated as Heritage/Conserved or Parkway Resource Trees. The Torrey pines within the median along Genesee Avenue are not protected, and the Morena Pipelines would not result in direct impacts to these trees.
	F24-6	A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as

	summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required. Since no specific alternative routes are provided by the commenter, no additional clarifications or rationale can be provided.

Comment Letter F25

david hogan
p.o. box 141
mount laguna • ca • 91948

November 21, 2017

Mark Brunette, Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501, San Diego, CA 92101
DSDEAS@sandiego.gov

Subject: Pure Water San Diego North City Project Draft Environmental Impact Report

Dear Mr. Brunette:

Thank you for the opportunity to comment on the Draft Environmental Impact Report / Environmental Impact Statement (DEIR/EIS) for the Pure Water San Diego North City Project (Pure Water Project). I support the purpose and goals of the Pure Water Project and support the City of San Diego's preferred alternative to deliver purified water to Miramar Reservoir. Unfortunately, the DEIR/EIS does not adequately consider alternatives to reduce impacts to important biological resources at the site of the proposed North City Water Purification Facility. And proposed mitigation would be inadequate to reduce impacts to important biological resources to below a level of significance. F25-1 F25-2 F25-3

Background

Two primary elements of the Pure Water Project are the North City Pure Water Facility (NCWPF) and associated North City Pure Water Pump Station that would be constructed on the City-owned "Pueblo Lands North" property located in the University community east of I-805, north of Eastgate Mall, and overlooking Carroll Canyon. The Pueblo Lands North property appears to have been selected for the NCWPF due to its location near the North City Water Reclamation Plant. The NCWPF and pump station would be constructed in the same location under all Pure Water Project alternatives considered in the DEIR/EIS. F25-4

According to the DEIR/EIS, the Pueblo Lands North property supports at least seventeen vernal pools totaling .38 acres[1] (Attachment 1). The DEIR/EIS inaccurately minimizes the importance of these vernal pools stating that, "these pools are small, isolated, and contain limited biological F25-5

1. Biological Resources Report for the North City Project Figure 4.2.11

Response to Letter F25

David Hogan
November 21, 2017

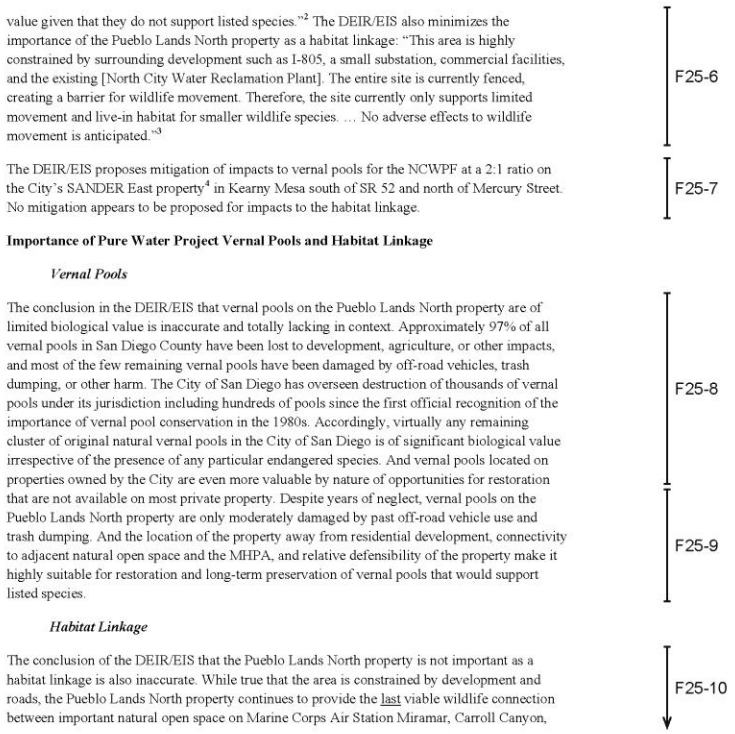
F25-1 Commented noted.

F25-2 As discussed in Chapter 3, Alternatives, of the Draft EIR/EIS, CEQA requires a discussion of alternatives to the project be provided. Specifically, Section 15126.6(a) of the CEQA Guidelines states that an EIR shall, "[d]escribe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Section 15126.6(f) further states, "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." This is defined in the same section of the CEQA Guidelines as not meaning every conceivable alternative to the project, but only a reasonable range of potentially feasible alternatives.

	The City of San Diego has considered a variety of alternative sites for the North City Pure Water Facility (NCPWF). There is a substantial increase in efficiency to locating the NCPWF adjacent to the North City Water Reclamation Plant (NCWRP). By locating the NCPWF adjacent to the NCWRP, less energy is required to pump recycled water from the NCWRP to the NCPWF, which thereby results in fewer greenhouse gas emissions. By locating the facilities adjacent to each other, staff and other operations and management requirements can be shared. The components required of the NCPWF could not be located within the existing NCWRP site due to space requirements; in order for the proposed NCPWF to be located within the existing NCWRP site, the majority of the parking lot and adjacent open space would be required, potentially resulting in additional biological impacts. Biological surveys were conducted on multiple parcels (Pueblo North, Pueblo Central, Pueblo South, and SANDER East) and Pueblo North was chosen due to the lack resources (i.e., there are no listed species present; it is comprised mostly of non-native grassland; and it is more disturbed by trash and off-roading activity) compared to the other sites as well as

	its proximity to the NCWRP, as stated in Section 4.1.2 of Appendix C. Therefore, there are no other feasible alternative NCPWF sites.
	F25-3 The City disagrees that the proposed mitigation for all Project impacts to biological resources is inadequate to reduce impacts to less than significant. The Draft EIR/EIS has demonstrated that the mitigation for all impacts to sensitive resources is feasible, appropriate, and therefore adequate to make a less-than-significant determination under CEQA for each alternative. Additional details are provided in responses below.
	F25-4 Content of comment is accurately summarized from the Draft EIR/EIS.
	F25-5 The determination that vernal pools are of limited biological value is based on the vernal pool branchiopod protocol-level surveys conducted on the NCPWF site, which determined that no San Diego fairy shrimp (*Branchinecta sandiegonensis)* were present on the site, as stated in Section 4.3.6 of Appendix C of the Draft EIR/EIS. These vernal pools are of limited biological value due to the presence

	versatile fairy shrimp in several pools, the lack of sensitive plant species, and due to the presence of non-native species. The vernal pools mapped on the NCPWF site are considered isolated from navigable waters with no federal nexus that would allow these pools to be considered jurisdictional wetlands by the U.S. Army Corps of Engineers (ACOE) under the federal Clean Water Act (Appendix B of Appendix C). These pools are mainly within the dirt road that runs through the site indicating that any natural pools that may have existed have been destroyed/reconfigured by off-roading activity. Furthermore, there is no U.S. Fish and Wildlife (USFWS) Critical Habitat for San Diego fairy shrimp within the NCPWF site, and the site is excluded from conservation under the Vernal Pool Habitat Conservation Plan (VPHCP; City of San Diego 2017) and from the Multi-Habitat Planning area (MHPA). It should be noted that the boundaries for the MHPA were established in 1990s, and even then the NCPWF site did not contain enough high-quality resources to be considered for inclusion within the MHPA. Therefore, not all pools, especially those within disturbed habitat containing versatile fairy shrimp (*Branchinecta*



value given that they do not support listed species."[2] The DEIR/EIS also minimizes the importance of the Pueblo Lands North property as a habitat linkage: "This area is highly constrained by surrounding development such as I-805, a small substation, commercial facilities, and the existing [North City Water Reclamation Plant]. The entire site is currently fenced, creating a barrier for wildlife movement. Therefore, the site currently only supports limited movement and live-in habitat for smaller wildlife species. … No adverse effects to wildlife movement is anticipated."[3]

F25-6

The DEIR/EIS proposes mitigation of impacts to vernal pools for the NCWPF at a 2:1 ratio on the City's SANDER East property[4] in Kearny Mesa south of SR 52 and north of Mercury Street. No mitigation appears to be proposed for impacts to the habitat linkage.

F25-7

Importance of Pure Water Project Vernal Pools and Habitat Linkage

Vernal Pools

The conclusion in the DEIR/EIS that vernal pools on the Pueblo Lands North property are of limited biological value is inaccurate and totally lacking in context. Approximately 97% of all vernal pools in San Diego County have been lost to development, agriculture, or other impacts, and most of the few remaining vernal pools have been damaged by off-road vehicles, trash dumping, or other harm. The City of San Diego has overseen destruction of thousands of vernal pools under its jurisdiction including hundreds of pools since the first official recognition of the importance of vernal pool conservation in the 1980s. Accordingly, virtually any remaining cluster of original natural vernal pools in the City of San Diego is of significant biological value irrespective of the presence of any particular endangered species. And vernal pools located on properties owned by the City are even more valuable by nature of opportunities for restoration that are not available on most private property. Despite years of neglect, vernal pools on the Pueblo Lands North property are only moderately damaged by past off-road vehicle use and trash dumping. And the location of the property away from residential development, connectivity to adjacent natural open space and the MHPA, and relative defensibility of the property make it highly suitable for restoration and long-term preservation of vernal pools that would support listed species.

F25-8

F25-9

Habitat Linkage

The conclusion of the DEIR/EIS that the Pueblo Lands North property is not important as a habitat linkage is also inaccurate. While true that the area is constrained by development and roads, the Pueblo Lands North property continues to provide the last viable wildlife connection between important natural open space on Marine Corps Air Station Miramar, Carroll Canyon,

F25-10

2. DEIR/EIS at 6.4-39.
3. DEIR/EIS at 6.4-99.
4. Assessor's Parcel Number 356-031-1300

lindahli), as is the case on the NCPWF site, are considered high quality.

F25-6 As stated in Section 4.2.4 of Appendix C, the NCPWF and associated components, which are located just north of the expansion, would impact native habitat within Biological Core Area 15. This area is highly constrained by surrounding development such as Interstate (I-) 805, a small substation, commercial facilities, and the existing reclamation plant. The entire site is currently fenced, creating a barrier for wildlife movement (refer to Figure F25-1, Wildlife Movement Corridors for the Pure Water Project). The site itself supports limited movement and live-in habitat for smaller wildlife species. Habitat to the north of the proposed NCPWF would remain for such species to utilize. The area immediately south of the NCPWF site, within MCAS Miramar, would still be accessible after the development of the NCPWF through the use of the utility corridor to the east of the NCPWF. However, the Veteran's Administration (VA) Miramar National Cemetery currently contains an 8-foot-tall chain -ink fence topped with barbed wire along Miramar Road, preventing connectivity to the NCPWF site.

	Fencing cannot be removed along military property. Therefore, construction of the NCPWF would not result in any changes to the existing corridor usage of Biological Core Area 15. Furthermore, the core and linkages map was established by the San Diego County Multiple Species Conservation Program (MSCP) and as stated in Section 2.2 of the County MSCP: The core and linkages map was developed as an analytical tool to assist in testing preserve design criteria and levels of species conservation. It is not a regulatory map…While the entire acreage within a core area may not be important for preservation, the core and linkage configuration assists in visualizing a framework for a regional preserve network. Jurisdictions and other agencies prepared subarea plans with specific preserve boundaries by maximizing inclusion of unfragmented core resource areas and linkages in their preserve designs, given other parameters and objectives…Although this map was used to identify important biological areas and linkages, the habitat evaluation map is not intended to replace site-specific field survey

	data and evaluations. Therefore, since the City of San Diego has developed the City Subarea Plan with specific preserve boundaries; the NCPWF site is outside these preserve areas (MHPA); and construction of the NCPWF would not result in any changes to the existing corridor usage, no significant impacts to Biological Core Area 15 are expected from Project implementation. **F25-7** Content of comment is accurately summarized from the Draft EIR/EIS. However, there is no additional mitigation requirement for impacts within a Biological Core Area. **F25-8** See response to comment F25-5 above for the justification for classifying the vernal pools on the NCPWF site as having limited biological value. **F25-9** Currently, the NCPWF site is highly disturbed by both trash and off-roading activity despite having been fenced. A review of historical aerials show that the majority of the site was graded in the early 1970s; therefore the comment inaccurately states that the pools on the NCPWF site are only moderately damaged. Due to the presence of versatile fairy shrimp,

	which can outcompete and replace San Diego fairy shrimp, and its proximity to MCAS Miramar, which contains San Diego fairy shrimp, the NCPWF would be unsuitable for restoration. Additionally, a survey effort was conducted on the NCPWF site in 1995 to determine whether the site would be suitable to satisfy mitigation requirements for the Fiesta Island Replacement Project/Northern Sludge Processing Facility. It was concluded during this effort that the NCPWF site was not suitable for mitigation due to the property not meeting the vernal pool criteria. The pools lacked one or more of the following: vernal pool indicator species, vernal pool hydrology, or occurrence within a natural setting with correct underlying soil conditions (i.e., hardpan). The NCPWF site is located outside and with no connection to the MHPA, the site was not included within the VPHCP conservation area, and was not identified in the USFWS Recovery Plan as habitat necessary to stabilize San Diego fairy shrimp species. Mitigation for impacts on the NCPWF would be provided through restoration of vernal pools and adjacent uplands at the SANDER Vernal Pool and Upland Mitigation site, as stated in MM-

and Sorrento Valley[5] (Attachment 2). Contrary to the DEIR/EIS, the Pueblo Lands North property is not entirely fenced (and even if it were, fences can be removed). The Pueblo Lands North property is particularly important for movement of Mule deer for which there are no other natural connections to a nearly-isolated population in Sorrento Valley and Carroll Canyon. The property is also important for movement of predators such as coyotes, bobcats, and gray foxes needed to maintain ecosystem functions in Sorrento Valley and Carroll Canyon such as limiting predation on native birds by feral cats and other urban associated animals (e.g. raccoons).

F25-10 Cont.

Inadequate Consideration of Alternatives

The lack of consideration of any alternatives for several elements of the Pure Water Project is a glaring problem with the DEIR/EIS. Alternatives in the DEIR/EIS are unreasonably limited to address just one single element of the Pure Water Project, the route of pipes delivering purified water to different destinations at Miramar or San Vicente reservoirs. No alternatives appear to be provided or considered for the other major elements of the project such as expansion of the North City Water Reclamation Plant, new North City Water Purification Facility and pump station, new landfill gas pipeline, new wastewater pump station and force main, brine/centrate discharge pipeline, upgrades to the Metro Biosolids Center, and new North City Renewable Energy Facility. The lack of consideration of any alternative sites other than the Pueblo Lands North property for the North City Water Purification Facility and associated pump station is a particular problem given the importance of considering alternatives to avoid impacts to this important vernal pool habitat and an important habitat linkage.

F25-11

Problems with Vernal Pool Mitigation

Mitigation proposed in the DEIR/EIS for impacts to vernal pools from the NCWPF on the Pueblo Lands North property is problematic for several reasons: The SANDER East property where mitigation would take place is owned by the City and should already be preserved for vernal pools without having to serve as mitigation; vernal pool mitigation ratios are too low; and important natural habitat on the SANDER East property could be impacted to accommodate inappropriately intensive vernal pool restoration as mitigation for the Pure Water Project.

As discussed above, the City of San Diego has presided over destruction of thousands of vernal pools under its jurisdiction and so has an outstanding responsibility to protect the few that are left on City-owned properties such as SANDER East without these having to serve as mitigation. Also, vernal pool mitigation ratios proposed at 2:1 in the DEIR/EIS are too low and disregard the relative importance of vernal pools to be impacted at the Pueblo Lands North property. These pools are relatively intact and are highly suitable for enhancement and restoration including for listed and sensitive species and the site is highly defensible as a vernal pool preserve connected to the MHPA. Finally, much of the SANDER East mitigation property already supports an intact

F25-12

F25-13

5. Biological Resources Report for the North City Project Figure 1-4 (annotated).

BIO-1b in Section 5.1 in Appendix C. The SANDER site is within both the VPHCP hard line preserve and the MHPA. Protocol-level vernal pool branchiopod surveys completed on the SANDER mitigation site determined that the site is occupied by San Diego fairy shrimp. Although current surveys on the NCPWF site determined that San Diego fairy shrimp were not present, conservation of the SANDER site, which contains San Diego fairy shrimp, would further promote and help achieve the USFWS mandate for this species.

F25-10 See response to comment F25-6.

F25-11 See response to comment F25-2.

F25-12 Although the SANDER site is currently preserved, the City disagrees that the SANDER site is therefore not suitable for mitigation. The VPHCP does not prohibit mitigation from occurring on preserved pools. Additionally, the MHPA focuses restoration efforts within its boundaries as a condition of its Subarea Plan (City of San Diego 1997). The SANDER site was not in the MHPA until the City's Public Utilities Department initiated the MHPA boundary line

	adjustment, which was approved by the MSCP, USFWS, and the California Department of Fish and Wildlife (CDFW) on July 12, 2017. This project will formalize the boundary line adjustment and include the entire SANDER east parcel in the MHPA minus the landfill area. Additionally, the VPHCP identifies the SANDER site as a preapproved mitigation area for the Pure Water Program. The SANDER site will be 100% protected and receive restoration that will greatly enhance the ecological function and viability of resources with the approval of this Project. The SANDER site provides adequate mitigation for the NCPWF impacts; see response to comment F25-9. The mitigation ratios are consistent with the VPHCP, which fixed the ratio at 2:1 for the vernal pools on the NCPWF site regardless of the presence of San Diego fairy shrimp, and are appropriate for what is being impacted on the NCPWF site (City of San Diego 2017d); see response to comment F25-3. The SANDER Vernal Pool Mitigation Plan (Appendix R of Appendix C) outlines how there is adequate capacity and sufficient hydrology to support additional vernal pools.

complex of vernal pools in their natural form amidst other sensitive natural vegetation that could be inappropriately impacted with intensive grading to achieve pre-determined mitigation values.

F25-13 Cont.

Alternatives and Mitigation for Vernal Pools and the Habitat Linkage

Please consider recirculating the DEIR/EIS with the following possible solutions to address Pure Water Project impacts to important vernal pools and the critical habitat linkage at the site of the NCWPF / Pueblo Lands North property:

Use Alternate Site for North City Pure Water Facility and Pump Station

The City should acknowledge the significant impacts of the NCWPF and pump station on important vernal pool habitat and an important habitat linkage and seriously consider alternate sites for this facility. Possible alternative sites could include some portions of the existing North City Water Reclamation Plant, Miramar Water Treatment Plant, Metro Biosolids Center, SANDER West[6], and/or alternate project configurations such as location of just the pump station on a less sensitive portion of the Pueblo Lands North property. A large, undeveloped portion of the Miramar Water Treatment Plant should be seriously considered for location of the NCWPF given the practicality of this site to relocate the NCWPF from one end to the other of the same Miramar Reservoir pipeline considered in the City's preferred alternative. Relocation of the NCWPF from the Pueblo Lands North property to the Miramar Water Treatment Plant would just mean that reclaimed water rather than purified water would be pumped through the pipeline to Miramar Reservoir with water purification taking place near the planned destination for purified water at Miramar Reservoir rather than closer to the existing North City Water Reclamation Facility.

F25-14

Improve mitigation for vernal pools and habitat linkage

In the event that the Pueblo Lands North property remains the City's preferred site for the NCWPF and associated pump station, the City should provide appropriate additional mitigation for vernal pools and acknowledge impacts and provide mitigation for loss of a critical habitat linkage.

F25-15

Given the importance of both existing vernal pools and suitable soils for vernal pool habitat restoration on the Pueblo Lands North property, and rather than unreasonably limiting mitigation to the barest minimum of just the .38 acre of vernal pool basins onsite, the 2:1 mitigation ratio in the DEIR/EIS should be applied either to a larger area of all vernal pool suitable soils on the Pueblo Lands North property or to the entire area on the property mapped as the I 12 vernal pool

F25-16

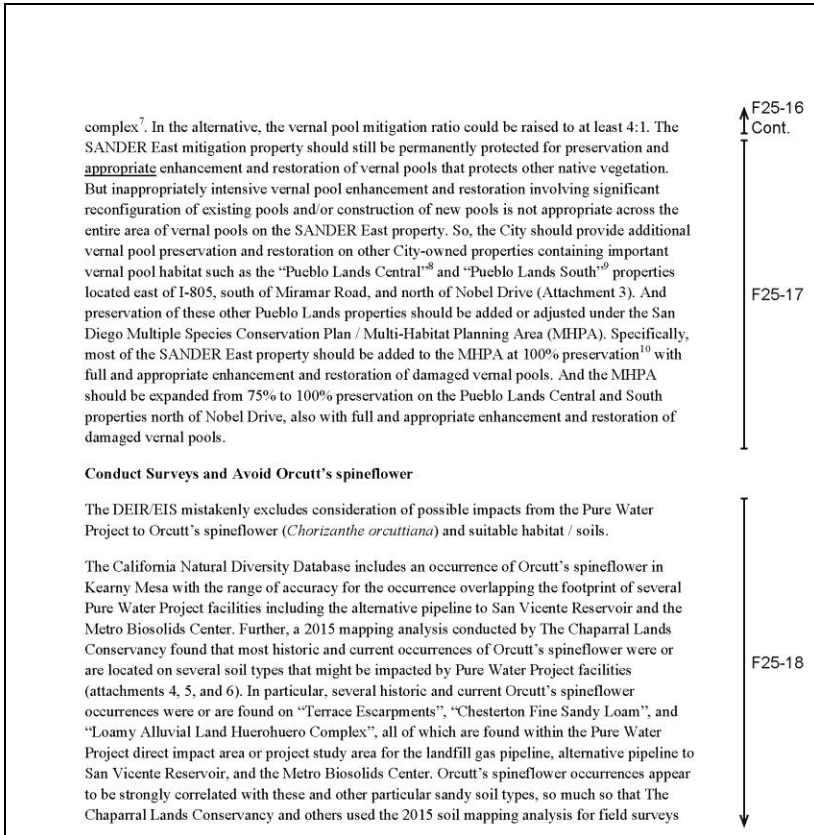
6. Assessor's Parcel Number 356-011-0700

F25-13 The SANDER mitigation site currently contains vernal pools; however, many of these vernal pools are degraded from anthropogenic disturbance despite having been fenced, including road ruts, as stated in the SANDER Vernal Pool Mitigation Plan (Appendix R of Appendix C). The mitigation plan outlines how these degraded vernal pools will be repaired and enhanced, and describes the creation of new basins. As stated in response F25-12, there is adequate capacity and sufficient hydrology to support additional vernal pools. All mitigation work would be implemented in accordance with ACOE/Regional Water Quality Control Board (RWQCB)/CDFW/City guidelines including the VPHCP, and the required agency permits would be obtained.

F25-14 See responses F25-2, F25-11, F25-12, and F25-13.

F25-15 See response to comments F25-3, F25-6, and F25-10.

F25-16 The total acreage for all vernal pools mapped on the NCPWF includes the greatest extent of ponding observed in 2017, which was a record



complex[7]. In the alternative, the vernal pool mitigation ratio could be raised to at least 4:1. The SANDER East mitigation property should still be permanently protected for preservation and appropriate enhancement and restoration of vernal pools that protects other native vegetation. But inappropriately intensive vernal pool enhancement and restoration involving significant reconfiguration of existing pools and/or construction of new pools is not appropriate across the entire area of vernal pools on the SANDER East property. So, the City should provide additional vernal pool preservation and restoration on other City-owned properties containing important vernal pool habitat such as the "Pueblo Lands Central"[8] and "Pueblo Lands South"[9] properties located east of I-805, south of Miramar Road, and north of Nobel Drive (Attachment 3). And preservation of these other Pueblo Lands properties should be added or adjusted under the San Diego Multiple Species Conservation Plan / Multi-Habitat Planning Area (MHPA). Specifically, most of the SANDER East property should be added to the MHPA at 100% preservation[10] with full and appropriate enhancement and restoration of damaged vernal pools. And the MHPA should be expanded from 75% to 100% preservation on the Pueblo Lands Central and South properties north of Nobel Drive, also with full and appropriate enhancement and restoration of damaged vernal pools.

F25-16 Cont.

F25-17

Conduct Surveys and Avoid Orcutt's spineflower

The DEIR/EIS mistakenly excludes consideration of possible impacts from the Pure Water Project to Orcutt's spineflower (*Chorizanthe orcuttiana*) and suitable habitat / soils.

The California Natural Diversity Database includes an occurrence of Orcutt's spineflower in Kearny Mesa with the range of accuracy for the occurrence overlapping the footprint of several Pure Water Project facilities including the alternative pipeline to San Vicente Reservoir and the Metro Biosolids Center. Further, a 2015 mapping analysis conducted by The Chaparral Lands Conservancy found that most historic and current occurrences of Orcutt's spineflower were or are located on several soil types that might be impacted by Pure Water Project facilities (attachments 4, 5, and 6). In particular, several historic and current Orcutt's spineflower occurrences were or are found on "Terrace Escarpments", "Chesterton Fine Sandy Loam", and "Loamy Alluvial Land Huerohuero Complex", all of which are found within the Pure Water Project direct impact area or project study area for the landfill gas pipeline, alternative pipeline to San Vicente Reservoir, and the Metro Biosolids Center. Orcutt's spineflower occurrences appear to be strongly correlated with these and other particular sandy soil types, so much so that The Chaparral Lands Conservancy and others used the 2015 soil mapping analysis for field surveys

F25-18

7. Bauder, E. T. 1986. San Diego Vernal pools: Recent and projected losses; their condition; and threats to their existence, 1979-1990. Report prepared for Endangered Plant Project, California Department of Fish and Game, Sacramento, California.
8. Assessor's Parcel Number 345-021-0200
9. Assessor's Parcel Number 345-021-0300
10. Assessor's Parcel Number 356-031-1300, excluding former landfill.

rain year. This 2017 mapping accurately represents the total acreage of vernal pools currently present on the NCPWF and is the basis for mitigation. The I 12 vernal pool complex is based on historical mapping and does not reflect the current configuration of vernal pools. Additionally, the I 12 mapping would have a significantly lower total acreage than current acreage of 0.38 acre. The mitigation ratio is consistent with the VPHCP, which fixed the ratio at 2:1 for the vernal pools on the NCPWF site regardless of the presence of San Diego fairy shrimp (City of San Diego 2017d); see response to comment F25-3.

F25-17 The SANDER site provides adequate mitigation for impacts to vernal pools occurring on the NCPWF; see response to comment F25-9**.** See response to comment F25-13 and Appendix R of Appendix C, for specifics on the proposed grading occurring on the SANDER site. All mitigation work would be implemented in accordance with ACOE/RWQCB/CDFW/City guidelines including the VPHCP, and the required agency permits would be obtained. The comment does not raise specific issues related to the adequacy of the environmental

in the spring of 2015, 2016, and 2017 that resulted in the discovery of ten new, never-before-documented, natural Orcutt's spineflower occurrences. As such, the Pure Water Project should include directed surveys for Orcutt's spineflower in these suitable soils during the month of April. In particular, surveys should closely examine any open sandy areas in these suitable soils (even very small openings amongst other vegetation), especially in Terrace Escarpment soils that appear particularly suitable for Orcutt's spineflower occurrences on north and south-facing slopes in Rose and San Clemente Canyons. Orcutt's spineflower is a critically endangered species and impacts should be avoided in the event that any new occurrences are identified in or near areas that might be impacted for the Pure Water Project.

F25-18

Thank you for your consideration.

Sincerely,

David Hogan

Attachments

1. Biological Resources Report for the North City Project Figure 4.2.I1
2. Biological Resources Report for the North City Project Figure 1-4 (Annotated)
3. Map of Vernal Pool Habitat on Pueblo Lands Central and South properties
4. Final report – Orcutt's Spineflower Project Cooperative Endangered Species Conservation Fund (Section 6) Grant Agreement No. P1482008 May 17, 2017

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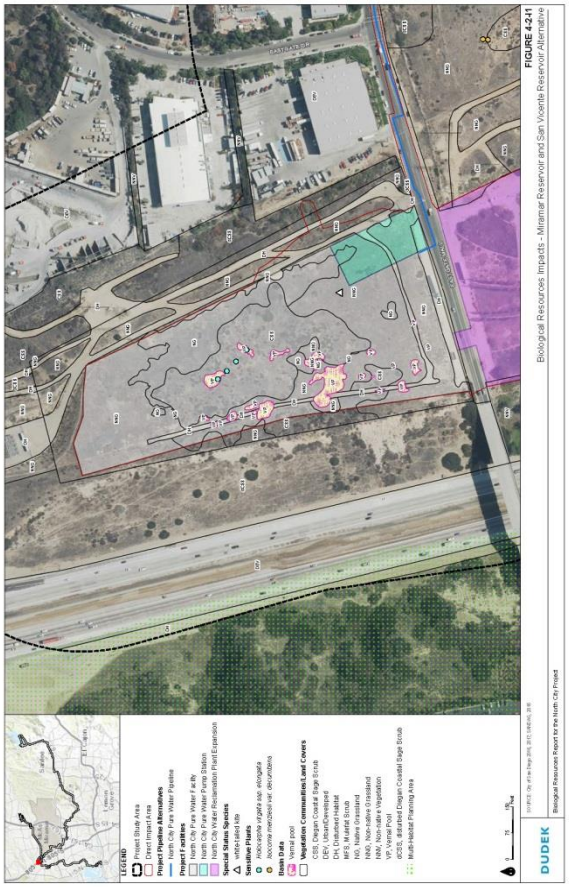
analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

F25-18 Surveys for sensitive plants were conducted in March/April, May/June, and October of 2016 and 2017 to capture species during their respective blooming periods, as discussed in Section 2.3.1 of Appendix C. Orcutt's spineflower (*Chorizanthe orcuttiana*) was a target species during the plant surveys but was not observed during the April survey pass for either year. The potential for Orcutt's spineflower to occur within the Project area is discussed in Appendix L of Appendix C and is not further discussed in Appendix C because no direct, indirect, or cumulative impacts are expected. Furthermore, there are no California Natural Diversity Database locations near the Metro Biosolids Center, and this area is not a possible pipeline route. All impacts would occur within the existing Metro Biosolids Center; see Figure 4-3D in Appendix C. The occurrence referred to in the comment is from the Recovery and Management of Orcutt's Spineflower Final Report (Bauder 2000), and is based on 1967 collection, in which Bauder (2000) determines the site to be "presumably



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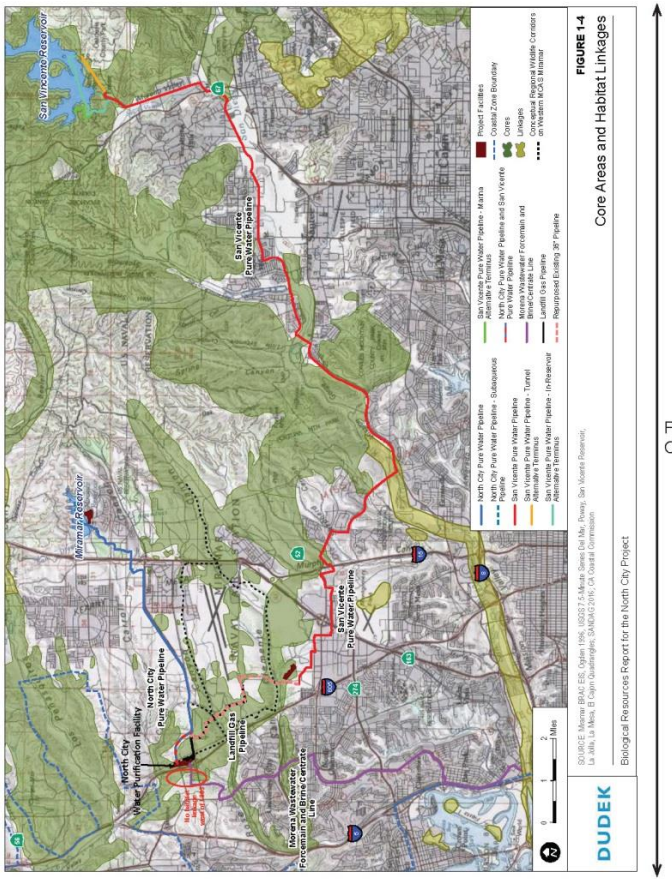
lost to the I-805/Clairemont Mesa Boulevard interchange." There were no occurrences mapped by the Chaparral Lands in 2015, 2016 or 2017 within the project site.

F25-19 This comment includes all attachments to the comment letter. Attachments 1 and 2 are figures from the Biological Resources Report. Attachment 3 is a map of vernal pool habitat on Pueblo Lands. Attachment 4 is a report on the Orcutt's Spineflower Project Cooperative Endangered Species Fund. These attachments are noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.


San Vicente Reservoir
Miramar Reservoir
North City Water Purification Facility
North City Pure Water Pipeline
Landfill Gas Pipeline
San Vicente Pure Water Pipeline
Morena Wastewater Forcemain and Blend Center Line
North City Pure Water Pipeline
North City Pure Water Pipeline - Subaqueous Pipeline
Project Facilities
Coastal Zone Boundary
Cores
Linkages
Conceptual Regional Wildlife Corridors on Western MSCP Habitat
Core Areas and Habitat Linkages
FIGURE 1-4
DUDEK
Biological Resources Report for the North City Project

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Miramar
Road
Pueblo Lands
Central
Property
Nobel
Drive
Vernal Pools
VPs

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FINAL REPORT –
Orcutt's Spineflower Project
Cooperative Endangered Species Conservation Fund (Section 6) Grant Agreement No. P1482008
May 17, 2017

Introduction

This final report provides the results of applied conservation research and stewardship, restoration, and enhancement of Orcutt's spineflower (*Chorizanthe orcuttiana*; "spineflower") under the Cooperative Endangered Species Conservation Fund (Section 6) Grant Agreement No. P1482008 between The Chaparral Lands Conservancy (TCLC) and California Department of Fish and Wildlife (CDFW).

Under the terms of the grant agreement, Task 1applied conservation research includes GIS mapping of suitable habitat soils and population surveys at remaining natural historic documented occurrences and in newly mapped suitable habitat on conserved lands off the Point Loma Navy Base. A Summary Report describing the results of applied conservation research was provided to CDFW and the U.S. Fish and Wildlife Service in December 2015 as required by the grant agreement. The results of Task 1 are presented again in this final report and updated with new information since December 2015. TCLC work under Task 1 resulted in discovery of ten new, never-before-documented spineflower occurrences on conserved lands in North County San Diego.

Also under the terms of the grant agreement, Spineflower stewardship, restoration, and enhancement includes the following:

- Preparation of site plans to manage, restore, and enhance Orcutt's spineflower habitat and populations as appropriate;
- Protecting the Orcutt's spineflower population at Torrey Pines State Natural Reserve (TPSNR) Extension with fencing, signing, and control of erosion and weeds;
- Protecting any other newly discovered or rediscovered population on conserved land with fencing, signing, or other stewardship measures;

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- Enhancing any existing populations and newly discovered populations through weed control, erosion control, removal of plant litter, select trimming of encroaching vegetation, and other appropriate measures;
- Collecting seed and conducting seed bulking propagation to generate seed for research and management activities, as needed in coordination with USFWS and CDFW;
- Coordinating with the USFWS and CDFW to determine what existing populations would benefit from augmentation and if conserved lands are appropriate for establishing new populations.
- Organizing educational public work parties to inform preserve visitors and generate volunteer assistance with non-technical recovery tasks such as fencing and signing.

TCLC has successfully secured permits, organized volunteer events, installed fencing and signs, and initiated control of erosion and weeds at several spineflower occurrences. TCLC also successfully seeded six new spineflower occurrences at TPSNR Extension and Main following seed collection and propagation for seed bulking.

Task 1 – Applied Conservation Research

Task 1a – GIS Mapping of Suitable Habitat

Under Task 1a, TCLC retained and worked with a GIS contractor to update Dr. Ellen Bauder's (2000[1]) mapping of suitable spineflower soils on conserved lands. Orcutt's spineflower occurrences are strongly correlated with particular sandy soils near the San Diego coast so GIS mapping followed Bauder's methodology of using soils as a proxy for suitable habitat. Maps were created using Bauder's data layers (Carlsbad soils, public or private ownership, and developed or undeveloped land) and updated to identify current suitable habitat soils, development, current property ownership and conservation management status, and to incorporate new soils data from the Orcutt's spineflower occurrence discovered at Torrey Pines State Natural Reserve Extension in 2009.

Three sets of maps were produced under Task 1a: *Orcutt's Spineflower Locations and Soils Pre-2015* (Attachment 1); *Orcutt's Spineflower Soils on Conserved Lands* (Attachment 2); and *Orcutt's Spineflower Survey Maps* (Attachment 3). The purpose of the first set of maps was to identify all soils occupied by documented spineflower occurrences. The second set of maps applies the soils information from the first set of maps throughout San Diego County overlaid with all conserved lands. The third set of maps was created for use during population surveys (Task 1b, below) and applies the soils

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1. Bauder, E.T. 2000. Recovery and management of Orcutt's spineflower (*Chorizanthe orcuttiana*). Prepared for California Department of Fish and Game, Contract # FG7643R5. November. 80 pages + appendices.

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information from the first maps to specific preserve properties containing greater than 25% spineflower soils and otherwise thought to present the greatest likelihood of supporting undocumented spineflower occurrences.

The first set of maps, *Orcutt's Spineflower Locations and Soils Pre-2015* (Attachment 1) shows all spineflower occurrences documented prior to 2015 with underlying soils for the purpose of identifying all soils occupied by documented spineflower occurrences. For these maps, TCLC used soils data from the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) and two sources of Orcutt's spineflower occurrence data: Element occurrences recorded in the California Natural Diversity Data Base (CNDDB) including the CNDDB accuracy of location; and Bauder's (2000) refined mapping of occurrences from CNDDB and San Diego Natural History Museum records and others, digitized for this project. Recorded occurrence data was deemed reliable considering Bauder's thorough research on historic occurrences and was not revised for this project. Bauder and CNDDB occurrences are located in close proximity but are typically far enough apart to be located on different NRCS soils. So both Bauder and CNDDB occurrences were mapped to increase the likelihood of identification of all suitable spineflower soils. These maps show recorded spineflower occurrences on nine NRCS soils including the one spineflower occurrence discovered at TPSNR Extension after Bauder's work on a NRCS soil type that in turn became very important in the discovery of new spineflower occurrences in 2015, 2016, and 2017.

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The second set of maps, *Orcutt's Spineflower Soils on Conserved Lands* (Attachment 2) applies the soils information from the first set of maps for the purpose of showing suitable spineflower soils throughout San Diego County overlaid with all conserved natural lands. For these maps, TCLC used conserved lands data from two sources: SanGIS, a joint GIS database maintained by the City and County of San Diego; and the San Diego Management and Monitoring Program, a central repository of San Diego natural history and conservation management information maintained by the U.S. Geological Service under contract with the San Diego Association of Governments (SANDAG). These maps show all nine spineflower-related NRCS soils throughout San Diego County overlaid with conserved natural lands including conserved lands with greater or lesser than 25% of documented spineflower occurrence soils to refine priority preserve areas for Task 1b population surveys.

The third set of maps, *Orcutt's Spineflower Survey Maps* (Attachment 3) present the same data as the second set of maps but applies the spineflower-related NRCS soils information at a larger scale to specific concentrations of conserved land properties for the purpose of selecting conserved lands properties for Task 1b population surveys. Specific concentrations of conserved land were selected for surveys when they contained greater than 25% spineflower soils and were otherwise thought to present the greatest likelihood of supporting undocumented spineflower occurrences based on site conditions (e.g. the presence of NRCS Loamy Alluvial Land-Huerhuero Complex (LvF3) soil found at or very near

most North County San Diego spineflower occurrences; the interface of NRCS LvF3 soil and Corralitos Loamy Sand (CsB; CsD) soils as documented at three North County San Diego spineflower occurrences; proximity to documented spineflower occurrences; slope aspect, and other factors). This third set of maps contains twenty-four maps showing discreet concentrations of conserved land properties. These maps in turn were used for population surveys of conserved lands properties in 2015, 2016, and 2017 (Table 1).

Task 1b – Population Surveys

In the winter and spring seasons of 2015, 2016, and 2017, TCLC staff, contractors, and volunteers used the *Orcutt's Spineflower Survey Maps* (Attachment 3) for the purpose of conducting population surveys to relocate historic documented occurrences and to locate any new occurrences in conserved suitable habitat. Population surveys were initiated in each season on March 16, 2015, January 6, 2016, and February 1, 2017, respectively and following monitoring to document the maturity and visibility of spineflower plants at the original natural spineflower occurrence at TPSNR Extension. Surveys were conducted into April and ended when plants exhibited significantly reduced visibility from drying.

Despite slightly above normal total rainfall for the 2015 water year[2], the winter and spring of 2015 was a moderate to poor period for spineflower population surveys possibly due to low rainfall and high winter temperatures. Judgement of this as a less than optimal survey period is also based on a comparison of spineflower annual population numbers at TPSNR Extension (Table 2). Rainfall was relatively abundant in late fall 2014 but was significantly below normal during the winter and early spring of 2015 with several heat waves and very dry conditions during the spineflower growing period of January through April.

The winter and spring of 2016 appears to have been a poor period for spineflower population surveys, again possibly due to relatively low rainfall and high temperatures. Rainfall was very close to normal for the total water year and significantly above normal in January 2016. But rainfall was significantly below normal and temperatures significantly above normal during the remainder of the spineflower growing period with both conditions suspected as the causes for lower population numbers and the observed early drying of the occurrence at TPSNR Extension.

The winter and spring of 2017 appears to have been a good period for spineflower population surveys based on relatively high rainfall and population numbers the TPSNR Extension natural and seeded occurrences. Rainfall was significantly above normal in January and February but below normal in March and April and temperatures were above normal during this period.

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2. Water years are October 1 – September 30.

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Table 1
Orcutt's Spineflower Population Survey Sites 2015 – 2017

Conserved Lands Survey Site	Jurisdiction
Batequitos Bluffs	City of Carlsbad
Kelly Ranch Habitat Conservation Area	
La Costa Glen Habitat Conservation Area	
Rancho La Costa Habitat Conservation Area	
Saxony Road Open Space	City of Encinitas
Home Depot	
Manchester Mitigation Bank	
Oak Crest Park	
Pacific Pines Racquet Club	
San Diego Botanic Garden	
San Elijo Lagoon Ecological Reserve	
San Dieguito Regional Park	County of San Diego
Carmel Mountain Preserve	City of San Diego
Crest Canyon Preserve	
Gonzales Canyon Preserve	
Overlook Park	
Sorrento Hills	
Torrey Pines State Natural Reserve Extension	California Department of Parks and Recreation
Torrey Pines State Natural Reserve Main	
Scripps Open Space	University of California

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For population survey results please see the section *Results, Discussion & Conservation Recommendations* below.

Task 1c – Summary Report

A Summary Report of the results of Task 1 work was provided to CDFW in December 2015.

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Table 2
TPSNR Extension Orcutt's Spineflower Natural Occurrence Counts and Rainfall[3]

Year	Population Count	Rainfall[4]
2011	2,525	12.7
2012	1,013	7.9
2013	2090	6.55
2014	211	5.09
2015	820	11.91

Task 2 – Spineflower Stewardship, Restoration, & Enhancement

TCLC has and will continue to conduct other spineflower conservation work as part of the stewardship, restoration, and enhancement work described in this grant proposal.

Task 2a – Site Plans and Permits

TCLC successfully completed project planning and permitting for work to restore, enhance, and protect Orcutt's spineflower occurrences at the Crest Canyon Open Space Preserve, Gonzales Canyon Open Space Preserve, Sorrento Hills Open Space, and TPSNR Extension and Main. Planning and permitting work included cultural resource surveys, preparation of site plans, CEQA compliance, right-of-entry permits, and a California Endangered Species Act permit. The following is a summary of all planning and permitting work conducted by TCLC:

- TCLC communicated with agency staff and prepared project descriptions to facilitate agency initiation of CEQA review and entry permits for spineflower project surveys and restoration and management work.
- TCLC prepared several application packages, conducted communications, obtained a CEQA Notice of Exemption, and obtained entry permits or other authorizations to conduct restoration and management work on several preserves.
- TCLC prepared an application package and obtained a California Endangered Species Act "Scientific, Educational, or Management Permit" from the California Department of Parks and

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3. To reduce impacts to delicate microbiotic soils, population counts were not conducted at the TPSNR Extension occurrence in 2016 or 2017.

4. San Diego Lindberg Field.

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Recreation to conduct restoration and management work with the state-listed Orcutt's spineflower.

- Cultural resource surveys and monitoring was facilitated by TCLC at the UCSD Skeleton Canyon Preserve and Torrey Pines State Natural Reserve Extension prior to and during fence and sign installation to comply with entry permits.

Task 2b – Protect, Restore, & Enhance Habitat & Populations

TCLC work on Task 2b during this grant included the following:

Seed Bulking – Contractor Rancho Santa Ana Botanic Garden collected and prepared spineflower seed and propagated three generations of plants for seed banking and bulking. Seed was initially collected in 2014 from the then-single known spineflower natural occurrence in North County San Diego at TPSNR Extension. Seed was subsequently collected from six of the eight newly discovered spineflower populations in spring 2015. In all, one hundred sixteen plants were propagated to produce a total of approximately 64,000 seeds. Seed preparation included seed cleaning and record keeping, establishment of permanent conservation seed bank collection, establishment of a temporary seed bank collection for propagation and seed bulking, and trials to determine best practices for nursery production. Seed processing included harvesting, drying, packaging, and 23° C storage for banked seed.

Seeding New Occurrences – During the course of spineflower population surveys, records were also kept of potential new sites with habitat suitable for seeding. TCLC obtained agency permissions and approvals and staff and volunteers proceeded to seed six suitable, unoccupied sites at TPSNR Extension and Main in December 2015 and January 2016. Approximately 20,000 seeds were used from those bulked by Rancho Santa Ana Botanic Garden and originally sourced from the closest extant natural occurrence at TPSNR Extension.

For results of spineflower seeding please see the section *Results, Threats, & Conservation Recommendations* below.

Fencing – Approximately 3,000ft of fencing was installed by a fence contractor, TCLC staff, and volunteers to direct preserve visitors away from spineflower occurrences at the Crest Canyon and Sorrento Hills open space preserves and at the TPSNR Extension.[5] TCLC staff and volunteers increased the effectiveness of fencing by camouflaging unauthorized paths leading towards or into spineflower occurrences.

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5. Fencing will also help protect the state listed endangered short-leaved dudleya (*Dudleya brevifolia*) from trampling.

Weeding – TCLC staff and volunteers conducted extensive weeding at the TPSNR Extension natural spineflower population and six of the ten newly discovered occurrences.[6]

Interpretive Panel, Closure Signs, & Flyers – Several public outreach activities were included in the spineflower project:

- One rare plants interpretive panel was designed by a graphic artist contractor and TCLC staff and was prepared and installed at TPSNR Extension to increase public awareness and help reduce trampling of spineflowers.
- Closure signs were designed, manufactured, and installed to direct visitors away from spineflower populations at the Crest Canyon and Sorrento Hills preserves and TPSNR Extension. In an effort to reduce the likelihood of vandalism, closure signs were designed using children's animal art provided by students of Graciano Gomez Elementary School in San Bernardino.
- Public outreach brochures with information on rare plants and trail maps were designed by TCLC staff, printed, and delivered to the Torrey Pines Docent Society for distribution to TPSNR Extension visitors in a further effort to discourage off-trail use. Torrey Pines docents regularly walk and interact with visitors on TPSNR Extension trails and the informational brochures will serve as an effective communication tool to direct visitors onto legitimate trails and away from fragile spineflower populations.
- A short public education video was produced by TCLC and includes information on the successful spineflower population surveys and management activities. The successful population surveys were also the subject of a KPBS news story following a press release by TCLC. Both the education video and KPBS news story can be viewed on TCLC's website page for the Rarest Plants Project at http://www.chaparralconservancy.org/projects/rarestplants/.

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Please see Attachment 5 for photographs and exhibits of activities to protect and restore spineflower populations.

Task 2c – Final Report

This document is the final report for the Orcutt's Spineflower Project Cooperative Endangered Species Conservation Fund (Section 6) Grant Agreement No. P1482008.

6. Two spineflower occurrences were only discovered after the close of a matching funds grant used for invasive weed control.

Results, Threats, & Conservation Recommendations

Mapping Results

Task 1a GIS mapping was extremely valuable in identifying suitable Orcutt's spineflower soils and habitat for subsequent successful surveys to locate new natural populations and for seeding of new occurrences as described below.

Besides these practical values of Task 1a GIS mapping, this mapping exercise also generated valuable information on the overarching conservation status of the species and its habitat. Data used to create the second set of maps, *Orcutt's Spineflower Soils on Conserved Lands* (Attachment 2) shows that NRCS soils occupied by spineflowers are located within approximately seven miles of the coast, that there were approximately 41,613 acres of spineflower-related NRCS soils prior to conversion of most natural habitats in coastal San Diego County to agriculture and development, that approximately 34,817 acres (84%) of spineflower-related NRCS soils have been lost to agriculture, development, and other anthropogenic conversion[7], and approximately 5,987 acres (14%) of spineflower-related NRCS soils are now located on various conserved lands.

Population Survey Results

Despite seeming less than optimal conditions, population surveys conducted by TCLC and TCLC contractors in 2015, 2016, and 2017 successfully located eight new, never-before-documented, natural spineflower occurrences (Table 3, Attachment 4). Two additional natural occurrences were discovered in the Gonzales Canyon Open Space Preserve in 2017 by Nancy Ferguson of the U.S. Fish and Wildlife Service and Adam Taylor of Cabrillo National Monument while visiting the occurrences discovered by TCLC contractors in 2015. All new occurrences are located in the northern City of San Diego on three City of San Diego preserves and within a few miles of existing and historic documented occurrences at TPSNR Extension and Main. Table 3 and Attachment 4 maps show the ten newly discovered occurrences and update the Attachment 4 maps provided to CDFW in the 2015 Summary Report with occurrence identifications, new 2016 and 2017 occurrences, and estimated population numbers.

The discovery of ten new natural spineflower occurrences is a very significant and positive conservation event for this highly endangered plant, especially given that only five other occurrences had been observed recently at Point Loma and TPSNR Extension prior to 2015. Much more spineflower suitable

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7. Spineflower-related NRCS soils lost to development are approximate and were calculated using the SanGIS 2012 database of Holland native vegetation. SanGIS categories "Disturbed Habitat", "Eucalyptus Woodland", "General Agriculture", "N/A", "TBD", and "Urban/Developed" are considered lost to development, agriculture, or other conversion.

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Table 3
New Orcutt's Spineflower Natural Occurrences 2015 – 2017

Natural Occurrence Location	Occurrence ID	Estimated Population Size
Crest Canyon Open Space Preserve	CC1	> 500
	CC2	> 100
	CC3	100
Gonzales Canyon Open Space Preserve[8]	GC1	450
	GC2	750
	GC3	38
	GC4	150
Sorrento Hills Open Space	SH1	95
	SH2	20
	SH3	10

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habitat on conserved lands properties was mapped than could be surveyed with this grant budget so additional funding is recommended for future surveys.

Crest Canyon Open Space Preserve – The first and largest new occurrence at Crest Canyon (CC1) was discovered just minutes after initiation of the very first day of population surveys in March 2015 by volunteer Margaret Fillius[9] using the Task 1a suitable soils maps. The second and third Crest Canyon occurrences (CC2, CC3) were discovered by TCLC staff David Hogan in February 2016 and January 2017. The first and largest occurrence CC1 size is estimated at greater than 500 plants and the CC2 and CC3 occurrences are estimated at approximately one hundred plants each. All three newly discovered Crest Canyon natural occurrences are located at the mapped interface of Corralitos Loamy Sand (9 to 15% slopes; CsD) and Loamy Alluvial Land-Huerhuero Complex (LvF3) soils similar to those at the TPSNR Extension natural occurrence. Soils are also similar to the Loamy Alluvial Land-Huerhuero Complex soils found at or near historic occurrences in Encinitas, Rancho Santa Fe, TPSNR Main, and Kearny Mesa. Vegetation and terrain at the Crest Canyon occurrences is southern maritime chaparral on

8. Occurrences GC1 and GC2 were discovered by TCLC contractors in 2015. GC3 and GC4 were discovered by Nancy Ferguson and Adam Taylor in 2017.
9. Margaret Fillius is a highly-skilled amateur botanist who previously discovered the TPSNR Extension natural spineflower population in 2009.

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a low, open sandstone bluff (first and largest occurrence) and in very sandy alluvial soils relatively near the canyon floor (all three occurrences).

Gonzales Canyon Open Space Preserve – Two of the new occurrences at Gonzales Canyon (GC1, GC2) were discovered in April 2015 by TCLC contractors Jim Rocks of Rocks Biological Consulting and Jon Rebman of the San Diego Natural History Museum using the Task 1a suitable soils maps. Two additional occurrences were discovered in Gonzales Canyon in 2017 by Nancy Ferguson of the U.S. Fish and Wildlife Service and Adam Taylor of Cabrillo National Monument while visiting the occurrences documented by TCLC in 2015. The GC1 occurrence is estimated at 450 plants, GC2 at 750 plants, GC3 at 38 plants, and GC4 at 150 plants. The Gonazales Canyon GC1 occurrence is located on NRCS Terrace Escarpments soils (TeF) similar to one of the two historic documented occurrences at TPSNR Main and the three Sorrento Hills occurrences discovered in 2015. The Gonzales Canyon GC2, GC3, and GC4 occurrences are located at or near the interface of Corralitos Loamy Sand (0 to 5% slopes; CsB) and Loamy Alluvial Land-Huerhuero Complex (LvF3) soils similar to the Crest Canyon and TPSNR Extension occurrences. Vegetation and terrain at the Gonzales Canyon occurrence GC1 is Diegan coastal sage scrub on a gently sloping hillside. Vegetation and terrain at the Gonzales Canyon occurrences GC2, GC3, and GC4 is southern maritime chaparral and Diegan coastal sage scrub on a low, gently sloping ridge.

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Sorrento Hills Open Space – The three new Sorrento Hills occurrences were discovered by Jim Rocks and Jon Rebman in April 2015 using the Task 1a suitable soils maps. The Sorrento Hills SH1 occurrence is estimated at 95 plants, SH2 at 20 plants, and SH3 at 10 plants. All three Sorrento Hills occurrences are located on NRCS Terrace Escarpments soils (TeF) similar to one of the two historic documented occurrences at TPSNR Main and the southern Gonzales Canyon occurrence discovered in 2015. The Sorrento Hills occurrence SH2 is also located at the interface of the Terrace Escarpments soils and Corralitos Loamy Sand (9 to 15% slopes) similar to the Crest Canyon and northern Gonzales Canyon occurrences discovered in 2015 and the TPSNR Extension natural occurrence. Vegetation and terrain at the Sorrento Hills occurrences is southern maritime chaparral on sandstone bluffs in perched pockets of sandy soils.

Other Historic Occurrences – Population surveys were not successful in relocating any historic documented spineflower occurrences despite very focused efforts at Oak Crest Park in Encinitas and TPSNR Main where there are relatively recent documented occurrences. The occurrence at Oak Crest Park has not been observed since 2005 when surveyors found only six plants (Bauder and Sakrison 2010[10]). TCLC visited this site with Jonathan Snapp-Cook who observed the plants in 2005 and found

10. Bauder, E.T., and J. Sakrison. 2010. *Chorizanthe Orcuttiana* (Orcutt's Spineflower) Final Report. Prepared for: Natural Resources Office Southwest Division Naval Facilities Engineering Command and Natural Resources Office Navy Region

that the former small opening occupied by the species is now overgrown with southern maritime chaparral vegetation and many young Torrey Pine trees and seeded from nearby landscaping specimens. One occurrence at TPSNR Main has not been observed since its discovery in 1987. This area was thoroughly surveyed in 2015 and found to be heavily infested with mats of Bermuda grass (*Cynodon dactylon*) and veldt grass (*Erharta* species), possibly as a residual effect of a prescribed burn in this area in the 1980s.

Please see Attachment 6 for a report by Rocks Biological Consulting documenting the extent and results of their population surveys including associated plant species and photographs. The new occurrences have been reported to the California Natural Diversity Database and the San Diego Management and Monitoring Program (Attachment 7).

Seeding Results

Seeding of spineflowers in suitable soils identified in the Task 1a maps was successful at all six seeded sites (Table 4) at TPSNR Extension and Main.

Table 4
Seeded Orcutt's Spineflower Occurrences 2017

Seeded Occurrence Location	Occurrence ID	Estimated Population Size
Torrey Pines State Natural Reserve Extension	TPEa	50
	TPEb	150
	TPEc	80
	TPEd	125
Torrey Pines State Natural Reserve Main	TPMa	20
	TPMb	30

Seeding was conducted at four sites in TPSNR Extension and two sites in TPSNR Main in December 2015 and January 2016 in anticipation of the predicted 2016 El Nino wet winter. Aside from some large storms in early January, the anticipated above-normal rainfall failed to materialize and both February and March of 2016 were below average for rainfall and above average for temperatures including heat waves. These were very poor conditions to germinate and support spineflowers to maturity and population numbers were estimated at the lowest ever for the TPSNR Extension natural population. In

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Southwest Naval Air Station North Island, Contract #s: N68711-04-LT-A0058 N68711-05-LT-A0051 Department of the Navy. 12 pages + appendices.

turn, these conditions resulted in extremely low rates of spineflower germination and no survival at the seeded sites with only eight spineflower sprouts observed at one TPSNR Extension site, all of which appear to have perished prior to reaching maturity.

Much more positive results were achieved in 2017 following the relatively wet January and February. Approximately 455 spineflowers were counted and appeared to thrive in suitable open and sandy habitat at each of the seeded sites (Table 4). Seeds introduced to the new sites along with seed produced naturally at the sites in 2017 are expected to remain viable for years and should continue to germinate and reproduce to sustain these new occurrences in future seasons under suitable weather conditions.

All remaining bulked seed was sourced from other newly discovered natural occurrences at Crest Canyon and Sorrento Hills and is being held for future seeding of new occurrences in suitable habitat at these and other nearby preserves pending permission from the City of San Diego.

Threats to Spineflower Occurrences

Weed Threats – All ten new natural spineflower occurrences and all six seeded occurrences are found with relatively low weed cover. But highly invasive exotic plants are present amidst the Crest Canyon and Sorrento Hills occurrences (*Carpobrotus* and *Erharta* species) and very near other occurrences (*Erharta* species) and pose a major threat.

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Purple veldt grass (*Ehrharta calycina*) is a particular threat because it thrives in the same open sandy soil microhabitats favored by the spineflower, spreads rapidly, and has become a threat not only to the spineflower but also to entire native vegetation communities in coastal preserves like Crest Canyon and TPSNR where veldt grass is rapidly forming dense patches to the exclusion of native plant species. A future wildfire in any these preserves would trigger a major ecological problem with purple veldt grass expected to colonize burned areas much more rapidly than the rate of recovery of native vegetation and species including several of San Diego's rarest plants such as coast wallflower, Del Mar manzanita, Torrey pines and many more. But even the normal rate of spread by veldt grass will still result in the near total loss of native vegetation. In one example, in just a few years veldt grass has almost completely outcompeted native southern maritime chaparral vegetation (and former spineflower habitat) on bluffs overlooking the north side of San Elijo Lagoon immediately east of Interstate 5 and just north of Manchester Road in Cardiff. *Erharta* is still present albeit in very reduced numbers at the TPSNR Extension natural occurrence following years of active control with removal of maturing plants.

Trampling Threats – Trampling from pedestrian and equestrian preserve visitors and unleashed dogs is a threat to several newly discovered spineflower occurrences. For the central/largest Crest Canyon occurrence CC1, an official trail runs nearby that has been fenced and signed as part of this project to

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protect the occurrence. Also in Crest Canyon, a regularly used unofficial paths run directly through both the central (CC1) and southern (CC3) occurrences and a disused unofficial path runs through the northern occurrence (CC2). In Gonzales Canyon, a disused unofficial path runs directly through the southern occurrence (GC1). At Sorrento Hills, an unofficial equestrian path is entrenched and eroding from heavy use and located immediately adjacent to the two larger central and southern occurrences (SH1, SH2). At TPSNR Extension, a closed but still occasionally used trail runs through the natural spineflower occurrence.

Trampling of spineflowers and microbiotic soils is also a concern during surveys, population counts, and other scientific activities monitoring the status of the species.

Conservation & Survey Recommendations

Seed Banking, Bulking, and Seeding Recommendations – All spineflower natural occurrences are vulnerable to loss from weed invasions, trampling, and other threats so additional seed collection, bulking, banking, and seeding of new occurrences is recommended. Seed should be collected from each new natural occurrence that hasn't yet been collected. Collected seed should then be banked, bulked, and seeded at new nearby preserves in suitable habitat to reduce the likelihood of possible loss of spineflower genetics represented by any particular natural occurrence. The Oak Crest Park occurrence last observed in 2005 should be considered a top priority for seed collection, banking, bulking, and nearby seeding given its recorded low population numbers, its isolation from other extant spineflower occurrences, and its status as the northernmost occurrence ever recorded for the species.

F25-19
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Weed Control Recommendations – A major focused effort to remove purple veldt grass from preserves with spineflower occurrences is essential to ensure the long-term survival of Orcutt's spineflower and, for that matter, any other native vegetation. Spineflowers are small annual plants that grow on very delicate microbiotic soils, both of which are easily crushed so control of veldt grass and other invasive exotic plants amidst spineflower occurrences will necessarily involve careful, near-surgical treatments. TCLC has and will continue to use funding provided under separate grants from SANDAG to work to control veldt grass and other exotic invasive plants at spineflower occurrences as part of the stewardship, restoration, and enhancement work described in this report. SANDAG has provided continued funding for control of veldt grass and other invasive exotic plants in Crest Canyon through winter 2019. But much more funding and collaboration with preserve managers is recommended for control of veldt grass and other exotic invasive plants at all spineflower occurrences for the indefinite future.

Fencing & Sign Recommendations – Additional fencing and closure signs should be installed and existing fencing maintained at and near the Crest Canyon central and southern occurrences (CC1, CC3), eastern and southern Sorrento Hills occurrences (SH1, SH2), and TPSNR Extension natural and seeded

occurrences to reduce the likelihood of trampling by preserve visitors. TCLC has used matching funds provided under a separate grant from SANDAG to construct fencing, camouflage unauthorized paths, and to design, prepare and install closure signs. But much more fencing is needed than is funded by the SANDAG grant so additional funding is recommended for new fencing and long-term maintenance of fencing and signs at spineflower occurrences in collaboration with preserve managers.

Spineflower Monitoring Recommendations – Trampling of spineflowers and microbiotic soils is a concern during surveys, population counts, and other scientific activities monitoring the status of the species and should be minimized. Thorough population counts should be conducted no more frequently than once every 3 – 5 years and invasive monitoring activities such as installation of monitoring equipment amidst spineflower occurrences should not be authorized.

Vegetation Management Recommendations – Selective thinning of encroaching shrubs and clearing of vegetation litter is recommended as needed at spineflower occurrences. Spineflower seeds may still be present at the Oak Crest Park natural occurrence last observed in 2005 and it's possible that this occurrence could re-express following selective thinning of nearby shrubs and removal of some of the young Torrey Pines and pine needle litter that have spread from landscaping specimens to provide desirable open and sandy spineflower habitat. Regeneration of this occurrence along with seed collection and seed bulking is considered to be an essential conservation activity given the isolation of this occurrence from others and the need to establish other occurrences in nearby remaining suitable and conserved habitat. Thinning and vegetation litter removal may also be necessary over time at other natural and seeded spineflower occurrences. Funding is recommended for vegetation management as needed at all spineflower occurrences. Funding is recommended in particular for vegetation management at Oak Crest Park in collaboration with the City of Encinitas and in the event the occurrence re-appears, seed collection, seed bulking, and use of bulked seed to establish new occurrences on nearby conserved lands.

Survey Recommendations – Much more spineflower suitable habitat on conserved lands was mapped than could be surveyed with this grant budget so additional funding is recommended for future surveys. Surveys were relatively thorough in suitable habitat on conserved lands closest to the existing natural occurrence at TPSNR Extension and recent historic occurrences at TPSNR Main and Oak Crest Park. But conditions were poor to moderate for surveys in two out of the three survey seasons under this grant and new occurrences were documented by others in Gonzales Canyon in the better 2017 survey season. So suitable habitat near any new occurrences should be surveyed further especially at TPSNR Main and Gonzales Canyon. And surveys should be conducted in more northerly and southerly suitable habitat areas that were not surveyed under this grant.

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The Chaparral Lands Conservancy
Preserving California's Shrubland Ecosystems

CEQA Review Recommendations – Task 1a GIS data and maps prepared for this project should serve as a valuable conservation tool for biologists conducting surveys, and agencies regulating proposed development of remaining spineflower suitable habitat soils on private land. The decision on whether to conduct or require spineflower surveys during project review under the California Environmental Quality Act (CEQA) has typically been based on the weak criteria of whether one of a very few spineflower occurrences has been documented at or very near a particular development property rather than on the presence of suitable soils or other ecological elements of suitable habitat. Considering the lack of coverage for the spineflower under the San Diego MSCP and TCLC and other's discovery of a relatively large number of new occurrences in suitable soils in just three poor to moderate survey seasons, many more spineflower occurrences have likely been lost to development even since state and federal endangered listing of the species. These factors also suggest that additional spineflower occurrences may still be found on both conserved and un-conserved properties.

TCLC recommends distribution of spineflower soils GIS data and maps to staff at resource agencies and local government agencies with encouragement to require thorough, seasonally-appropriate surveys for the species during CEQA review for new projects on any of the remaining spineflower-related NRCS soils. Most spineflower suitable habitat has already been lost to development or agriculture so preservation of any remaining suitable habitat is considered crucial for survival and recovery of the species.

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Attachments

Attachment 1 – Orcutt's Spineflower Locations and Soils Pre-2015

Attachment 2 – Orcutt's Spineflower Soils on Conserved Lands

Attachment 3 – Orcutt's Spineflower Survey Maps

Attachment 4 – Orcutt's Spineflower Locations and Soils 2015 – 2017

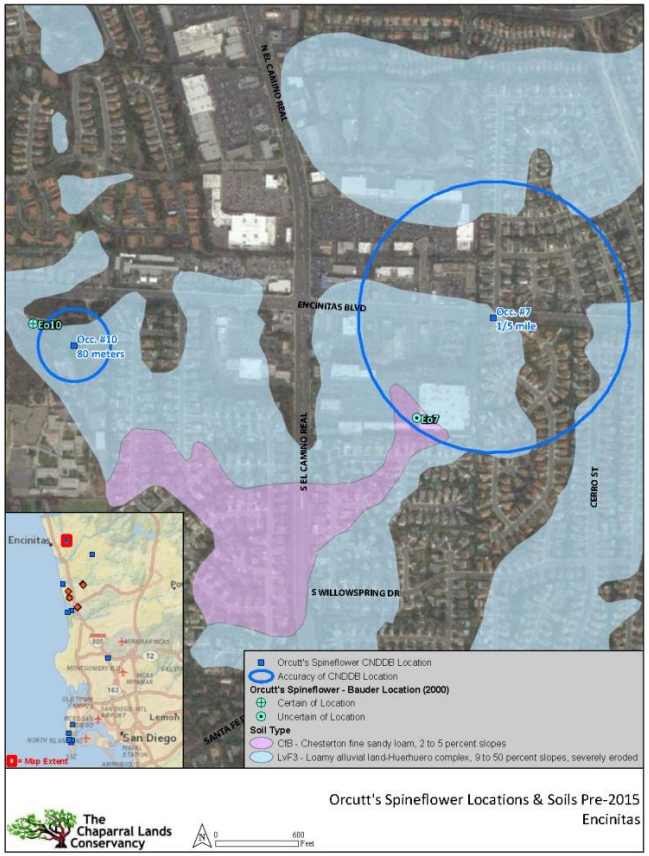
Attachment 5 – Orcutt's Spineflower Project Photographs and Exhibits

Attachment 6 – Rocks Biological Consulting Report on Results of Orcutt's Spineflower Population Surveys 2015

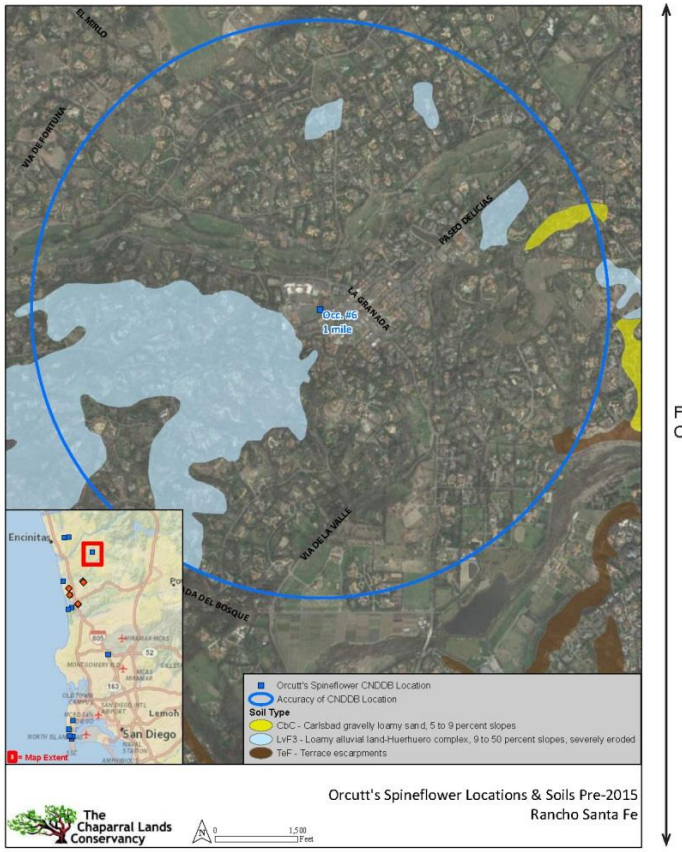
Attachment 7 – Occurrence forms, California Natural Diversity Database and San Diego Management and Monitoring Program

Attachment 1
Orcutt's Spineflower Locations and Soils Pre-2015

F25-19
Cont.


N EL CAMINO REAL
ENCINITAS BLVD
S EL CAMINO REAL
CERRO ST
S WILLOWSPRING DR
SANTA FE
Eo10
Occ. #10
80 meters
Occ. #7
1/3 mile
Eo7
Encinitas
San Diego
Lemon
Map Extent
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower - Bauder Location (2000)
Certain of Location
Uncertain of Location
Soil Type
CfB - Chesterton fine sandy loam, 2 to 5 percent slopes
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
The Chaparral Lands Conservancy
0
600
Feet
Orcutt's Spineflower Locations & Soils Pre-2015
Encinitas

F25-19
Cont.


EL MIRLO
VIA DE FORTUNA
PASEO DELICIAS
LA GRANADA
Occ. #6
1 mile
VIA DE LA VALLE
DA DEL BOSQUE
Encinitas
Lemon
San Diego
Map Extent
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Soil Type
CbC - Carlsbad gravelly loamy sand, 5 to 9 percent slopes
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
TeF - Terrace escarpments
The Chaparral Lands Conservancy
0
1,500
Feet
Orcutt's Spineflower Locations & Soils Pre-2015
Rancho Santa Fe

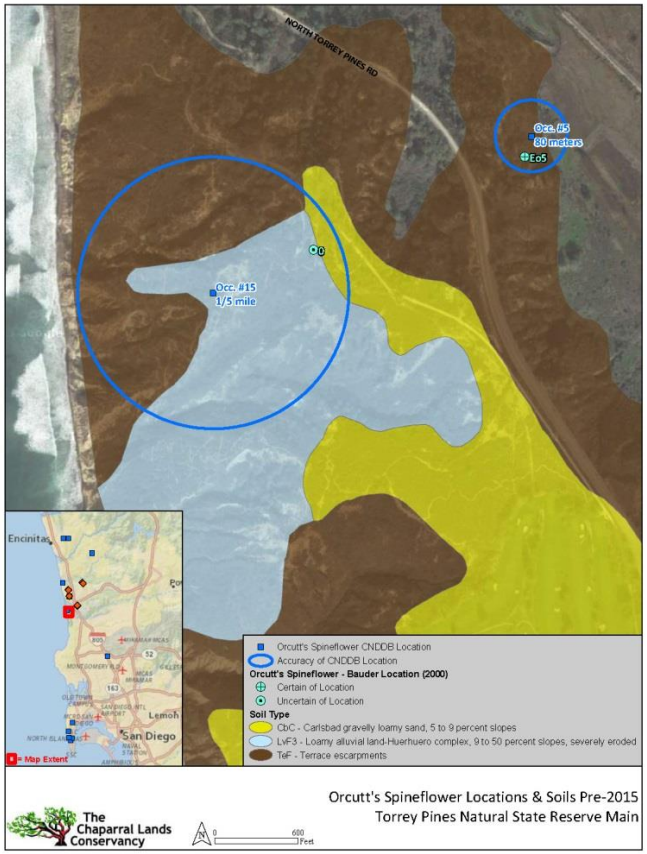
F25-19
Cont.

CAMINO DELMAR
JIMMY DURANTE BLVD
Occ. #4
1/5 mile
Ed4
Encinitas
San Diego
Lemon
Map Extent
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower - Bauder Location (2000)
Uncertain of Location
Bauder (2000) believed CNDDB occurence #4 was "erroneous," and is actually CNDDB occurence #5.
Soil Type
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
TeF - Terrace escarpments
The Chaparral Lands Conservancy
0
600
Feet
Orcutt's Spineflower Locations & Soils Pre-2015
Del Mar

F25-19
Cont.

DURANGO DR
DEL MAR HEIGHTS RD
MANGO DR
PORTOFINO DR
Occ. #16
1/10 mile
Encinitas
San Diego
Map Extent
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower - TCLC Certain of Location (2015)
Soil Type
CsD - Corralitos loamy sand, 9 to 15 percent slopes
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
The Chaparral Lands Conservancy
0
600
Feet
Orcutt's Spineflower Locations & Soils Pre-2015
Torrey Pines Natural State Reserve Extension

F25-19
Cont.


NORTH TORREY PINES RD
Occ. #3
80 meters
Eo5
Occ. #15
1/5 mile
Encinitas
San Diego
Map Extent
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower - Bauder Location (2000)
Certain of Location
Uncertain of Location
Soil Type
CbC - Carlsbad gravelly loamy sand, 5 to 9 percent slopes
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
TeF - Terrace escarpments
The Chaparral Lands Conservancy
0
600
Feet
Orcutt's Spineflower Locations & Soils Pre-2015
Torrey Pines Natural State Reserve Main

F25-19
Cont.

STATE ROUTE 52 EB
STATE ROUTE 52 WB
INTERSTATE 805 SB
Occ. #9
3/5 mile
CLAIREMONT MESA BLVD
Encinitas
Lemon
San Diego
Map Extent
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower - Bauder Location (2000)
Certain of Location
Soil Type
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
The Chaparral Lands Conservancy
0
1,000
Feet
Orcutt's Spineflower Locations & Soils Pre-2015
Kearny Mesa

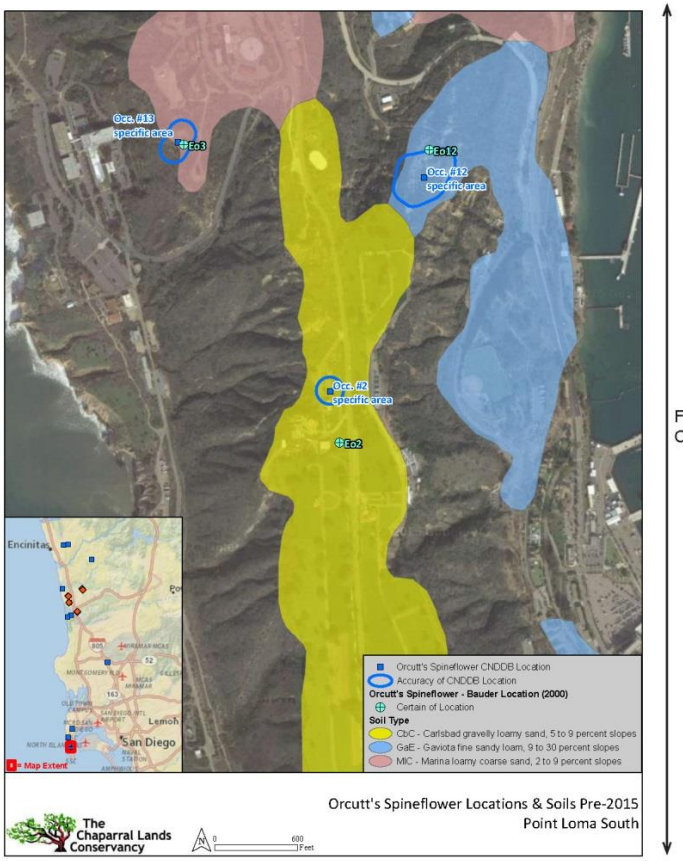
F25-19
Cont.

POINT LOMA AVE
CHATSWORTH BLVD
CANON ST
HILL ST
Occ. #17
3/5 mile
TALBOT ST
CATALINA BLVD
KERN ST
Encinitas
Lemoh
San Diego
Map Extent
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower - Bauder Location (2000)
Certain of Location
Soil Type
CbB - Carlsbad gravelly loamy sand, 2 to 5 percent slopes
Orcutt's Spineflower Locations & Soils Pre-2015
Point Loma North
The Chaparral Lands Conservancy
0
1,000
Feet

F25-19
Cont.

CATALINA BLVD
Occ. #14
specific area
Encinitas
San Diego
Lemon
Map Extent
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Soil Type
GeE - Gaviota fine sandy loam, 9 to 30 percent slopes
The Chaparral Lands Conservancy
0
600
Feet
Orcutt's Spineflower Locations & Soils Pre-2015
Point Loma Central

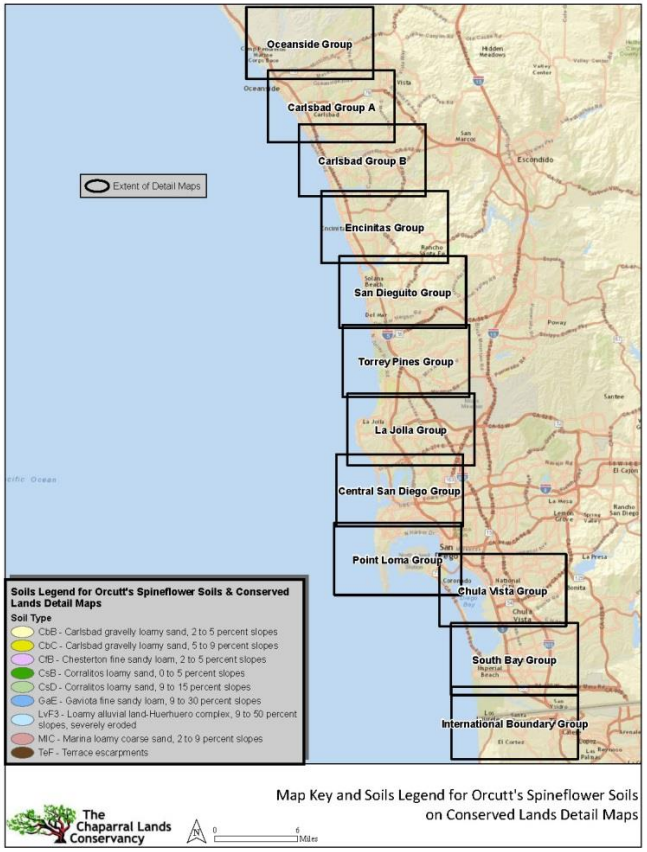
F25-19
Cont.


Occ. #13
specific area
Eo3
Eo12
Occ. #12
specific area
Occ. #2
specific area
Eo2
Encinitas
Lemon
San Diego
Map Extent
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower - Bauder Location (2000)
Certain of Location
Soil Type
CbC - Carlsbad gravelly loamy sand, 5 to 9 percent slopes
GaE - Gaviota fine sandy loam, 9 to 30 percent slopes
MIC - Marina loamy coarse sand, 2 to 9 percent slopes
The Chaparral Lands Conservancy
Orcutt's Spineflower Locations & Soils Pre-2015
Point Loma South

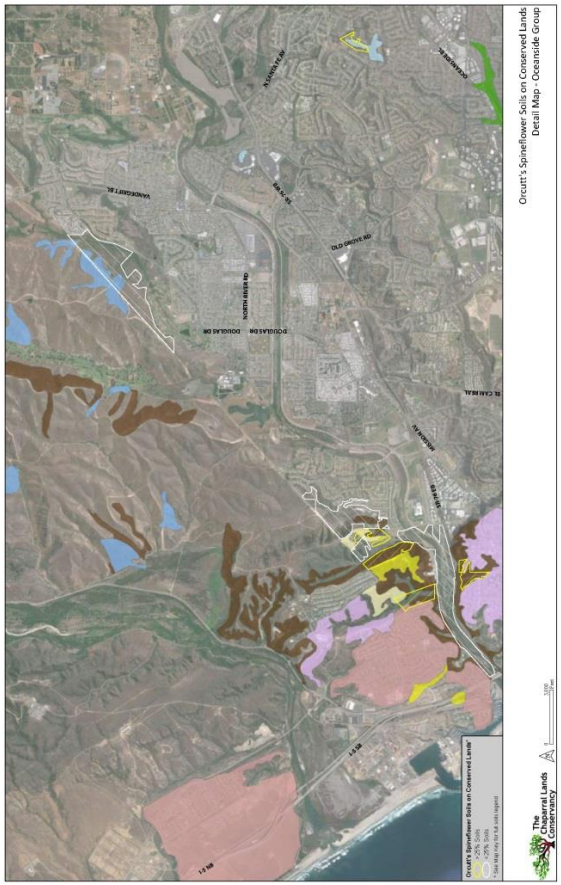
F25-19
Cont.

Attachment 2
Orcutt's Spineflower Soils on Conserved Lands

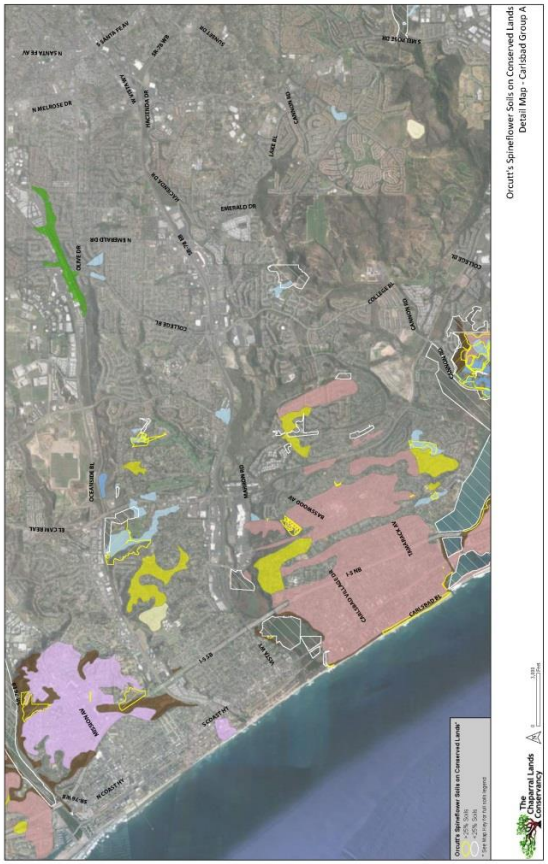
F25-19
Cont.


Oceanside Group
Carlsbad Group A
Carlsbad Group B
Extent of Detail Maps
Encinitas Group
San Dieguito Group
Torrey Pines Group
La Jolla Group
Central San Diego Group
Point Loma Group
Chula Vista Group
South Bay Group
International Boundary Group
Soils Legend for Orcutt's Spineflower Soils & Conserved Lands Detail Maps
Soil Type
CbB - Carlsbad gravelly loamy sand, 2 to 5 percent slopes
CbC - Carlsbad gravelly loamy sand, 5 to 9 percent slopes
CfB - Chesterton fine sandy loam, 2 to 5 percent slopes
CsB - Corralitos loamy sand, 0 to 5 percent slopes
CsD - Corralitos loamy sand, 9 to 15 percent slopes
GaE - Gaviota fine sandy loam, 9 to 30 percent slopes
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
MtC - Marina loamy coarse sand, 2 to 9 percent slopes
TeF - Terrace escarpments
The Chaparral Lands Conservancy
0
6
Miles
Map Key and Soils Legend for Orcutt's Spineflower Soils on Conserved Lands Detail Maps

F25-19
Cont.


Orcutt's Spineflower Soils on Conserved Lands
Detail Map - Oceanside Group
Orcutt's Spineflower Soils on Conserved Lands*
Soils
*Data may not be to scale
The Trust for Land Conservancy

F25-19
Cont.


Orcutt's Spineflower Soils on Conserved Lands
Detail Map - Carlsbad Group A
The Chaparral Lands Conservancy

F25-19
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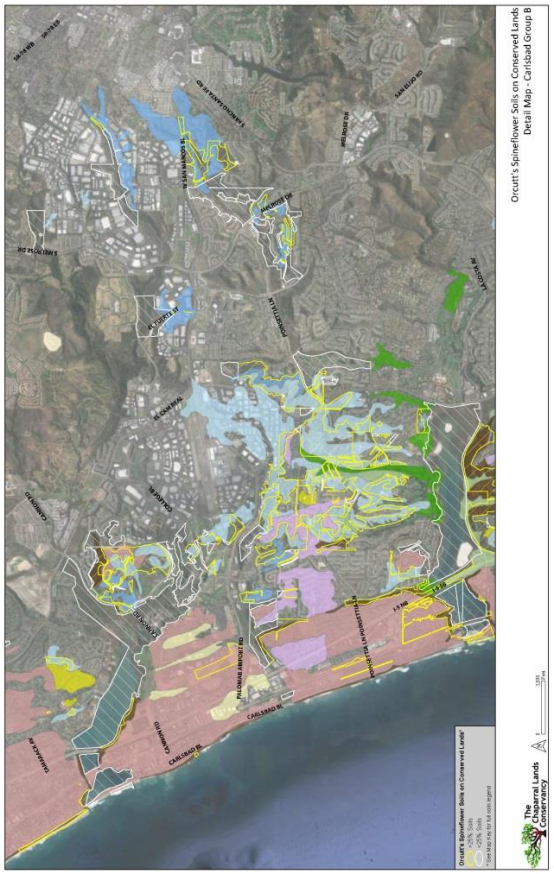
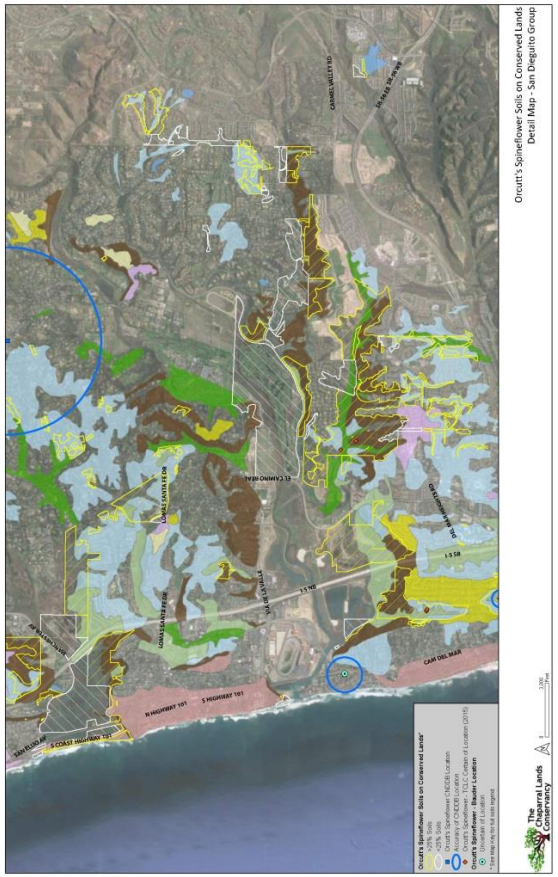

Orcutt's Spineflower Soils on Conserved Lands
Detail Map - Carlsbad Group B
Orcutt's Spineflower Soils on Conserved Lands
>25% Soils
<25% Soils
The Chaparral Lands Conservancy
CARLSBAD BL
PALOMAR AIRPORT RD
POINSETTIA LN
I-5

F25-19
Cont.

Orcutt's Spineflower Soils on Conserved Lands
Detail Map - Encinitas Group
The Chaparral Lands Conservancy
N COAST HIGHWAY 101
S COAST HIGHWAY 101
N EL CAMINO REAL
S EL CAMINO REAL
LEUCADIA BL
SAN ELIJO AV
MANCHESTER AV
LA COSTA AV

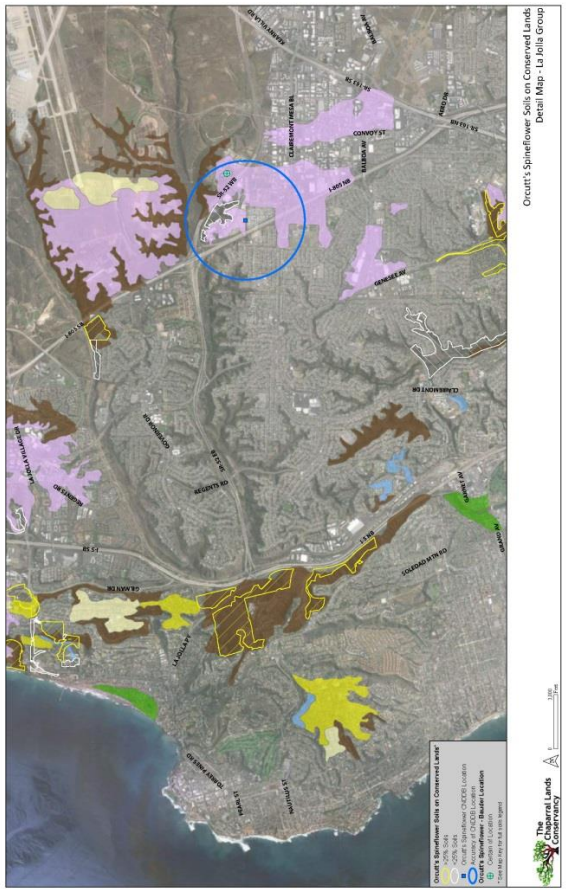
F25-19
Cont.


Orcutt's Spineflower Soils on Conserved Lands
Detail Map - San Dieguito Group
CARMEL VALLEY RD
EL CAMINO REAL
DEL MAR HEIGHTS RD
I-5
CAMINO DEL MAR
N HIGHWAY 101
S HIGHWAY 101
S COAST HIGHWAY 101
Orcutt's Spineflower Soils on Conserved Lands
>30% Soils
<30% Soils
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower Field Verified Location (2015)
Orcutt's Spineflower - Master Location
Uncertain of Location
Survey Area Grid Extent
The Chaparral Lands Conservancy

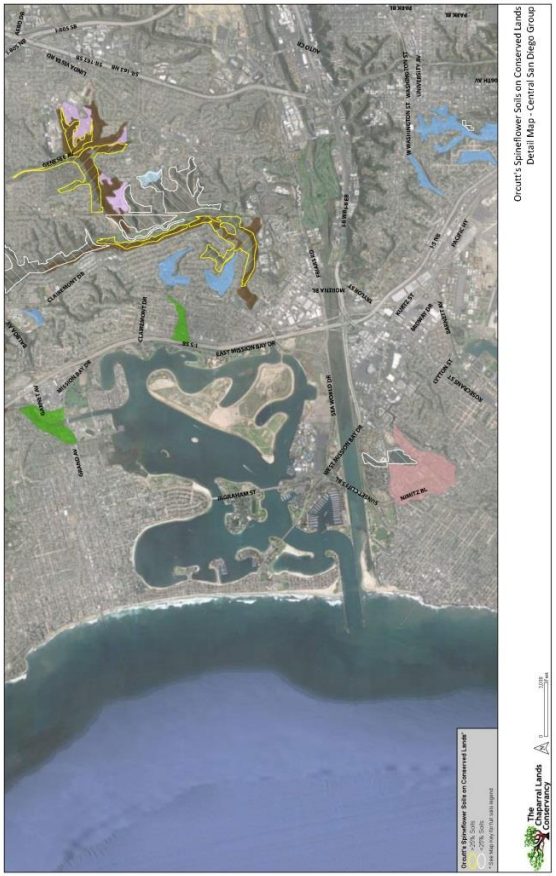
F25-19
Cont.

Orcutt's Spineflower Soils on Conserved Lands
Detail Map - Torrey Pines Group
NORTH TORREY PINES RD
The Chaparral Lands Conservancy

F25-19
Cont.


Orcutt's Spineflower Soils on Conserved Lands
Detail Map - La Jolla Group
The Chaparral Lands Conservancy

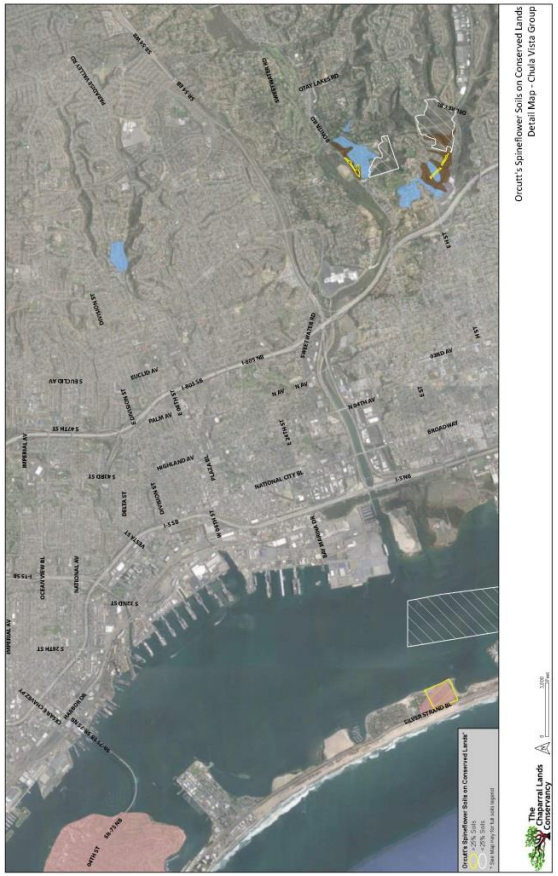
F25-19
Cont.


Orcutt's Spineflower Soils on Conserved Lands
Detail Map - Central San Diego Group
Orcutt's Spineflower Soils on Conserved Lands
>10% Soils
The Chaparral Lands Conservancy

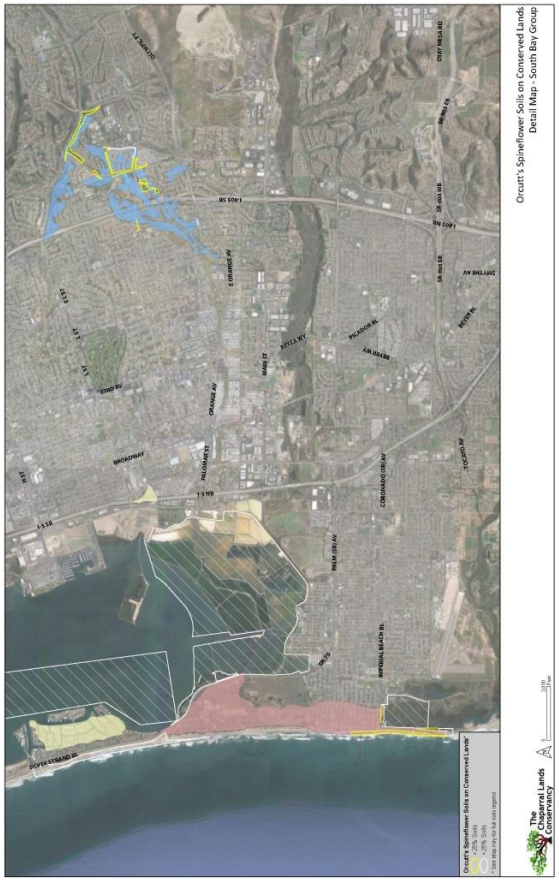
F25-19
Cont.

Orcutt's Spineflower Soils on Conserved Lands
Detail Map - Point Loma Group
The Chaparral Lands Conservancy

F25-19
Cont.


Orcutt's Spineflower Soils on Conserved Lands
Detail Map - Chula Vista Group
The Chaparral Lands Conservancy

F25-19
Cont.


Orcutt's Spineflower Soils on Conserved Lands
Detail Map - South Bay Group
The Chaparral Lands Conservancy

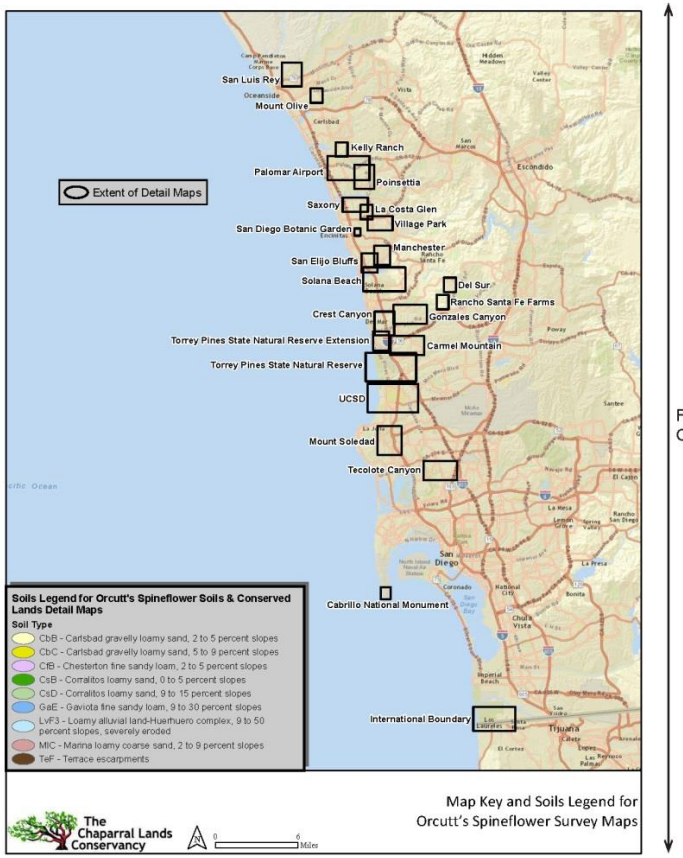
F25-19
Cont.

Orcutt's Spineflower Soils on Conserved Lands
Detail Map - International Boundary Group
The Channel Islands Conservancy

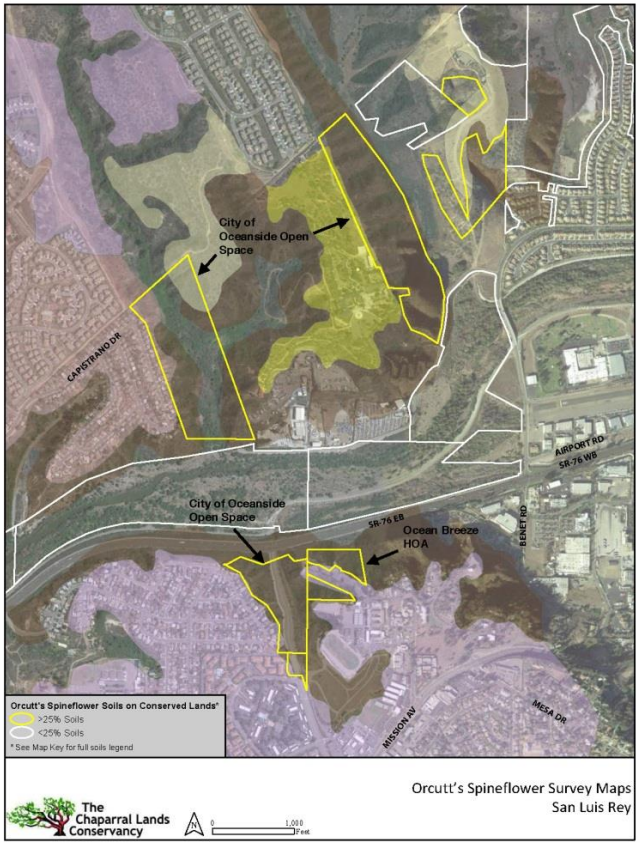
F25-19
Cont.

Attachment 3
Orcutt's Spineflower Survey Maps

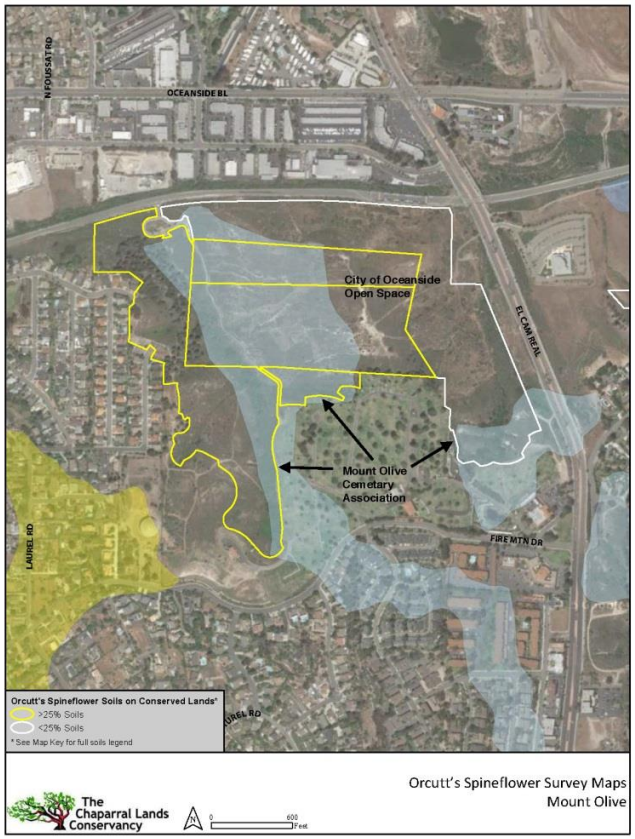
F25-19
Cont.


San Luis Rey
Oceanside
Mount Olive
Kelly Ranch
Palomar Airport
Poinsettia
Extent of Detail Maps
Saxony
La Costa Glen
Village Park
San Diego Botanic Garden
Manchester
San Elijo Bluffs
Solana Beach
Del Sur
Rancho Santa Fe Farms
Crest Canyon
Gonzales Canyon
Torrey Pines State Natural Reserve Extension
Carmel Mountain
Torrey Pines State Natural Reserve
UCSD
Mount Soledad
Tecolote Canyon
Cabrillo National Monument
International Boundary
Tijuana
Soils Legend for Orcutt's Spineflower Soils & Conserved Lands Detail Maps
Soil Type
CbB - Carlsbad gravelly loamy sand, 2 to 5 percent slopes
CbC - Carlsbad gravelly loamy sand, 5 to 9 percent slopes
CfB - Chesterton fine sandy loam, 2 to 5 percent slopes
CsB - Corralitos loamy sand, 0 to 5 percent slopes
CsD - Corralitos loamy sand, 9 to 15 percent slopes
GaE - Gaviota fine sandy loam, 9 to 30 percent slopes
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
MtC - Marina loamy coarse sand, 2 to 9 percent slopes
TeF - Terrace escarpments
The Chaparral Lands Conservancy
Miles
Map Key and Soils Legend for Orcutt's Spineflower Survey Maps

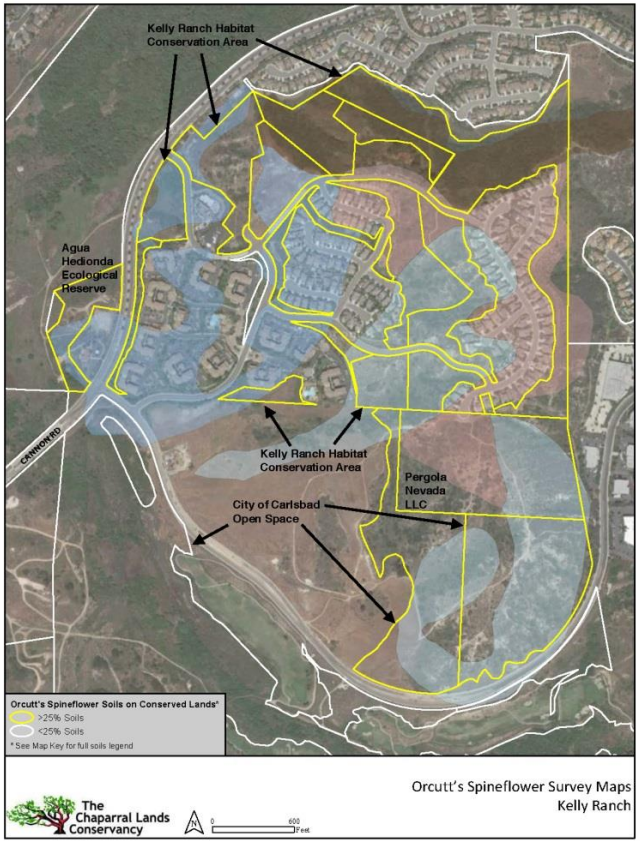
F25-19
Cont.


City of Oceanside Open Space
CAPISTRANO DR
AIRPORT RD
SR-76 WB
City of Oceanside Open Space
SR-76 EB
Ocean Breeze HOA
BENET RD
MISSION AV
MESA DR
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
1,000
Feet
Orcutt's Spineflower Survey Maps
San Luis Rey

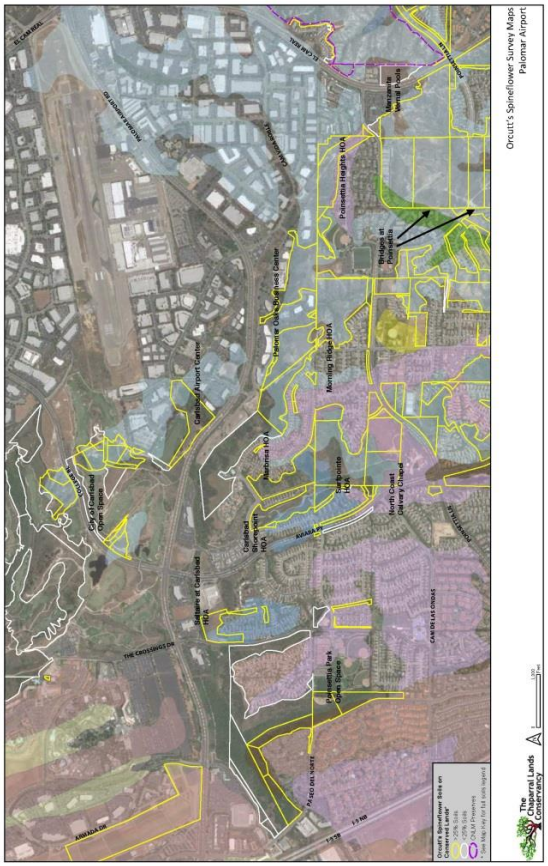
F25-19
Cont.


N FOUSSAT RD
OCEANSIDE BL
City of Oceanside
Open Space
EL CAMINO REAL
Mount Olive
Cemetary
Association
FIRE MTN DR
LAUREL RD
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
* See Map Key for full soils legend
The
Chaparral Lands
Conservancy
0
600
Feet
Orcutt's Spineflower Survey Maps
Mount Olive

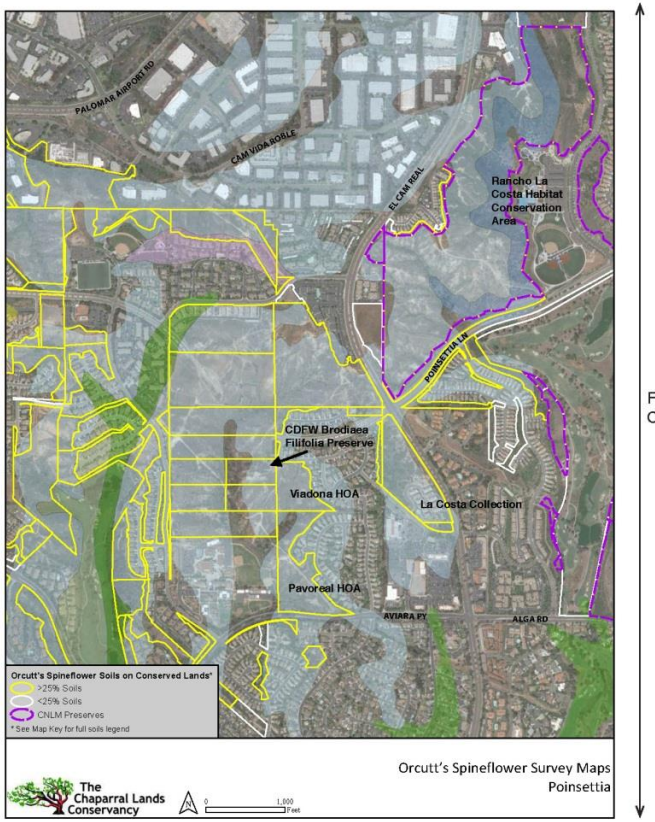
F25-19
Cont.


Kelly Ranch Habitat Conservation Area
Agua Hedionda Ecological Reserve
CANNON RD
Kelly Ranch Habitat Conservation Area
Pergola Nevada LLC
City of Carlsbad Open Space
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
600
Feet
Orcutt's Spineflower Survey Maps
Kelly Ranch

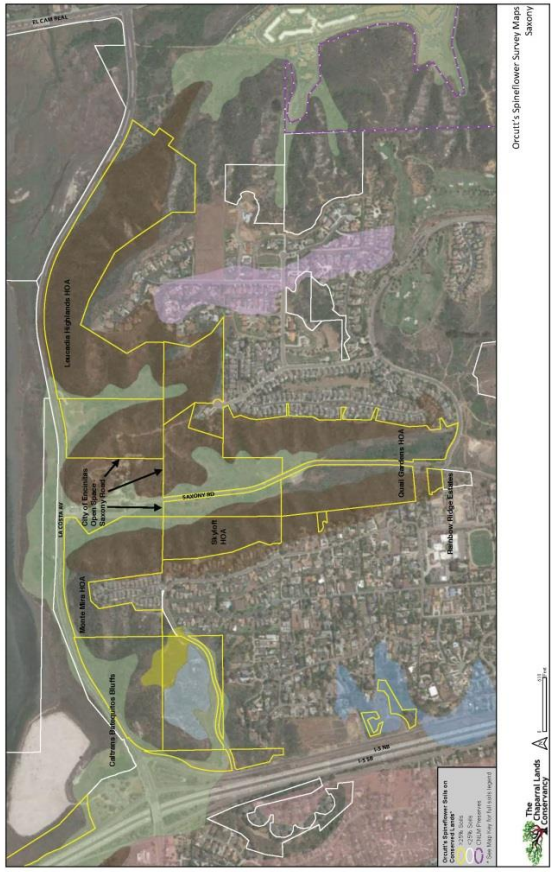
F25-19
Cont.


Orcutt's Spineflower Survey Maps
Palomar Airport
Polisetta Heights HOA
Morning Ridge HOA
Carlsbad Airport Center
Palomar Oaks Business Center
North Coast Calvary Chapel
Calavera Hills
Carlsbad Park and Ride
The Chaparral Lands Conservancy

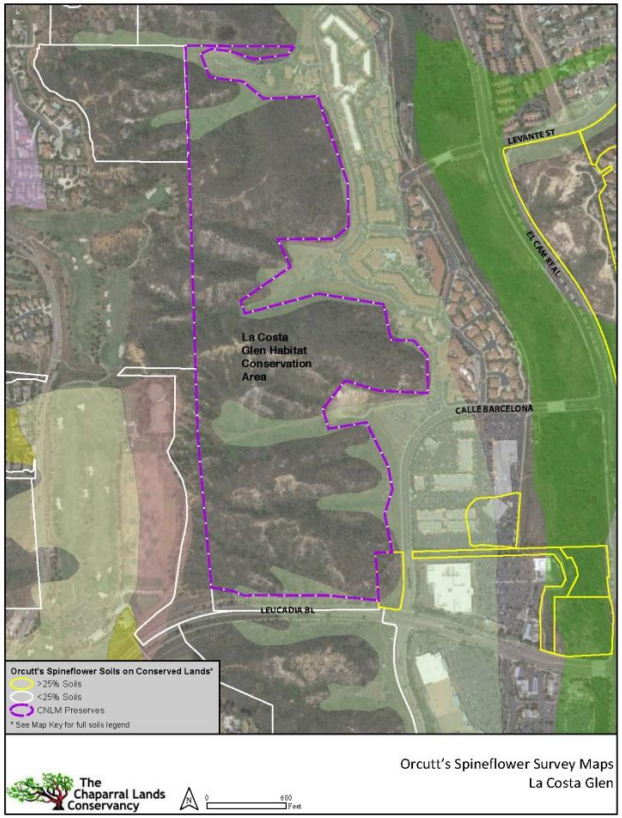
F25-19
Cont.


PALOMAR AIRPORT RD
CAM VIDA ROBLE
EL CAM REAL
Rancho La Costa Habitat Conservation Area
POINSETTIA LN
CDFW Brodiaea Filifolia Preserve
Viadona HOA
La Costa Collection
Pavoreal HOA
AVIARA PY
ALGA RD
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
CNLM Preserves
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
1,000
Feet
Orcutt's Spineflower Survey Maps
Poinsettia

F25-19
Cont.


Orcutt's Spineflower Survey Maps
Saxony
Lawrence Highlands I HOA
SAXONY RD
Orcutt's Spineflower Data on
Conservation Lands
CNDDB Data
2018 Data
CNLM Preserves
The Chaparral Lands Conservancy

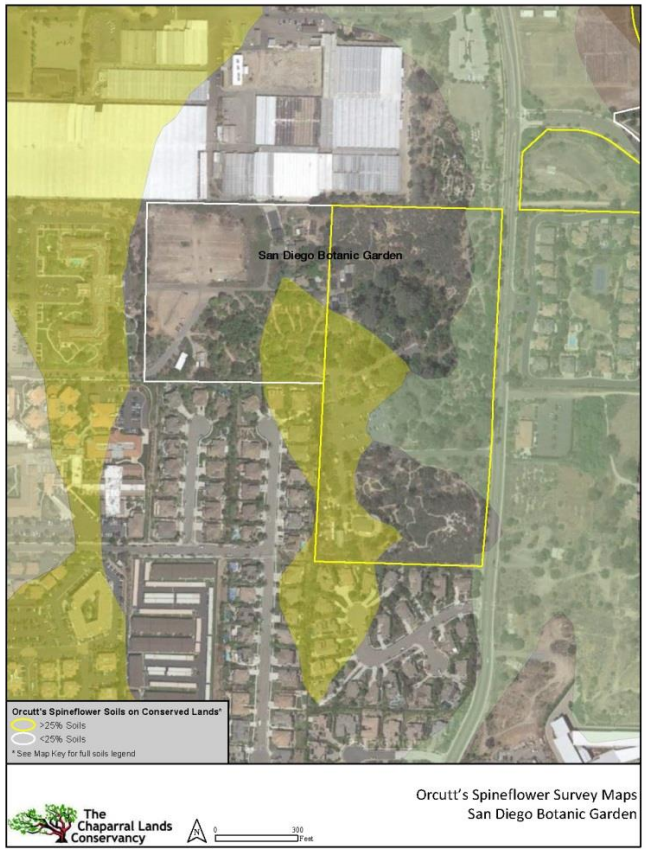
F25-19
Cont.


La Costa
Glen Habitat
Conservation
Area
LEVANTE ST
EL CAMINO REAL
CALLE BARCELONA
LEUCADIA BL
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
CNLM Preserves
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
500
Feet
Orcutt's Spineflower Survey Maps
La Costa Glen

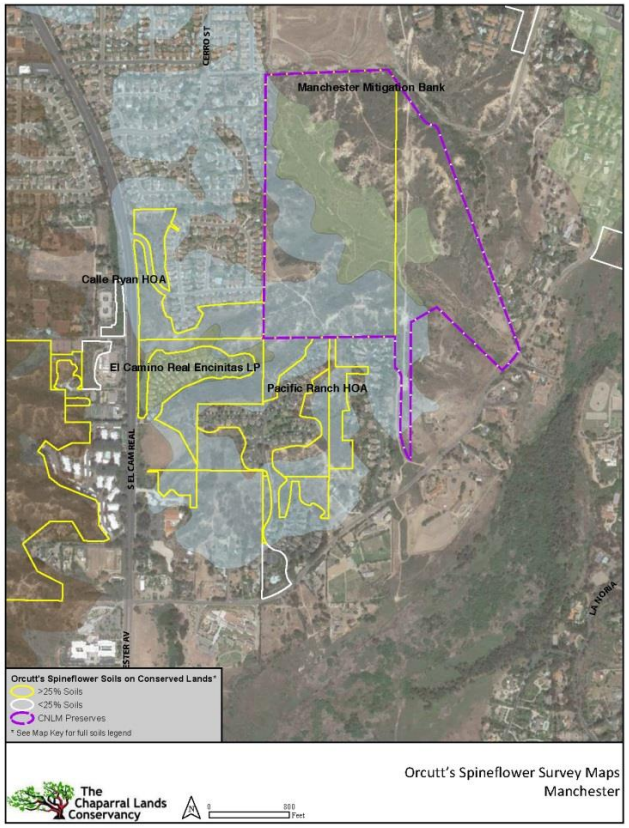
F25-19
Cont.

Orcutt's Spineflower Survey Maps
Village Park
Rancho Santa Fe Vista HOA
Northview HOA
Home Depot
The Conservation Lands Conservancy

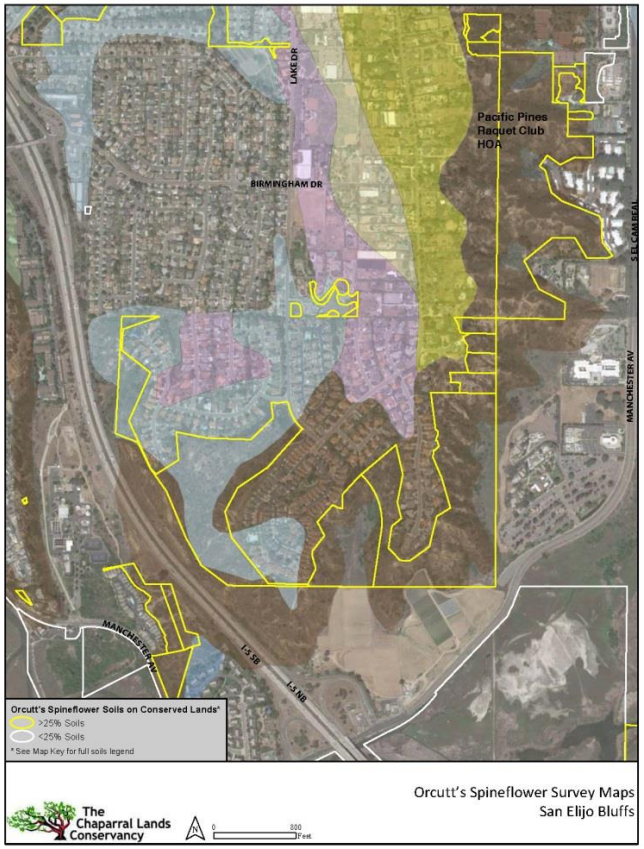
F25-19
Cont.


San Diego Botanic Garden
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
300
Feet
Orcutt's Spineflower Survey Maps
San Diego Botanic Garden

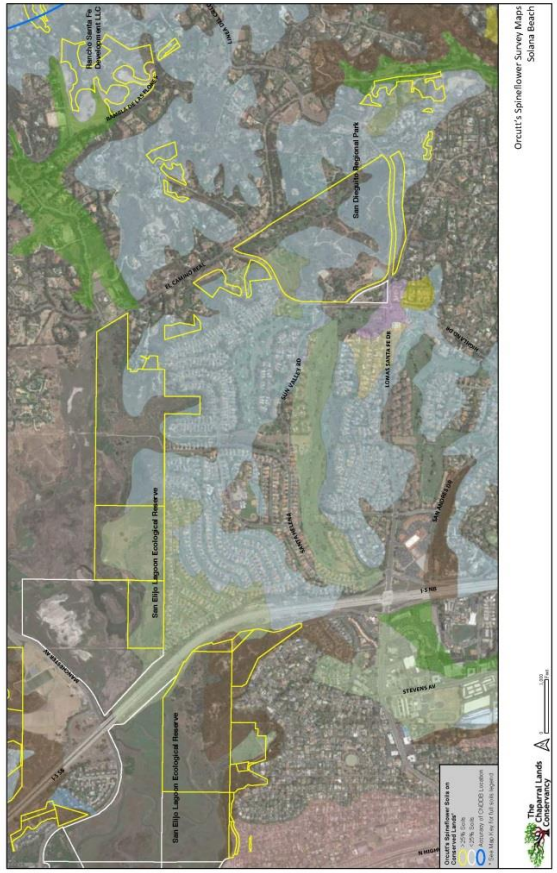
F25-19
Cont.


CERRO ST
Manchester Mitigation Bank
Calle Ryan HOA
El Camino Real Encinitas LP
Pacific Ranch HOA
S EL CAMINO REAL
LA NORIA
ESTER AV
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
CNLM Preserves
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
900
Feet
Orcutt's Spineflower Survey Maps
Manchester

F25-19
Cont.


LAKE DR
Pacific Pines
Raquet Club
HOA
BIRMINGHAM DR
S EL CAMINO REAL
MANCHESTER AV
MANCHESTER AV
I-5 SB
I-5 NB
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
800
Feet
Orcutt's Spineflower Survey Maps
San Elijo Bluffs

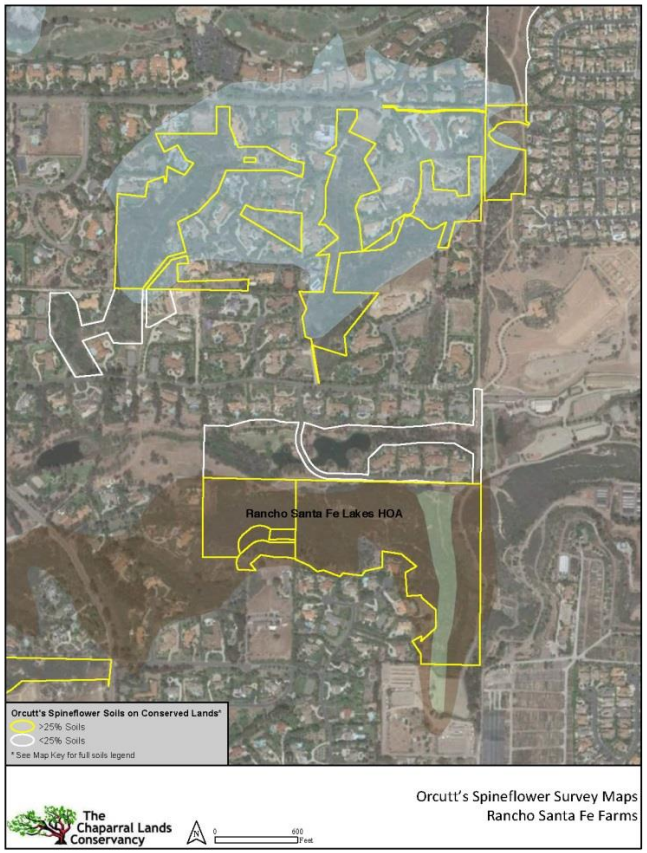
F25-19
Cont.


Orcutt's Spineflower Survey Maps
Solana Beach
San Dieguito Regional Park
San Elijo Lagoon Ecological Reserve
San Elijo Lagoon Ecological Reserve
STEVENS AV
N HIGHLAND DR
The Conservation Lands Conservancy

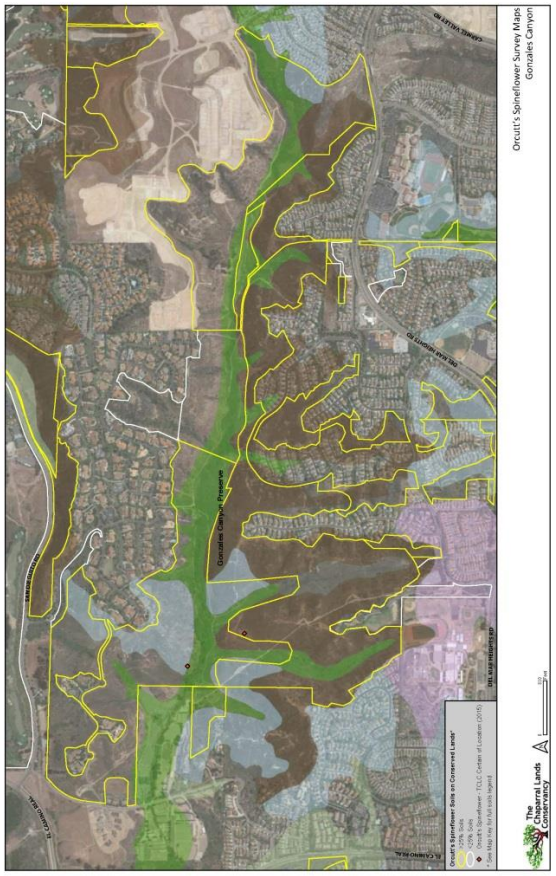
F25-19
Cont.

SAN DIEGUITO RD
Black Mountain Ranch
CAMINO SUR
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
600
Feet
Orcutt's Spineflower Survey Maps
Del Sur

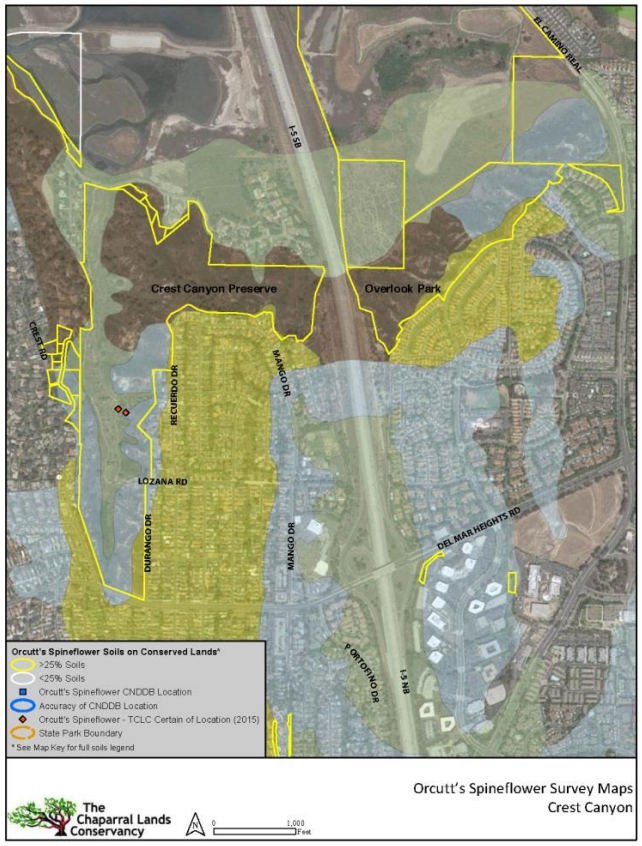
F25-19
Cont.


Rancho Santa Fe Lakes HOA
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
600
Feet
Orcutt's Spineflower Survey Maps
Rancho Santa Fe Farms

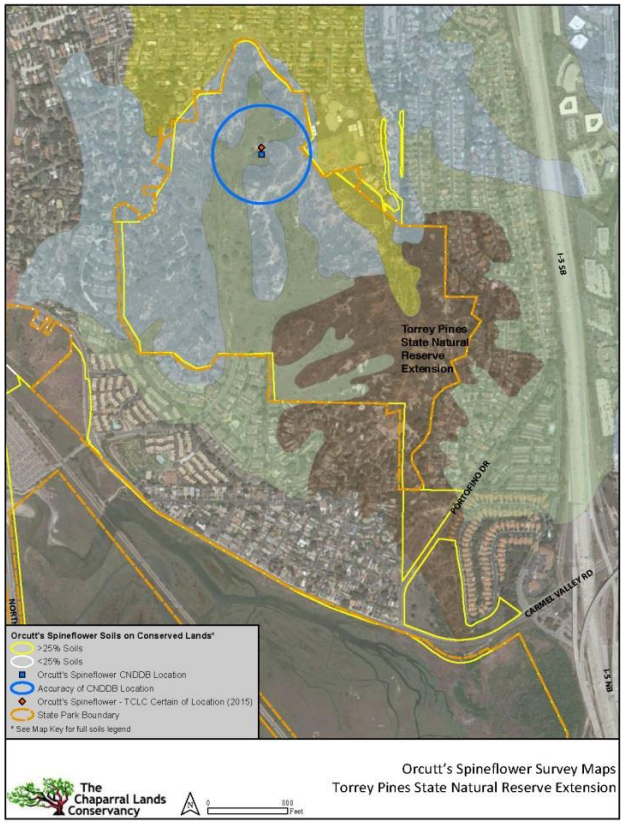
F25-19
Cont.


Orcutt's Spineflower Survey Maps
Gonzales Canyon
Gonzales Canyon Preserve
Orcutt's Spineflower Soils on Conserved Lands*
Orcutt's Spineflower - TCLC Center of Location (2015)
The Chaparral Lands Conservancy

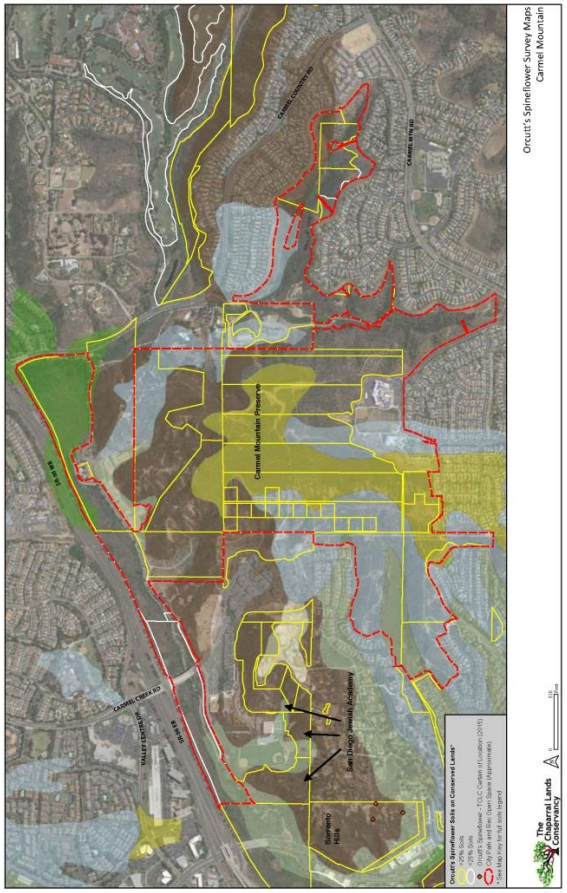
F25-19
Cont.


EL CAMINO REAL
I-5 SB
Crest Canyon Preserve
Overlook Park
CREST RD
RECUERDO DR
MANGO DR
LOZANA RD
DURANGO DR
MANGO DR
DEL MAR HEIGHTS RD
PORTOFINO DR
I-5 NB
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower - TCLC Certain of Location (2015)
State Park Boundary
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
1,000 Feet
Orcutt's Spineflower Survey Maps
Crest Canyon

F25-19
Cont.


Torrey Pines State Natural Reserve Extension
I-5 SB
PORTOFINO DR
CARMEL VALLEY RD
I-5 NB
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
<25% Soils
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower - TCLC Certain of Location (2015)
State Park Boundary
* See Map Key for full soils legend
The Chaparral Lands Conservancy
Orcutt's Spineflower Survey Maps
Torrey Pines State Natural Reserve Extension

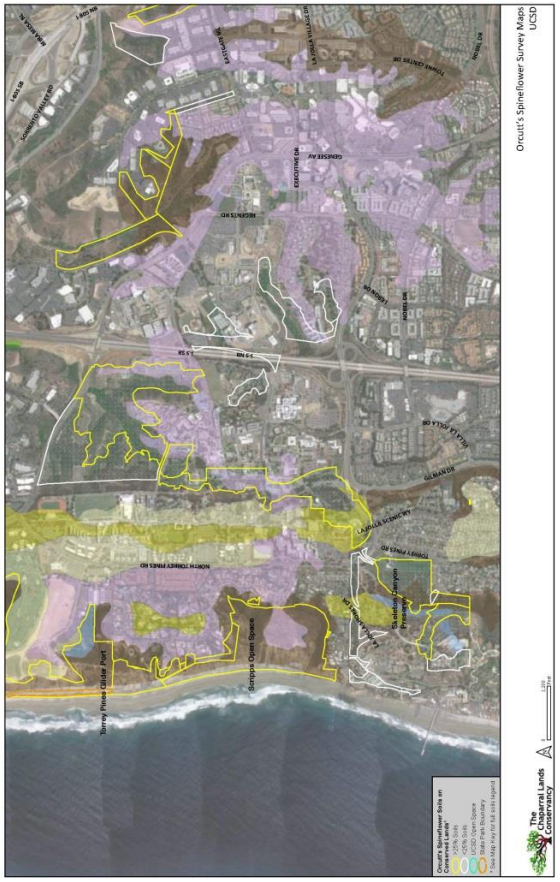
F25-19
Cont.


Orcutt's Spineflower Survey Maps
Carmel Mountain
Carmel Mountain Preserve
Sorrento Hills
San Diego Gamma Academy
CARMEL CREEK RD
CARMEL MOUNTAIN RD
I-5 NB
I-5 SB
The Chaparral Lands Conservancy

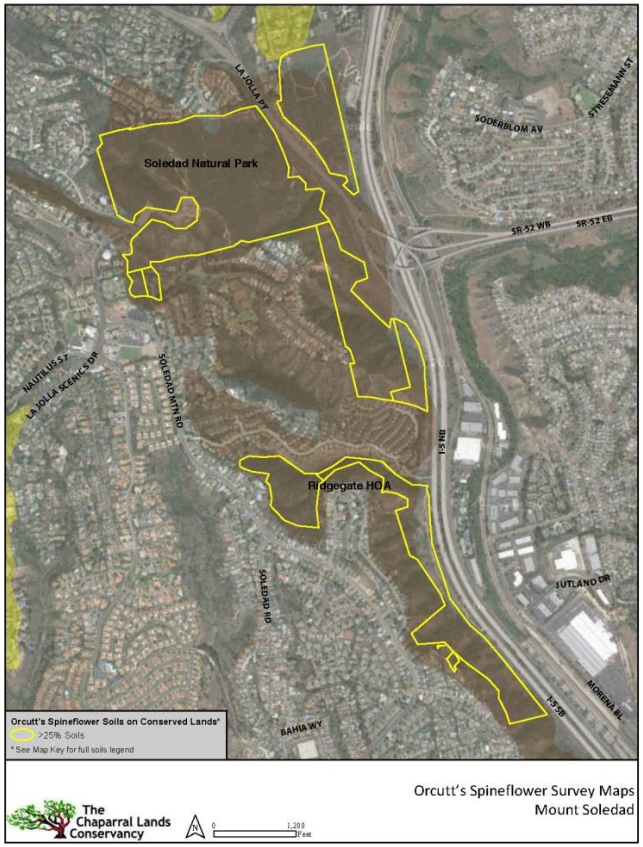
F25-19
Cont.

Orcutt's Spineflower Survey Maps
Torrey Pines State Natural Reserve
Torrey Pines State Natural Reserve Main
NORTH TORREY PINES RD
EL CAMINO REAL
CAMINO RUIZ
SORRENTO VALLEY RD
The Chaparral Lands Conservancy

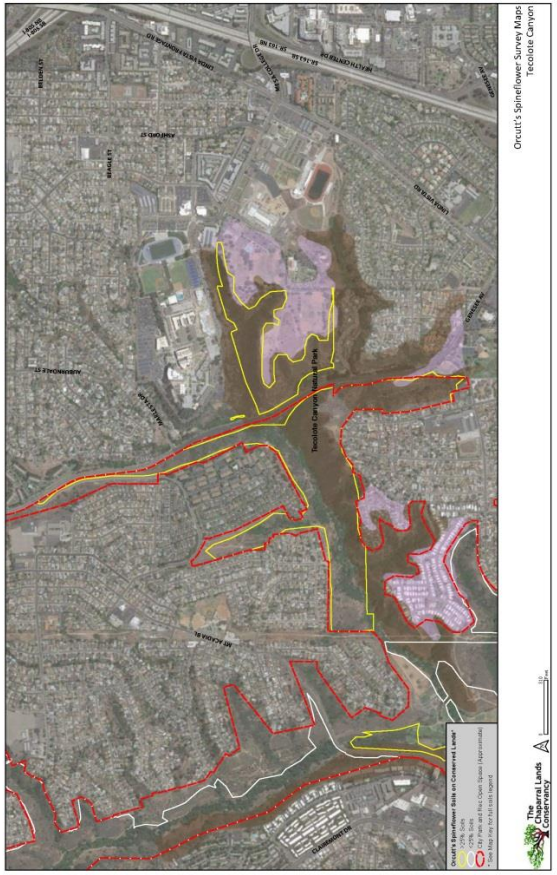
F25-19
Cont.


Orcutt's Spineflower Survey Maps
UCSD
Torrey Pines Gliffer Port
Scripps Ocean Space
Stadium Canyon
Preserve
The Chaparral Lands Conservancy

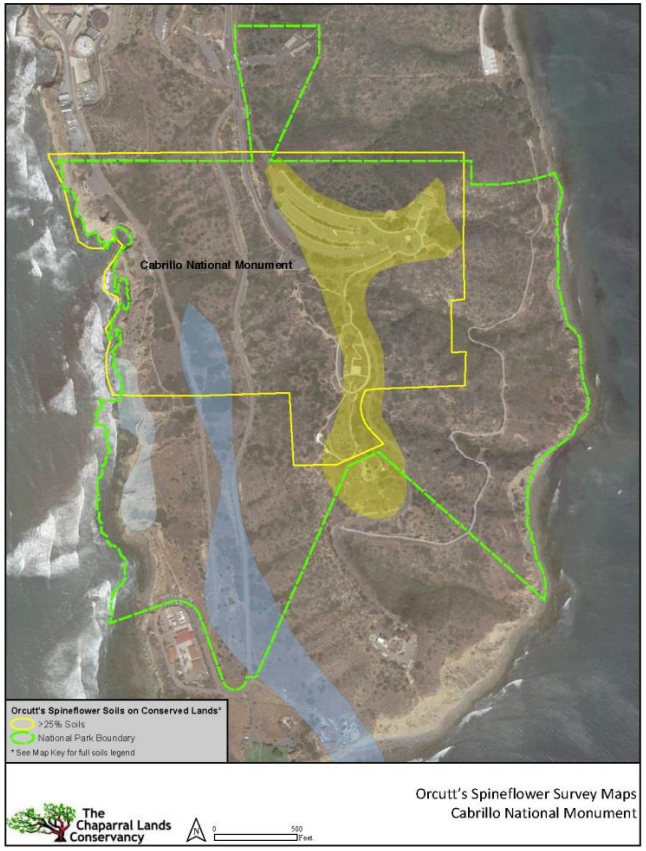
F25-19
Cont.


LA JOLLA PL
SODERBLOM AV
STRESEMANN ST
Soledad Natural Park
SR-52 WB
SR-52 EB
NAUTILUS ST
LA JOLLA SCENIC SDR
SOLEDAD MTN RD
I-5 NB
Ridgegate HOA
JUTLAND DR
SOLEDAD RD
I-5 SB
MORENA BL
BAHIA WY
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
1,200
Feet
Orcutt's Spineflower Survey Maps
Mount Soledad

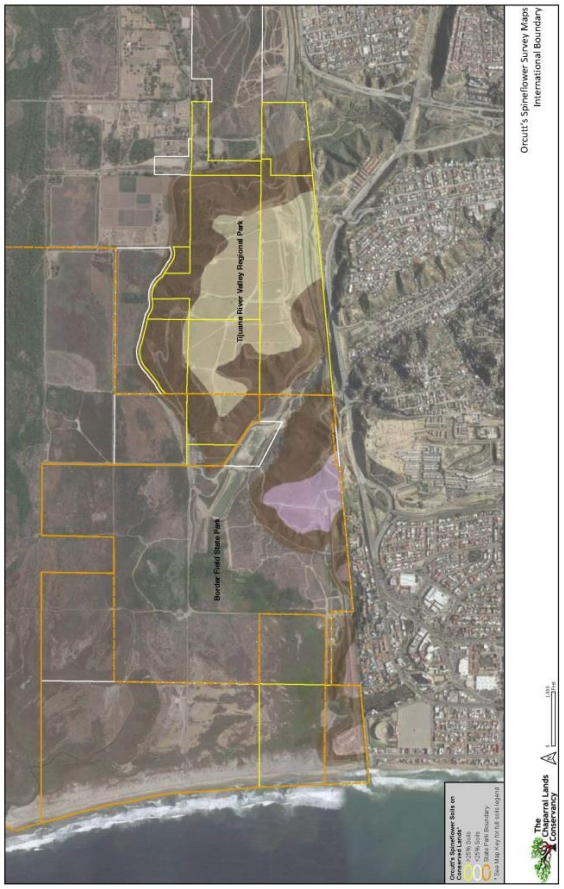
F25-19
Cont.


Orcutt's Spineflower Survey Mass
Tecolote Canyon
Tecolote Canyon Natural Park
The Chaparral Lands Conservancy

F25-19
Cont.


Cabrillo National Monument
Orcutt's Spineflower Soils on Conserved Lands*
>25% Soils
National Park Boundary
* See Map Key for full soils legend
The Chaparral Lands Conservancy
0
500
Feet
Orcutt's Spineflower Survey Maps
Cabrillo National Monument

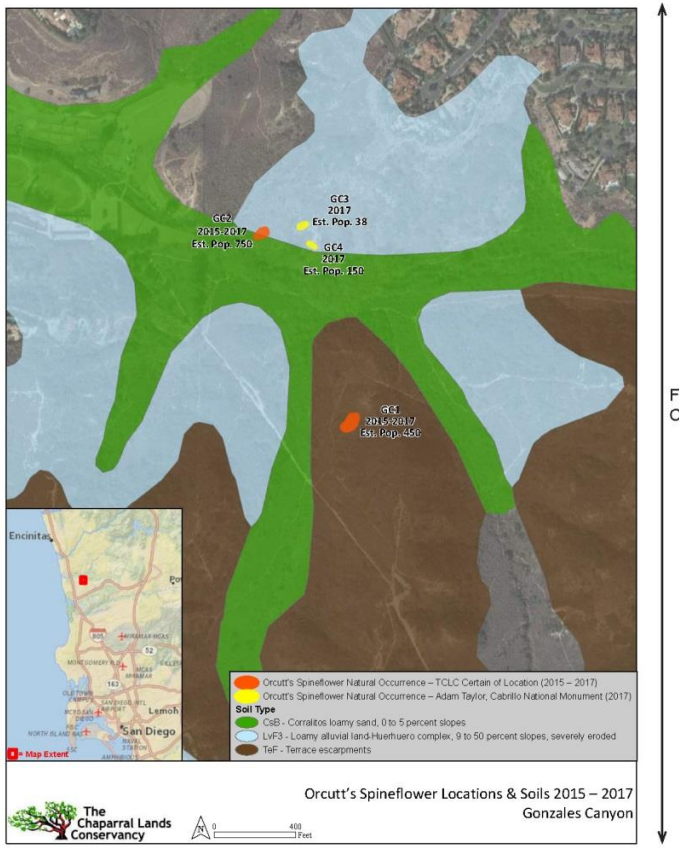
F25-19
Cont.


Orcutt's Spineflower Survey Maps
International Boundary
Tijuana River Valley Regional Park
Border Field State Park
The Chaparral Lands Conservancy

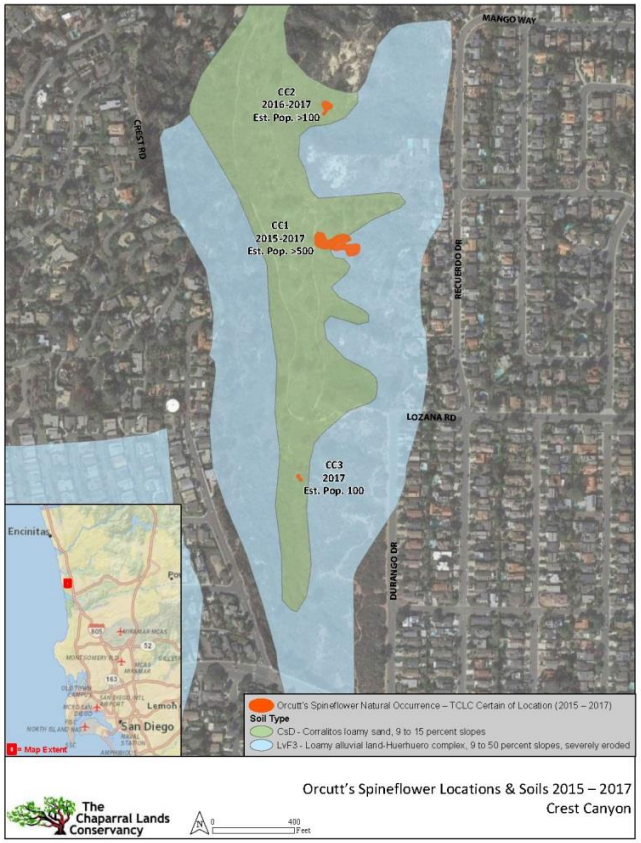
F25-19
Cont.

Attachment 4
Orcutt's Spineflower Locations and Soils 2015 - 2017

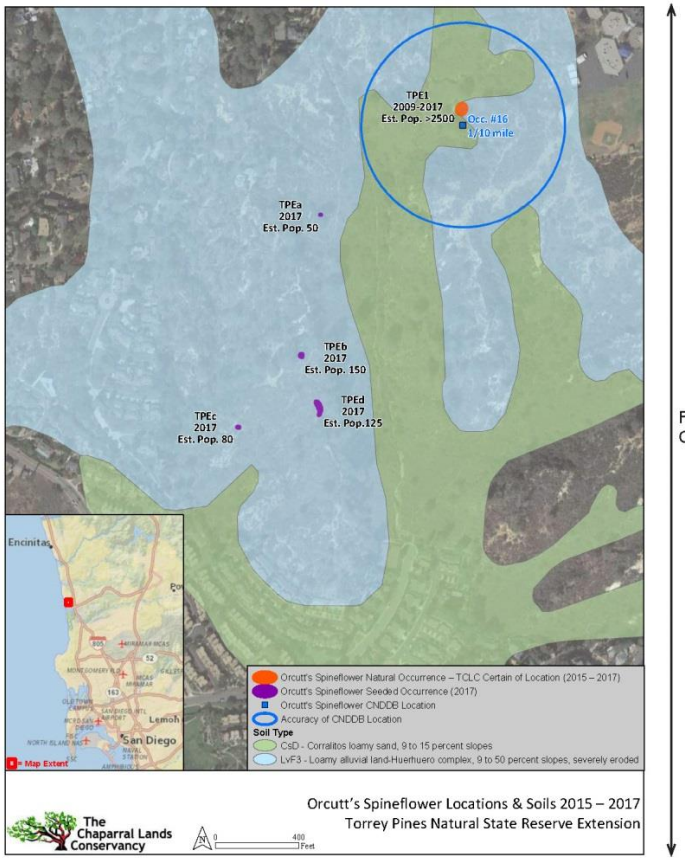
F25-19
Cont.


GC3
2017
Est. Pop. 38
GC2
2015-2017
Est. Pop. 750
GC4
2017
Est. Pop. 150
GC1
2015-2017
Est. Pop. 450
Encinitas
San Diego
Lemon
Map Extent
Orcutt's Spineflower Natural Occurrence – TCLC Certain of Location (2015 – 2017)
Orcutt's Spineflower Natural Occurrence – Adam Taylor, Cabrillo National Monument (2017)
Soil Type
CsB - Corralitos loamy sand, 0 to 5 percent slopes
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
TeF - Terrace escarpments
The Chaparral Lands Conservancy
0
400
Feet
Orcutt's Spineflower Locations & Soils 2015 – 2017
Gonzales Canyon

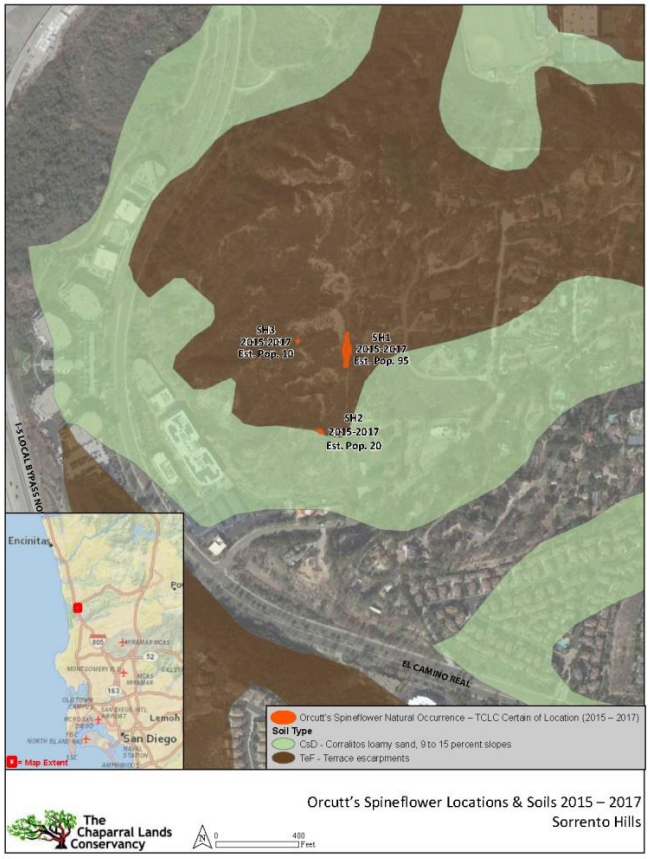
F25-19
Cont.


MANGO WAY
CC2
2016-2017
Est. Pop. >100
CREST RD
CC1
2015-2017
Est. Pop. >500
RECUERDO DR
LOZANA RD
CC3
2017
Est. Pop. 100
DURANGO DR
Encinitas
Lemon
San Diego
Map Extent
Orcutt's Spineflower Natural Occurrence – TCLC Certain of Location (2015 – 2017)
Soil Type
CsD - Corralitos loamy sand, 9 to 15 percent slopes
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
The Chaparral Lands Conservancy
0
400
Feet
Orcutt's Spineflower Locations & Soils 2015 – 2017
Crest Canyon

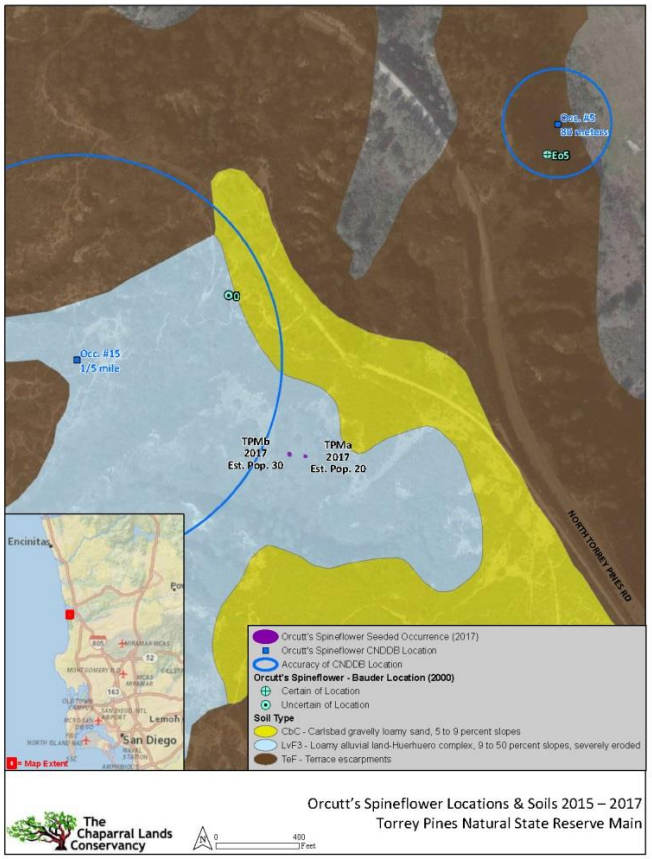
F25-19
Cont.


TPE1
2009-2017
Est. Pop. >2500
Occ. #16
1/10 mile
TPEa
2017
Est. Pop. 50
TPEb
2017
Est. Pop. 150
TPEd
2017
Est. Pop.125
TPEc
2017
Est. Pop. 80
Encinitas
San Diego
Lemon
Map Extent
Orcutt's Spineflower Natural Occurrence – TCLC Certain of Location (2015 – 2017)
Orcutt's Spineflower Seeded Occurrence (2017)
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Soil Type
CsD - Corralitos loamy sand, 9 to 15 percent slopes
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
The Chaparral Lands Conservancy
0
400
Feet
Orcutt's Spineflower Locations & Soils 2015 – 2017
Torrey Pines Natural State Reserve Extension

F25-19
Cont.


SH3
2015-2017
Est. Pop. 10
SH1
2015-2017
Est. Pop. 95
SH2
2015-2017
Est. Pop. 20
I-5 LOCAL BYPASS NO
EL CAMINO REAL
Encinitas
Lemon
San Diego
Map Extent
Orcutt's Spineflower Natural Occurrence – TCLC Certain of Location (2015 – 2017)
Soil Type
CsD - Corralitos loamy sand, 9 to 15 percent slopes
TeF - Terrace escarpments
The Chaparral Lands Conservancy
0
400
Feet
Orcutt's Spineflower Locations & Soils 2015 – 2017
Sorrento Hills

F25-19
Cont.


Occ. #15
1/5 mile
Occ. #6
Est. Hectares
E05
Q0
TPMb
2017
Est. Pop. 30
TPMa
2017
Est. Pop. 20
NORTH TORREY PINES RD
Encinitas
Lemon
San Diego
Map Extent
Orcutt's Spineflower Seeded Occurrence (2017)
Orcutt's Spineflower CNDDB Location
Accuracy of CNDDB Location
Orcutt's Spineflower - Bauder Location (2000)
Certain of Location
Uncertain of Location
Soil Type
CbC - Carlsbad gravelly loamy sand, 5 to 9 percent slopes
LvF3 - Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded
TeF - Terrace escarpments
The Chaparral Lands Conservancy
Orcutt's Spineflower Locations & Soils 2015 – 2017
Torrey Pines Natural State Reserve Main

F25-19
Cont.

Attachment 5
Orcutt's Spineflower Project Photographs and Exhibits

F25-19
Cont.

The Chaparral Lands Conservancy
Preserving California's Shrubland Ecosystems

Crest Canyon Open Space Preserve – Newly discovered Orcutt's spineflower in bloom (above) and typical open sandy spineflower habitat and Orcutt's Spineflower Project fencing (below).

F25-19
Cont.

The Chaparral Lands Conservancy
Preserving California's Shrubland Ecosystems

Sorrento Hills Open Space – Orcutt's spineflower typical open sandy habitat (above) and Orcutt's Spineflower Project closure sign (below).

F25-19
Cont.

The Chaparral Lands Conservancy
Preserving California's Shrubland Ecosystems

Orcutt's Spineflower Project closure signs at Crest Canyon Open Space Preserve (above) and Sorrento Hills Open Space (below).

F25-19
Cont.

The Chaparral Lands Conservancy
Preserving California's Shrubland Ecosystems

TPSNR Extension – Orcutt's Spineflower Project seed collection from natural occurrence for seed bulking (above) and seeding new occurrence (below).

F25-19
Cont.

The Chaparral Lands Conservancy
Preserving California's Shrubland Ecosystems

TPSNR – Orcutt's spineflower seeded habitat at TPSNR Extension (above) and TPSNR Main (below).

F25-19
Cont.

The Chaparral Lands Conservancy
Preserving California's Shrubland Ecosystems

TPSNR Extension – Seeded Orcutt's spineflower sprout (above) and Orcutt's Spineflower Project interpretive panel (below).

F25-19
Cont.

Attachment 6
Rocks Biological Consulting Report on Results of Orcutt's Spineflower Population Surveys 2015

F25-19
Cont.

ROCKS
BIOLOGICAL CONSULTING

December 8, 2015

The Chaparral Lands Conservancy
Attn: Mr. David Hogan
P.O. Box 141
Mount Laguna, CA 91948

Subject: Orcutt's Spineflower (*Chorizanthe orcuttiana*) Rare Plant Survey Results

Mr. Hogan:

This letter presents the results of Orcutt's spineflower (*Chorizanthe orcuttiana*) surveys conducted by Rocks Biological Consulting for The Chaparral Lands Conservancy (TCLC) in the County of San Diego, California in April 2015. Orcutt's spineflower was detected in five populations at two survey locations during the 2015 surveys.

Surveys were conducted at nine preserve locations from April 1 through April 23, 2015 (Table 1) in suitable habitat as shown in maps provided by TCLC. Five previously undocumented Orcutt's spineflower populations were located at two preserve locations in the north-coastal City of San Diego: Gonzales Canyon and Sorrento Hills (aka Carmel Mountain-West). Both of these sites are owned by the City of San Diego Park and Recreation Department and are preserved as open space. The Gonzales Canyon location is also part of the Pacific Highlands Ranch Natural Resources Management Plan area.

The Gonzales Canyon populations occur in openings within Diegan coastal sage scrub habitat (*Artemisia californica-Eriogonum fasciculatum* Alliance). In 2015, Orcutt's spineflower were observed at two discreet subpopulation locations totaling approximately 1,200 plants within an approximately 250 square meter area.

The Sorrento Hills populations occur in openings within southern maritime chaparral habitat (*Ceanothus verrucosus* Alliance). In 2015, Orcutt's spineflower was observed at three discreet subpopulation locations totaling approximately 125 plants within an approximately 150 square meter area.

All five populations were observed on similar sandy soils but in varying aspects and slopes. One Gonzales Canyon population was found on a gently sloping ridge-top with a southwest aspect while the other was on a moderately sloping hillside with a west aspect. The Sorrento Hills populations were found on gentle to moderately sloping patches of sandy soil on steep ridge-tops with south and east aspects. All populations are found in high quality, relatively undisturbed habitat with some cryptogamic soils and few weeds. Populations were noted to co-occur with several species at both sites, including *Corethrogyne filaginifolia* var. *linifolia* (Del Mar sand aster); *Chorizanthe procumbens* (prostrate spineflower), *Camissoniopsis*

F25-19
Cont.

2621 DENVER STREET, SUITE B ● SAN DIEGO, CA 92110-3300
619.701.6798 ● INFO@ROCKSBIO.COM

bistorta (California sun cup), *Cryptantha intermedia* var. *intermedia* (Nievitas cryptantha), *Stipa coronata* (giant stipa) and *Cardionema ramossissimum* (tread lightly).

Three of the five populations are subject to pedestrian and or equestrian use on nearby paths which could adversely impact the small, fragile populations and associated cryptogamic soils. Access control is recommended for both sites.

Please do not hesitate to contact me at (619) 843-6640 if you have any questions or concerns about this report.

F25-19
Cont.

Sincerely,

Jim Rocks
Principal Biologist

Enclosures: Survey Dates and Personnel
Site Photos
SDMMP Monitoring Forms for Species Observances

F25-19
Cont.

Table 1. Survey Dates and Personnel

Date	3/30/2015	4/1/2015	4/6/2015	4/7/2015	4/9/2015	4/13/2015	4/22/2015	4/23/2015	4/28/2015
Site	Torrey Pines Ext.*	Carmel Mtn	Torrey Pines SR Mtn	Gonzales Cyn	Sorrento Hills	Overlook Park	Manchester and San Elijo	Saxony and Village Park	Gonzales Cyn & Sorrento Hills
Survey Time	1300-1530	0915-1745	0900-1600	0840-1515	1150-1515	1300-1705	0820-1600	0905-1705	3.75 hr
Temp (°F) Start-End	68-68	66-66	65-71	72-74	72-69	74-73	67-72	68-70	Seed collection
Sky Cover (%)	25	20%-10%	20%-10%	0%-0%	0%-0%	0%-0%	100%-75%	100%-10%	-
Wind Speed (mph)	1-4	2-6; 1-4	2-8; 1-4	0-1; 2-4	1-4; 1-4	1-3; 1-3	0-3; 0-4	0-2; 1-4	-
Personnel	JR, LR, MF	JR, DH	JR	JR, JPR	JR	JR, MR, AB	JR, LR	JR, MF	JR

* Population check/project meeting
JR = Jim Rocks; DH = David Hogan; JPR = Jon P. Peterman; LR = Lee Riorna; MR = Melanie Rocks; AB = Annabelle Bernabe (City escort); MF = Margaret Fillius

2015 Orcutt's Spineflower Surveys
Site Photos

Photo 1. View of Orcutt's Spineflower habitat at Gonzales Canyon (occurrence #1)

Photo 2. View of Orcutt's Spineflower habitat at Gonzales Canyon (occurrence #2)

F25-19
Cont.

Photo 3. View of Orcutt's Spineflower habitat at Sorrento Hills.

Photo 4. View of Orcutt's Spineflower habitat at Sorrento Hills.

F25-19
Cont.

Photo 5. View of Orcutt's Spineflower habitat at Torrey Pines Extension.

Photo 6. View of survey area at Torrey Pines Main. Orcutt's Spineflower was not observed.

F25-19
Cont.

Photo 7. View of survey area at Overlook Park. Orcutt's Spineflower was not observed.

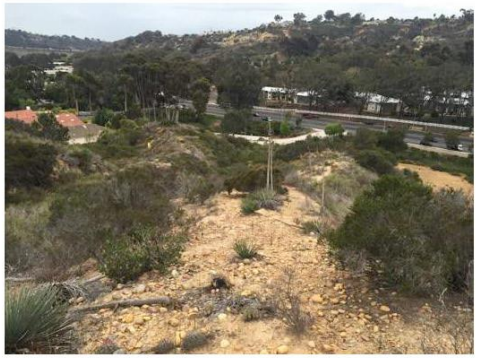


Photo 8. View of survey area southwest of the Manchester Preserve. Orcutt's Spineflower was not observed.

F25-19
Cont.

D. Hogan
December 4, 2015
Page 8 of 9

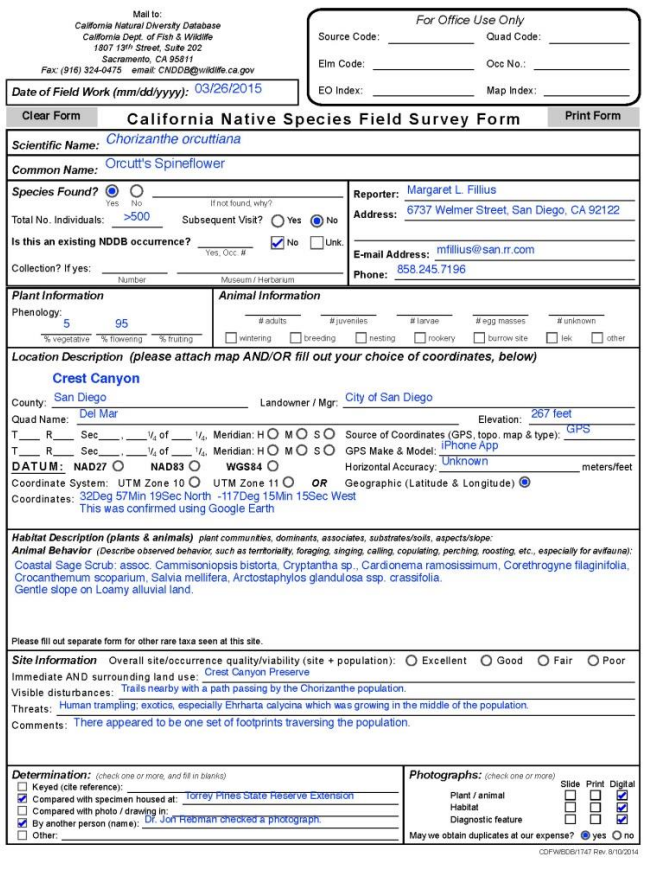
Photo 9. View of survey area at San Elijo Bluffs. Orcutt's Spineflower was not observed. Note infestation of Perennial veldtgrass (*Ehrharta calycina*)

Photo 10. View of survey area at Village Park west. Orcutt's Spineflower was not observed.

F25-19
Cont.

Attachment 7
Occurrence Report Forms, California Natural Diversity Database and San Diego Management and Monitoring Program

F25-19
Cont.



Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 03/26/2015

Clear Form — **California Native Species Field Survey Form** — Print Form

Scientific Name: *Chorizanthe orcuttiana*

Common Name: Orcutt's Spineflower

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: >500 Subsequent Visit? ( ) Yes (●) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☑ No ☐ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Margaret L. Fillius
Address: 6737 Welmer Street, San Diego, CA 92122
E-mail Address: mfillius@san.rr.com
Phone: 858.245.7196

Plant Information
Phenology: 5 % vegetative 95 % flowering _____ % fruiting

Animal Information
_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

Crest Canyon

County: San Diego Landowner / Mgr: City of San Diego
Quad Name: Del Mar Elevation: 267 feet
T___ R___ Sec___, ___ ¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS
T___ R___ Sec___, ___ ¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: iPhone App
DATUM: NAD27 ( ) NAD83 ( ) WGS84 ( ) Horizontal Accuracy: Unknown meters/feet
Coordinate System: UTM Zone 10 ( ) UTM Zone 11 ( ) ***OR*** Geographic (Latitude & Longitude) (●)
Coordinates: 32Deg 57Min 19Sec North -117Deg 15Min 15Sec West
This was confirmed using Google Earth

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
Coastal Sage Scrub: assoc. Cammisoniopsis bistorta, Cryptantha sp., Cardionema ramosissimum, Corethrogyne filaginifolia, Crocanthemum scoparium, Salvia mellifera, Arctostaphylos glandulosa ssp. crassifolia.
Gentle slope on Loamy alluvial land.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ( ) Excellent ( ) Good ( ) Fair ( ) Poor
Immediate AND surrounding land use: Crest Canyon Preserve
Visible disturbances: Trails nearby with a path passing by the Chorizanthe population.
Threats: Human trampling; exotics, especially Ehrharta calycina which was growing in the middle of the population.
Comments: There appeared to be one set of footprints traversing the population.

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☑ Compared with specimen housed at: Torrey Pines State Reserve Extension
☐ Compared with photo / drawing in: _____
☑ By another person (name): Dr. Jon Rebman checked a photograph.
☐ Other: _____

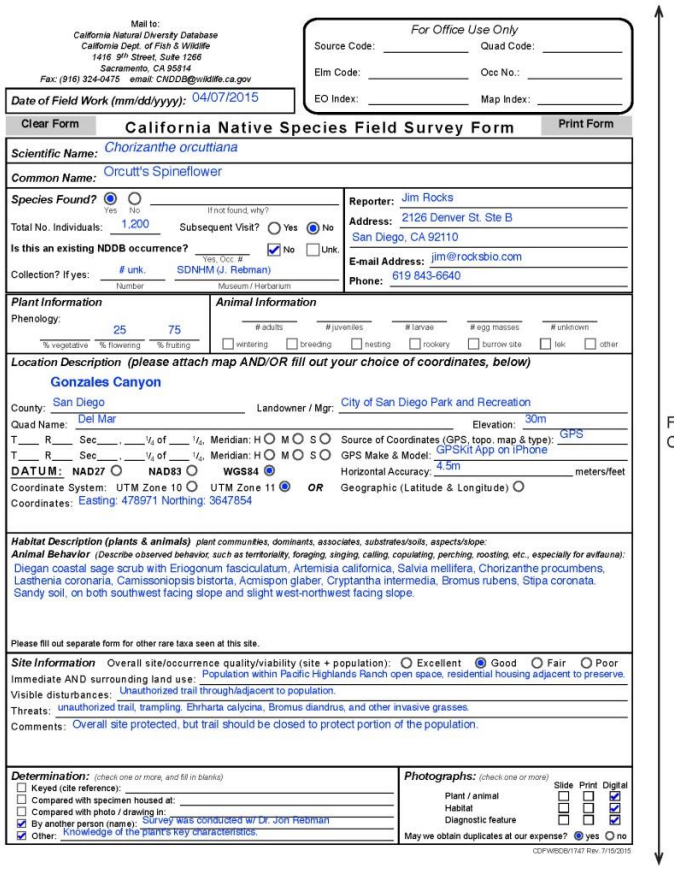
Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☑
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☑

May we obtain duplicates at our expense? (●) yes ( ) no

CDFW/EDB/1747 Rev. 8/10/2014

F25-19
Cont.



Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 04/07/2015

Clear Form — **California Native Species Field Survey Form** — Print Form

Scientific Name: *Chorizanthe orcuttiana*
Common Name: Orcutt's Spineflower

Species Found? (●) Yes ( ) No — If not found, why?
Total No. Individuals: 1,200 Subsequent Visit? ( ) Yes (●) No
Is this an existing NDDB occurrence? _____ Yes, Occ. # [✓] No [ ] Unk.
Collection? If yes: # unk. (Number) SDNHM (J. Rebman) (Museum / Herbarium)

Reporter: Jim Rocks
Address: 2126 Denver St. Ste B
San Diego, CA 92110
E-mail Address: jim@rocksbio.com
Phone: 619 843-6640

Plant Information
Phenology: 25 % vegetative 75 % flowering _____ % fruiting

Animal Information
adults # juveniles # larvae # egg masses # unknown
[ ] wintering [ ] breeding [ ] nesting [ ] rookery [ ] burrow site [ ] lek [ ] other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

Gonzales Canyon

County: San Diego Landowner / Mgr: City of San Diego Park and Recreation
Quad Name: Del Mar Elevation: 30m
T____ R____ Sec____, ____ ¼ of ____ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec____, ____ ¼ of ____ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: GPSKit App on iPhone
DATUM: NAD27 ( ) NAD83 ( ) WGS84 (●) Horizontal Accuracy: 4.5m meters/feet
Coordinate System: UTM Zone 10 ( ) UTM Zone 11 (●) ***OR*** Geographic (Latitude & Longitude) ( )
Coordinates: Easting: 478971 Northing: 3647854

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
Diegan coastal sage scrub with Eriogonum fasciculatum, Artemisia californica, Salvia mellifera, Chorizanthe procumbens, Lasthenia coronaria, Camissoniopsis bistorta, Acmispon glaber, Cryptantha intermedia, Bromus rubens, Stipa coronata. Sandy soil, on both southwest facing slope and slight west-northwest facing slope.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor
Immediate AND surrounding land use: Population within Pacific Highlands Ranch open space, residential housing adjacent to preserve.
Visible disturbances: Unauthorized trail through/adjacent to population.
Threats: unauthorized trail, trampling, Ehrharta calycina, Bromus diandrus, and other invasive grasses.
Comments: Overall site protected, but trail should be closed to protect portion of the population.

Determination: *(check one or more, and fill in blanks)*
[ ] Keyed (cite reference): _____
[ ] Compared with specimen housed at: _____
[ ] Compared with photo / drawing in: _____
[✓] By another person (name): Survey was conducted w/ Dr. Jon Rebman
[✓] Other: Knowledge of the plant's key characteristics.

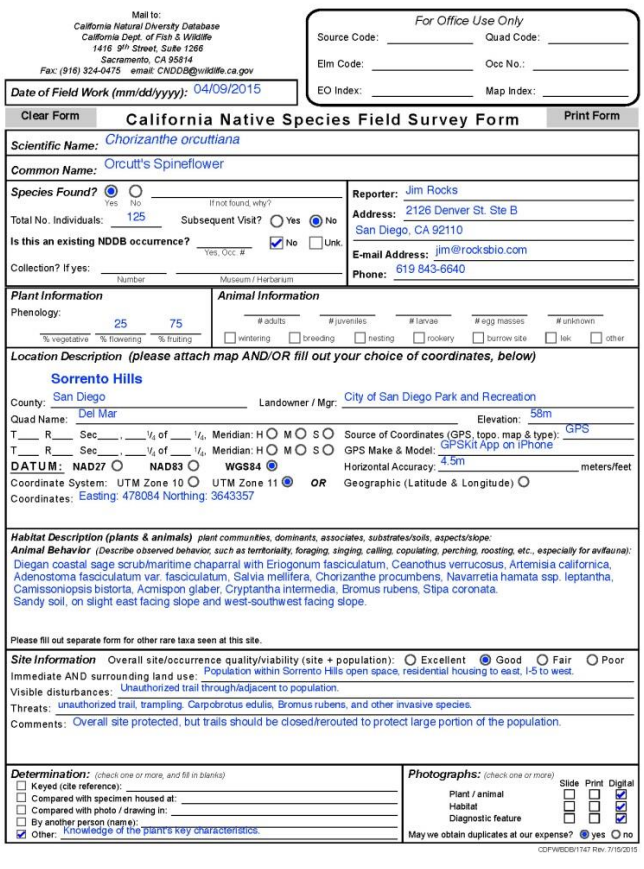
Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	[ ]	[ ]	[✓]
Habitat	[ ]	[ ]	[✓]
Diagnostic feature	[ ]	[ ]	[✓]

May we obtain duplicates at our expense? (●) yes ( ) no

CDFWBDB1747 Rev. 7/15/2015

F25-19
Cont.



Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 04/09/2015

Clear Form — **California Native Species Field Survey Form** — Print Form

Scientific Name: Chorizanthe orcuttiana
Common Name: Orcutt's Spineflower

Species Found? (●) Yes ( ) No _____ If not found, why?
Total No. Individuals: 125 Subsequent Visit? ( ) Yes (●) No
Is this an existing NDDB occurrence? _____ Yes, Occ. # [✓] No [ ] Unk.
Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Jim Rocks
Address: 2126 Denver St. Ste B
San Diego, CA 92110
E-mail Address: jim@rocksbio.com
Phone: 619 843-6640

Plant Information
Phenology: 25 % vegetative 75 % flowering _____ % fruiting

Animal Information
_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown
[ ] wintering [ ] breeding [ ] nesting [ ] rookery [ ] burrow site [ ] lek [ ] other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

Sorrento Hills

County: San Diego Landowner / Mgr: City of San Diego Park and Recreation
Quad Name: Del Mar Elevation: 58m
T___ R___ Sec___, ___¼ of ___¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS
T___ R___ Sec___, ___¼ of ___¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: GPSKit App on iPhone
DATUM: NAD27 ( ) NAD83 ( ) WGS84 (●) Horizontal Accuracy: 4.5m meters/feet
Coordinate System: UTM Zone 10 ( ) UTM Zone 11 (●) ***OR*** Geographic (Latitude & Longitude) ( )
Coordinates: Easting: 478084 Northing: 3643357

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
Diegan coastal sage scrub/maritime chaparral with Eriogonum fasciculatum, Ceanothus verrucosus, Artemisia californica, Adenostoma fasciculatum var. fasciculatum, Salvia mellifera, Chorizanthe procumbens, Navarretia hamata ssp. leptantha, Camissoniopsis bistorta, Acmispon glaber, Cryptantha intermedia, Bromus rubens, Stipa coronata.
Sandy soil, on slight east facing slope and west-southwest facing slope.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor
Immediate AND surrounding land use: Population within Sorrento Hills open space, residential housing to east, I-5 to west.
Visible disturbances: Unauthorized trail through/adjacent to population.
Threats: unauthorized trail, trampling. Carpobrotus edulis, Bromus rubens, and other invasive species.
Comments: Overall site protected, but trails should be closed/rerouted to protect large portion of the population.

Determination: *(check one or more, and fill in blanks)*
[ ] Keyed (cite reference):
[ ] Compared with specimen housed at:
[ ] Compared with photo / drawing in:
[ ] By another person (name):
[✓] Other: Knowledge of the plant's key characteristics.

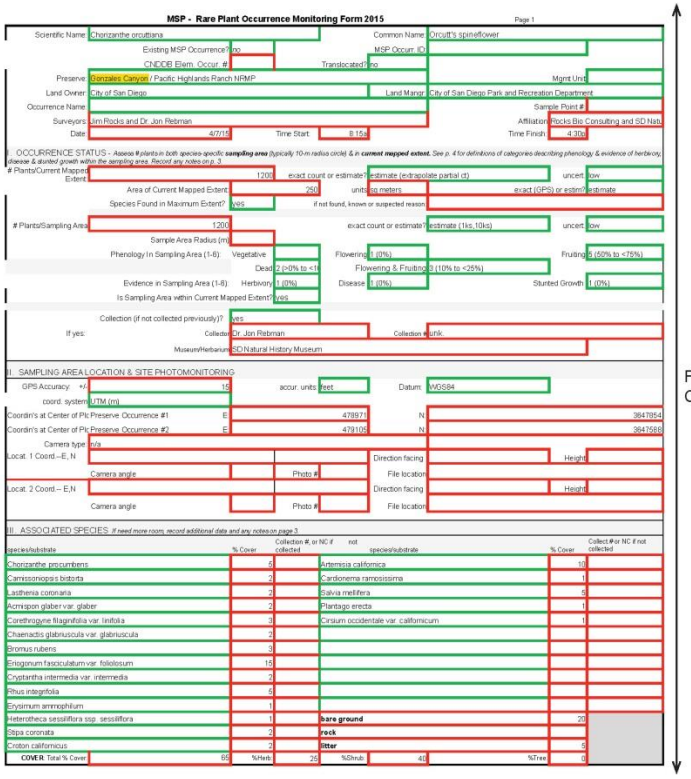
Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	[ ]	[ ]	[✓]
Habitat	[ ]	[ ]	[✓]
Diagnostic feature	[ ]	[ ]	[✓]

May we obtain duplicates at our expense? (●) yes ( ) no

CDFW/BDB/1747 Rev. 7/15/2015

F25-19
Cont.



MSP - Rare Plant Occurrence Monitoring Form 2015 Page 1

Scientific Name: Chorizanthe orcuttiana | Common Name: Orcutt's spineflower
Existing MSP Occurrence? no | MSP Occurr. ID:
CNDDB Elem. Occur. #: | Translocated? no
Preserve: Gonzales Canyon / Pacific Highlands Ranch NRMP | Mgmt Unit:
Land Owner: City of San Diego | Land Manger: City of San Diego Park and Recreation Department
Occurrence Name: | Sample Point #:
Surveyors: Jim Rocks and Dr. Jon Rebman | Affiliation: Rocks Bio Consulting and SD Nat'l.
Date: 4/7/15 | Time Start: 8:15a | Time Finish: 4:30p

I. OCCURRENCE STATUS - *Assess # plants in both species-specific* ***sampling area*** *(typically 10-m radius circle) & in* ***current mapped extent.*** *See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

Plants/Current Mapped Extent: 1200 | exact count or estimate? estimate (extrapolate partial ct) | uncert: low
Area of Current Mapped Extent: 250 | units: sq meters | exact (GPS) or estim? estimate
Species Found in Maximum Extent? yes | if not found, knows or suspected reason:

Plants/Sampling Area: 1200 | exact count or estimate? estimate (1ks,10ks) | uncert: low
Sample Area Radius (m):
Phenology in Sampling Area (1-6): Vegetative: | Flowering: 1 (0%) | Fruiting: 5 (50% to <75%)
Dead: 2 (>0% to <1 | Flowering & Fruiting: 2 (10% to <25%)
Evidence in Sampling Area (1-6): Herbivory: 1 (0%) | Disease: 1 (0%) | Stunted Growth: 1 (0%)
Is Sampling Area within Current Mapped Extent? yes

Collection (if not collected previously)? yes
If yes: Collector: Dr. Jon Rebman | Collection #/unk:
Museum/Herbarium: SD Natural History Museum

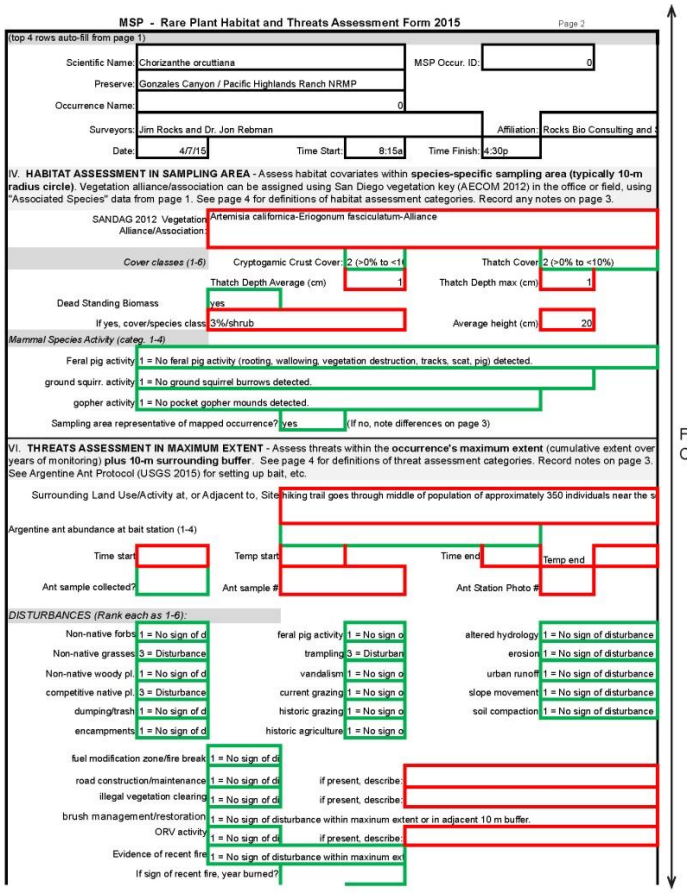
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/- 15 | accur. units: feet | Datum: WGS84
coord. system: UTM (m)
Coordin's at Center of Plt Preserve Occurrence #1: E 478971 | N 3647954
Coordin's at Center of Plt Preserve Occurrence #2: E 479105 | N 3647588
Camera type: n/a
Locat. 1 Coord.--E, N: | Direction facing: | Height:
Camera angle: | Photo #: | File location:
Locat. 2 Coord.-- E,N: | Direction facing: | Height:
Camera angle: | Photo #: | File location:

III. ASSOCIATED SPECIES *If need more room, record additional data and any notes on page 3.*

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Chorizanthe procumbens	5		Artemisia californica	10	
Camissoniopsis bistorta	2		Cardionema ramosissima	1	
Lasthenia coronaria	2		Salvia mellifera	5	
Acmispon glaber var. glaber	2		Plantago erecta	1	
Corethrogyne filaginifolia var. linifolia	3		Cirsium occidentale var. californicum	1	
Chaenactis glabriuscula var. glabriuscula	3				
Bromus rubens	3				
Eriogonum fasciculatum var. foliolosum	15				
Cryptantha intermedia var. intermedia	2				
Rhus integrifolia	5				
Erysimum ammophilum	1				
Heterotheca sessiliflora ssp. sessiliflora	1		**bare ground**	20	
Stipa coronata	2		**rock**		
Croton californicus	2		**litter**	5	
COVER Total % Cover:	85	%Herb: 25	%Shrub: 45	%Tree: 0	

F25-19 Cont.



MSP - Rare Plant Habitat and Threats Assessment Form 2015 Page 2

(top 4 rows auto-fill from page 1)

Scientific Name: Chorizanthe orcuttiana | MSP Occur. ID: 0
Preserve: Gonzales Canyon / Pacific Highlands Ranch NRMP
Occurrence Name: 0
Surveyors: Jim Rocks and Dr. Jon Rebman | Affiliation: Rocks Bio Consulting and
Date: 4/7/15 | Time Start: 8:15a | Time Finish: 4:30p

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories. Record any notes on page 3.

SANDAG 2012 Vegetation Alliance/Association: Artemisia californica-Eriogonum fasciculatum-Alliance

Cover classes (1-6) | Cryptogamic Crust Cover: 2 (>0% to <1 | Thatch Cover: 2 (>0% to <10%)
Thatch Depth Average (cm): 1 | Thatch Depth max (cm): 1
Dead Standing Biomass: yes
If yes, cover/species class: 3%/shrub | Average height (cm): 20

Mammal Species Activity (categ. 1-4)

Feral pig activity: 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.
ground squirr. activity: 1 = No ground squirrel burrows detected.
gopher activity: 1 = No pocket gopher mounds detected.
Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

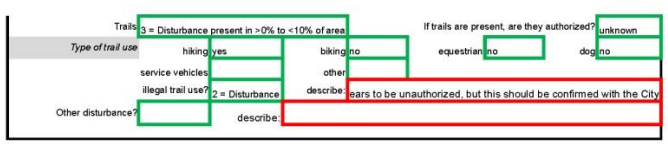
Surrounding Land Use/Activity at, or Adjacent to, Site: hiking trail goes through middle of population of approximately 350 individuals near the s
Argentine ant abundance at bait station (1-4)
Time start | Temp start | Time end | Temp end
Ant sample collected? | Ant sample # | Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

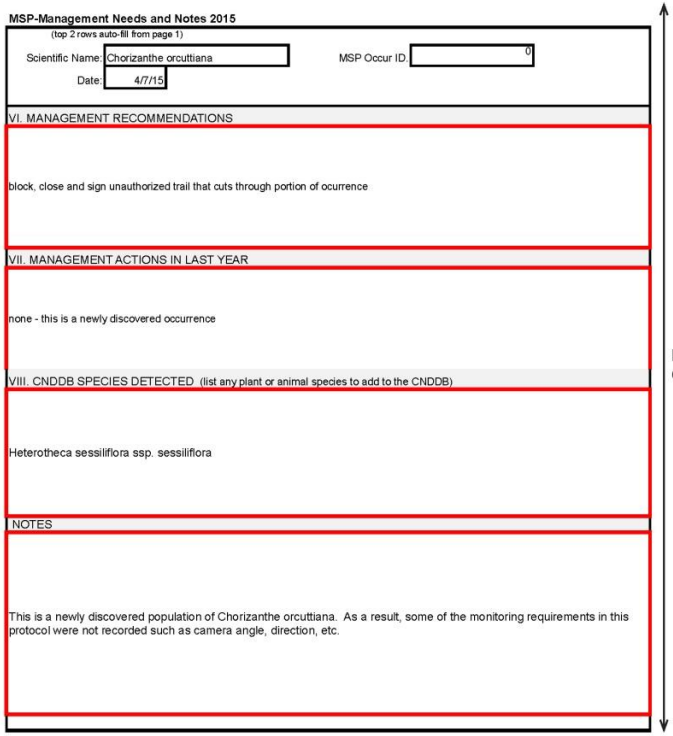
Non-native forbs	1 = No sign of d	feral pig activity	1 = No sign o	altered hydrology	1 = No sign of disturbance
Non-native grasses	3 = Disturbance	trampling	3 = Disturban	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of d	vandalism	1 = No sign o	urban runoff	1 = No sign of disturbance
competitive native pl.	3 = Disturbance	current grazing	1 = No sign o	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of d	historic grazing	1 = No sign o	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of d	historic agriculture	1 = No sign o		

fuel modification zone/fire break: 1 = No sign of di
road construction/maintenance: 1 = No sign of di | if present, describe:
illegal vegetation clearing: 1 = No sign of di | if present, describe:
brush management/restoration: 1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.
ORV activity: 1 = No sign of di | if present, describe:
Evidence of recent fire: 1 = No sign of disturbance within maxinum ex
If sign of recent fire, year burned?

F25-19 Cont.


Trails
3 = Disturbance present in >0% to <10% of area
If trails are present, are they authorized?
unknown
Type of trail use
hiking
yes
biking
no
equestrian
no
dog
no
service vehicles
other
illegal trail use?
2 = Disturbance
describe:
ears to be unauthorized, but this should be confirmed with the City
Other disturbance?
describe:

F25-19
Cont.



MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Chorizanthe orcuttiana MSP Occur ID. 0

Date: 4/7/15

VI. MANAGEMENT RECOMMENDATIONS

block, close and sign unauthorized trail that cuts through portion of ocurrence

VII. MANAGEMENT ACTIONS IN LAST YEAR

none - this is a newly discovered occurrence

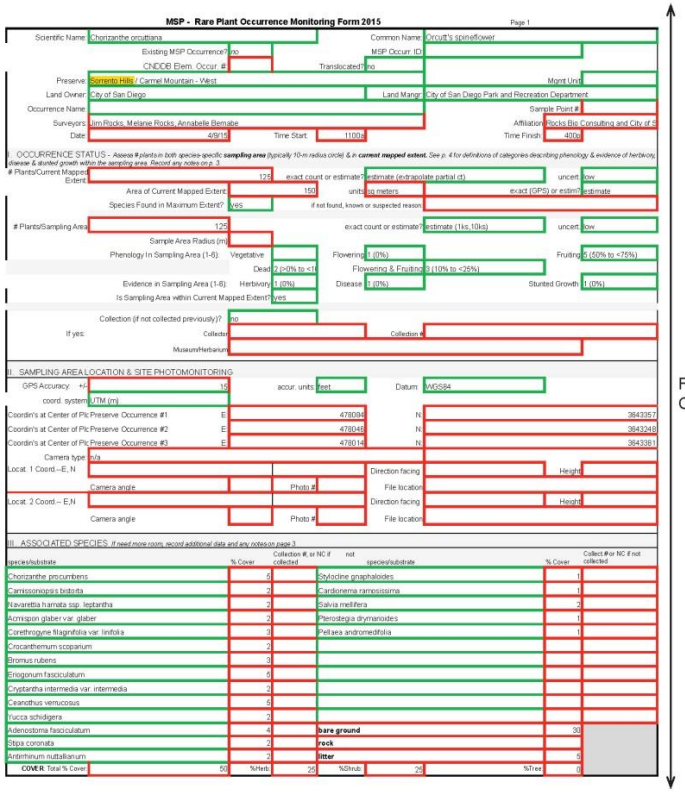
VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

Heterotheca sessiliflora ssp. sessiliflora

NOTES

This is a newly discovered population of Chorizanthe orcuttiana. As a result, some of the monitoring requirements in this protocol were not recorded such as camera angle, direction, etc.

F25-19
Cont.



MSP - Rare Plant Occurrence Monitoring Form 2015 Page 1

Scientific Name: Chorizanthe orcuttiana | Common Name: Orcutt's spineflower
Existing MSP Occurrence? no | MSP Occurr. ID:
CNDDB Elem. Occur. # | Translocated? no
Preserve: Sorrento Hills / Carmel Mountain - West | Mgmt Unit:
Land Owner: City of San Diego | Land Mangr: City of San Diego Park and Recreation Department
Occurrence Name: | Sample Point #:
Surveyors: Jim Rocks, Melanie Rocks, Annabelle Bernabe | Affiliation: Rocks Bio Consulting and City of S
Date: 4/9/15 | Time Start: 1100a | Time Finish: 400p

I. OCCURRENCE STATUS - *Assess # plants in both species-specific* ***sampling area*** *(typically 10-m radius circle) & in* ***current mapped extent.*** *See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

Plants/Current Mapped Extent: 125 | exact count or estimate? estimate (extrapolate partial ct) | uncert: low
Area of Current Mapped Extent: 150 | units: sq meters | exact (GPS) or estim? estimate
Species Found in Maximum Extent? Yes | if not found, known or suspected reason:
Plants/Sampling Area: 125 | exact count or estimate? estimate (1ks,10ks) | uncert: low
Sample Area Radius (m):
Phenology In Sampling Area (1-6): Vegetative | Flowering 1 (0%) | Fruiting 5 (50% to <75%)
Dead 2 (>0% to <1% | Flowering & Fruiting 3 (10% to <25%)
Evidence in Sampling Area (1-6): Herbivory 1 (0%) | Disease 1 (0%) | Stunted Growth 1 (0%)
Is Sampling Area within Current Mapped Extent? yes
Collection (if not collected previously)? no
If yes: Collector | Collection #
Museum/Herbarium:

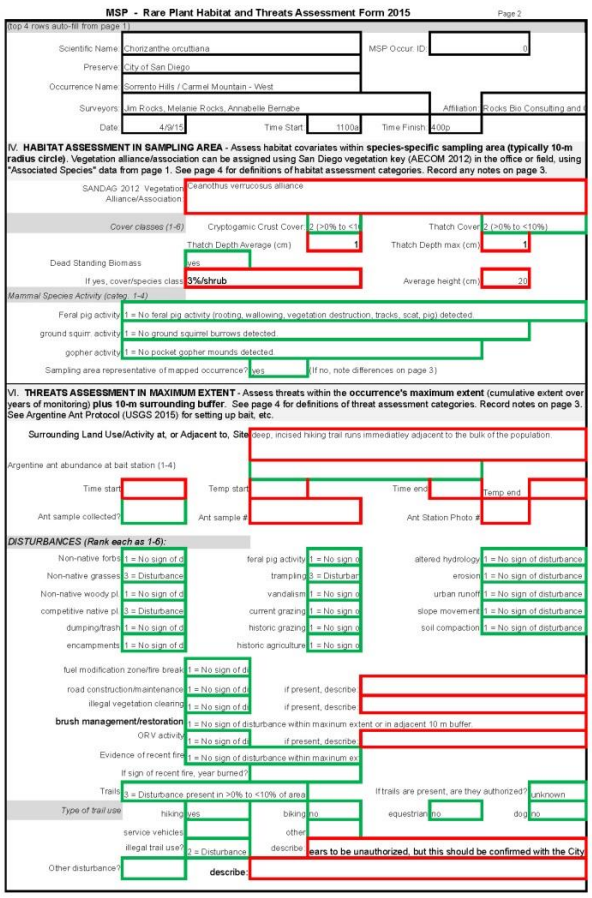
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/- 10 | accur. units: feet | Datum: WGS84
coord. system: UTM (m)
Coordin's at Center of Plc Preserve Occurrence #1: E 478084 | N 3643357
Coordin's at Center of Plc Preserve Occurrence #2: E 478048 | N 3643248
Coordin's at Center of Plc Preserve Occurrence #3: E 478014 | N 3643381
Camera type: n/a
Locat. 1 Coord.--E, N | Direction facing | Height
Camera angle | Photo # | File location
Locat. 2 Coord.-- E,N | Direction facing | Height
Camera angle | Photo # | File location

III. ASSOCIATED SPECIES *If need more room, record additional data and any notes on page 3.*

species/substrate	% Cover	Collection #; or NC if not collected	species/substrate	% Cover	Collect # or NC if not collected
Chorizanthe procumbens	5		Stylocline gnaphaloides	1	
Camissoniopsis bistorta	2		Cardionema ramosissima	1	
Navarretia hamata ssp. leptantha	2		Salvia mellifera	2	
Acmispon glaber var. glaber	2		Pterostegia drymarioides	1	
Corethrogyne filaginifolia var. linifolia	3		Pellaea andromedifolia	1	
Crocanthemum scoparium	2				
Bromus rubens	3				
Eriogonum fasciculatum	6				
Cryptantha intermedia var. intermedia	2				
Ceanothus verrucosus	6				
Yucca schidigera	2				
Adenostoma fasciculatum	4		**bare ground**	30	
Stipa coronata	2		**rock**		
Antirrhinum nuttallianum	2		**litter**	5	
COVER: Total % Cover	50	%Herb	25	%Shrub	25	%Tree	0	

F25-19 Cont.



MSP - Rare Plant Habitat and Threats Assessment Form 2015 Page 2

[top 4 rows auto-fill from page 1]

Scientific Name: Chorizanthe orcuttiana | MSP Occur ID: 0

Preserve: City of San Diego

Occurrence Name: Sorrento Hills / Carmel Mountain - West

Surveyors: Jim Rocks, Melanie Rocks, Annabelle Bernabe | Affiliation: Rocks Bio Consulting and

Date: 4/9/15 | Time Start: 1100a | Time Finish: 400p

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories. Record any notes on page 3.

SANDAG 2012 Vegetation Alliance/Association: Ceanothus verrucosus alliance

Cover classes (1-6) | Cryptogamic Crust Cover: 2 (>0% to <1 | Thatch Cover: 2 (>0% to <10%)

Thatch Depth Average (cm): 1 | Thatch Depth max (cm): 1

Dead Standing Biomass: yes

If yes, cover/species class: 3%/shrub | Average height (cm): 20

Mammal Species Activity (categ. 1-4)

Feral pig activity: 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity: 1 = No ground squirrel burrows detected.

gopher activity: 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence?: yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site: deep, incised hiking trail runs immediatley adjacent to the bulk of the population.

Argentine ant abundance at bait station (1-4)

Time start | Temp start | Time end | Temp end

Ant sample collected? | Ant sample # | Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs:	1 = No sign of d	feral pig activity:	1 = No sign o	altered hydrology:	1 = No sign of disturbance
Non-native grasses:	3 = Disturbance	trampling:	3 = Disturban	erosion:	1 = No sign of disturbance
Non-native woody pl:	1 = No sign of d	vandalism:	1 = No sign o	urban runoff:	1 = No sign of disturbance
competitive native pl:	3 = Disturbance	current grazing:	1 = No sign o	slope movement:	1 = No sign of disturbance
dumping/trash:	1 = No sign of d	historic grazing:	1 = No sign o	soil compaction:	1 = No sign of disturbance
encampments:	1 = No sign of d	historic agriculture:	1 = No sign o		

fuel modification zone/fire break: 1 = No sign of di

road construction/maintenance: 1 = No sign of di | if present, describe:

illegal vegetation clearing: 1 = No sign of di | if present, describe:

brush management/restoration: 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity: 1 = No sign of di | if present, describe:

Evidence of recent fire: 1 = No sign of disturbance within maximum ex

If sign of recent fire, year burned?:

Trails: 3 = Disturbance present in >0% to <10% of area | If trails are present, are they authorized?: Unknown

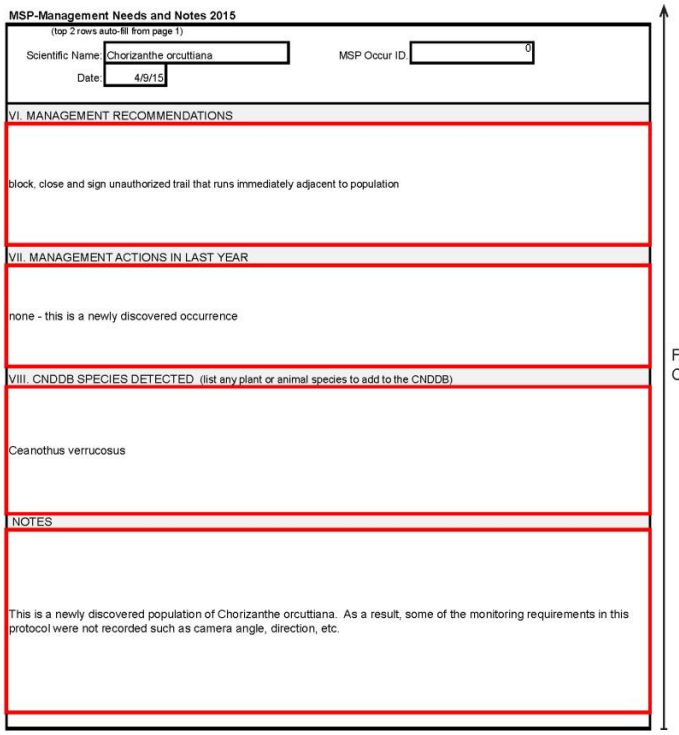
Type of trail use: hiking: yes | biking: no | equestrian: no | dog: no

service vehicles: | other:

illegal trail use?: 2 = Disturbance | describe: ears to be unauthorized, but this should be confirmed with the City

Other disturbance?: | describe:

F25-19 Cont.



MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Chorizanthe orcuttiana MSP Occur ID: 0

Date: 4/9/15

VI. MANAGEMENT RECOMMENDATIONS

block, close and sign unauthorized trail that runs immediately adjacent to population

VII. MANAGEMENT ACTIONS IN LAST YEAR

none - this is a newly discovered occurrence

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

Ceanothus verrucosus

NOTES

This is a newly discovered population of Chorizanthe orcuttiana. As a result, some of the monitoring requirements in this protocol were not recorded such as camera angle, direction, etc.

F25-19
Cont.

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Comment Letter F26

From: CATHERINE SPANGLER
To: DSD EAS
Subject: Pure Water SCH #2106081016/PTS #499621
Date: Wednesday, November 22, 2017 12:06:33 AM

In response to the 1700 page EIR for this project
I believe you have not done due diligence in moving forward on this project by exploring both alternate solutions such as Desalination and at the very minimum by exploring alternate routes and locations. F26-1
The EIR is based solely on this project being within government standards and recommendations but you have failed to take into consideration the other projects currently under way in the communities you will be impacting and once you do combine those impacts with yours, I submit, you will find you have exceeded those standards of safety. F26-2
The route you have proposed will run along 2 of the most congested roads in our community and for us residents will impact abilities for emergency help and the ability to travel within our communities during peak commute times. I would surmise that no one in charge of picking theses routes has to use any of the proposed streets for their daily commute, nor have you investigated what these routes look like during commute times. F26-3
Your proposal for putting high pressured raw sewage pipes right next to our homes and schools is unacceptable and as far as I can tell there is no proposed plan to handle clean ups or leaks should these pipes fail, nor was I able to find any proposal for scheduled maintenance to avoid pipe leaks. F26-4
You are proposing construction right outside my community's front door on Towne Centre Dr during the night where there will be no buffer for the noise and air pollution this will create. This area is already besieged with construction projects and really can not handle anymore to the degree you are proposing for just the pipeline without taking into account the building of the new plant which will be less than a mile from my home. F26-5
In addition to all of this your current proposal will affect some of the few remaining Torrey Pines we have on Genesee. F26-6
It is my understanding you already have a sewage pipe leak running through the canyon which you will need to excavate and fix, yet I found nothing in the EIR about looking at this as an alternate route. F26-7
This project cannot be all about the cheapest way to move forward as there are too many tax paying residents you are proposing to impact with huge health risks. F26-8
Please do your due diligence and slow down to take the time and money to move your project forward without impacting the communities to the degrees you have proposed.
I would submit once again that you will be exceeding the noise and environmental standards of pollution during construction of this project, if you stick with your proposed routes, due to the combined effects of the other construction projects already in progress.
You have a responsibility to the residents of this city and affected communities to complete your project in a safe way and so far you are failing to do so. F26-9
Sincerely,
Catherine Spangler

Sent from my iPhone

Response to Letter F26

Catherine Spangler
November 22, 2017

F26-1 The commenter's preference for desalination and/or alternatives to the proposed pipeline routes and facility locations is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required. Please also refer to response F26-7.

F26-2 A cumulative analysis is included in Chapter 7, Cumulative Impacts, of the Draft EIR/EIS and

		reflects a hybrid approach which relies primarily on adopted planning documents consistent with Section 15130(b)(1)(B) of the CEQA Guidelines, in addition to relevant and reasonably foreseeable projects. While the City believes the approach to the cumulative impact analysis is appropriate and in compliance with CEQA, Chapter 7, Cumulative Impacts, of the Final EIR/EIS has been revised to include additional projects located in the University City area. Revisions made to the Final EIR/EIS are for clarification purposes only and do not result in any substantial changes in the analysis or changes to the significance conclusions presented in the document. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.
	F26-3	As stated in Section 5.16 of the Draft EIR/EIS, based on information provided by City of San Diego Public Utilities Department and Construction Management and Field Services, construction of several segments within the public right-of-way is proposed to take place during the nighttime, between 9:00 p.m. and

		5:00 a.m., with daytime construction along some segments of the pipeline alignment. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas. Additionally, traffic control plans have been incorporated into project design. The traffic control plans would include provisions for coordinating with local school hours and emergency service providers regarding construction times. Additionally, all construction contracts have conditions mandating emergency access into and through the site at all times.
	F26-4	The wastewater forcemain would be designed and constructed such that the City does not agree that potential leaks or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to

	ensure structural integrity.. As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of

	the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma

	Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely. **F26-5** Please refer to response F26-3 regarding cumulative impacts. **F26-6** The Torrey pines within the median along Genesee Avenue were planted and are not considered a native population. Only native populations of this species are covered by the Multiple Species Conservation Program as stated in Attachment A of the San Diego Municipal Code, Land Development Code—Biology Guidelines. Additionally, the Project would not result in conflicts with City Policy 900-19 because none of the trees in the median are designated as Heritage/Conserved or Parkway Resource Trees. The Torrey pines within the median along Genesee Avenue are not protected, and the Morena Pipelines would not result in direct impacts to these trees.

	F26-7 Please refer to response F26-1. An alternative alignment in a canyon would be infeasible since it would conflict with City Council policies 400-13 and 400-14 that prohibit new wastewater force mains in canyons and other environmentally sensitive lands (City of San Diego 2002a, City of San Diego 2002b). This alternative route would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway right-of-way (City of San Diego 2015a). **F26-8** The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. **F26-9** Please refer to response F26-3 regarding cumulative impacts. The commenter's opposition to the Project is noted and will be included in the administrative record.

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Comment Letter F27

From: Joseph Satriano
To: DSD EAS
Subject: Pure Water SCH #2106081016 / PTS #499621
Date: Wednesday, November 22, 2017 2:58:44 PM

Dear San Diego Committee,

I've looked over the plans to pump raw sewage under high pressure through neighborhoods in San Diego. F27-1

Firstly, these pipes will eventually leak. Period. Especially as they are under high pressure. So why even have them in the equation? Are the eventual costs of cleaning the environment not even under consideration here?

Secondly, i understand a facility can be quite costly, but laying these pipes underground will be costly as well, with a far greater downside, especially over time. F27-2

Thirdly, how about the differential in housing values when it happens? No one is going to purchase a home anywhere near this line after it ruptures, and no homeowner is going to want to stay in the area either. Not to mention the health and environmental damage it will do for months to years. Are you willing to close entire neighborhoods due to safety issues when a leak occurs? How costly will that be to cover those displaced families? F27-3

Fourthly, as I understand it the CEQA limit to such documents is 300 pages, which would allow the public to go through the articles and processes involved in their neighborhood. This EIR is 1,700 pages and clearly in violation of the page limit. This may be a technicality, but it seems intentional to push a poorly thought out agenda. F27-4

Perhaps a better founded solution would be to place the reclamation point at or near the site of the sewage, eg, between Friars Rd and Pacific Hwy, then pump the reclaimed, 'pure' water to the reservoirs. leakage of such water would not constitute a health issue. F27-5

Thank you,
Joseph Satriano

Response to Letter F27

Joseph Satriano
November 22, 2017

F27-1 The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure is likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater

	Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan

	(described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely.

	F27-2 This comment is unclear and does not appear to raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. **F27-3** Please refer to response F27-1. **F27-4** The Draft EIR/EIS is a combination EIR and EIS prepared for two different lead agencies and addresses a complex range of issues. The City has determined that the length of the EIR/EIS is necessary to present a thorough discussion of all relevant environmental issues. **F27-5** A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with the CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be

	infeasible. As such, a more detailed analysis is not required. This comment proposes locating a reclamation plant at or near the sewage collection site (e.g., between Friars Road and Pacific Highway), then pumping reclaimed "pure" water to the reservoirs. The City does not agree that the Morena Pipelines pose a risk of spills or leaks, and therefore, does not agree that an alternative to the Morena Pipelines would be necessary as a result (please also refer to response F27-1). Additionally, locating a new reclamation plant near the sewage collection site would reduce the many efficiencies gained by using the existing North City Water Reclamation Plant. Rather than upgrading the capacity of an existing plant, an entirely new plant would need to be constructed, along with an advanced water purification facility. This would result in additional impacts in almost all environmental issue areas. Additionally, sufficient available land for a facility of this magnitude is not available proximate to the proposed Morena Pump Station.

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Comment Letter F28

From: Deke Clinger
To: DSD EAS; CouncilMember Chris Cate
Subject: Pure Water SCH #2106093035 / PTS #499621
Date: Monday, November 27, 2017 4:56:01 PM

Greetings,

I'm past the comment deadline but I just found out about this today.

I'm in favor of the high-level goals of the Pure Water project (reducing sewage outflows at Point Loma and reducing our dependency on imported water). The decision to route a high-pressure line carrying raw sewage through residential neighborhoods does not seem sound.

I learned about this plan from reading the Clairemont Times article by Louis Rodolico here:

http://clairemonttimes.com/2017/11/08/pure-water-rolls-dice-with-sewage-spills/

and related posts on community site nextdoor.com:

https://nextdoor.com/news_feed/?post=70236077
https://nextdoor.com/news_feed/?post=70770187

I've looked at the project description as well:

https://www.sandiego.gov/sites/default/files/north_city_project_pure_water_san_diego_program_public_review_draft.compressed.pdf

but at nearly 1800 pages this is not very approachable.
I found mention of safety guidelines for hazardous chemicals, etc. used at the plant facility but nothing about the potential for a sewage spill.

The questions being raised about addressing failure modes are the most important to me: when (not if) there's a leak in the high-pressure sewage pipeline how is that going to be handled? The description of construction methods that I found (laying pipe in trenches, etc) did not seem to allow for things like a service tunnel to surround the high-pressure lines. If I'm missing something here (service tunnel, double-walled pipe, something else?) I'd very much like to hear about it.

I hope that the prospect of an uncontained high-volume, high-pressure leak of untreated sewage is enough to get this plan revised. Seems like there has to be a better way.

Regards,

Donald Clinger
4852 Mt La Palma Drive
San Diego, CA 92117

F28-1
F28-2
F28-3
F28-4

Response to Letter F28

Deke Clinger
November 27, 2017

F28-1 Comment noted.

F28-2 The Draft EIR/EIS is a combination EIR and EIS prepared for two different lead agencies and addresses a complex range of issues. The City has determined that the length of the EIR/EIS is necessary to present a thorough discussion of all relevant environmental issues.

F28-3 The wastewater forcemain would be designed and constructed such that the City does not agree that potential spills or pipe failure are likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity. The City has provided this additional clarification of the

	wastewater forcemain design within Chapter 3 of the Final EIR/EIS. Minor revisions made do not affect the conclusions of the Final EIR/EIS. In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies or makes insignificant modifications does not require recirculation. As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain

	and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). **F28-4** Please refer to response F28-3.

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Comment Letter EIS-A

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Ave, Suite 250
Carlsbad, California 92008

In Reply Refer To:
FWS-SDG-15B0078-18TA0217

January 8, 2018
Sent by Email

Doug McPherson
Environmental Protection Specialist
Bureau of Reclamation,
Southern California Area Office
27708 Jefferson Avenue, Suite 202
Temecula, California 92590

Subject: Pure Water San Diego Program, North City Project Draft Environmental Impact Report, San Diego County, California

Dear Mr. McPherson:

The U.S. Fish and Wildlife Service (Service), has reviewed the draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the proposed Pure Water San Diego Program, North City Project (Project), dated September 7, 2017. The comments provided herein are based on the information provided in the DEIR/EIS, the Service's knowledge of sensitive and declining species and their habitats, and our participation in the Multiple Species Conservation Program (MSCP) and the City's MSCP Subarea Plan (SAP).

The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*) including habitat conservation plans (HCP) developed under section 10(a)(1) of the Act. The City participates in the Service's HCP program by implementing its SAP.

EIS-A-1

The Project includes a variety of facilities that would traverse a number of local jurisdictions, including the City, the City of Santee, the community of Lakeside and other areas in unincorporated San Diego County, as well as Marine Corps Air Station Miramar. The project is partially located within the City's SAP in the University, Mira Mesa, Scripps Miramar Ranch, Clairemont Mesa, Linda Vista, Mission Valley, Kearny Mesa, Tierrasanta, and Navajo Community Plan Areas. Portions of the Project intersect or are adjacent to core biological resource areas identified as the Multi-Habitat Planning Area (MHPA or preserve) in the City's SAP.

The DEIR/EIS includes the Miramar Reservoir and San Vicente Reservoir alternatives. Both alternatives would expand the existing North City Water Reclamation Plant and construct an adjacent North City Pure Water Facility (NCPWF) with a purified water pipeline to either the Miramar Reservoir or the San Vicente Reservoir. Other project components include: a new pump station and

Response to Comment Letter EIS-A

U.S. Fish and Wildlife Service (USFWS)
David Zoutendyk
January 8, 2018

EIS-A-1 The City appreciates (USFWS's review of the Draft EIR/EIS. This comment accurately summarizes the Project as presented in the Draft EIR/EIS. Please refer to responses EIS-A-2 through EIS-A-15 below for additional responses related to the USFWS's concerns regarding the Project.

forcemain to deliver additional wastewater to the North City Water Reclamation Plant, a brine discharge pipeline, and upgrades to the existing Metropolitan Biosolids Center. In addition, a new North City Renewable Energy Facility is proposed to be constructed at the North City Water Reclamation Plant to receive landfill gas from the City's Miramar Landfill gas collection system via a new gas pipeline. The Miramar Reservoir Alternative is the preferred alternative.

The Service's main concerns are: 1) potential impacts to federally listed species and their habitats including the San Diego fairy shrimp (*Branchinecta sandiegoensis*), least Bell's vireo (*Vireo bellii pusillus;* vireo); Southwestern willow flycatcher (*Empidonax traillii extimus;* flycatcher), and coastal California gnatcatcher (*Polioptila californica californica;* gnatcatcher); and consistency with the City's SAP, including wetland deviations provided for in the City Land Development Code Biology Guidelines. The Service concurs with the comments provided in the November 20, 2017, letter by the California Department of Fish and Wildlife (Department). Our comments are provided in the appendix.

EIS-A-1
Cont.

We appreciate the opportunity to comment on the DEIR/EIS and if there are further questions please contact Patrick Gower at 760-431-9440, extension 352.

Sincerely,

DAVID ZOUTENDYK
Digitally signed by DAVID ZOUTENDYK
Date: 2018.01.08 09:56:17 -08'00'

for Karen A. Goebel
Assistant Field Supervisor

APPENDIX

Comments on the Pure Water San Diego Program, North City Project Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS)

1. Based on surveys completed in 2015, 2016 and 2017, the DEIR/EIS concludes that the NCPWF site is not occupied by San Diego fairy shrimp. However, surveys completed in 2001 and 2006 found San Diego fairy shrimp at the NCPWF site. In addition, the City's Vernal Pool Inventory identifies San Diego fairy shrimp within this site. Based on these positive surveys, the Service considers the NCPWF site occupied by San Diego fairy shrimp for the same reason outlined in the Department's letter on the DEIR/EIS. Currently the Service and the City are completing the Vernal Pool Habitat Conservation Plan (VPHCP) and is anticipated to be completed early 2018. The project is a covered project and impacts occurring to vernal pools and San Diego fairy shrimp within the City are anticipated to be covered under the VPHCP. EIS-A-2 EIS-A-3
2. On FIGURE 5.4-2-1 H and FIGURE 5.4-2-1 I; the areas marked as "Basins SDFS Present in Some Pools" should be revised to show the pools where San Diego fairy shrimp have been identified. EIS-A-4
3. The DEIR/EIS should include a full discussion on the proposed trenchless excavation including the maps showing close ups of the project area with project impacts, vernal pool basins and their watershed and sensitive species locations. The discussion should include potential impacts and include the measures below to minimize or avoid impacts to San Diego fairy shrimp. EIS-A-5
4. The DEIR/EIS should include a figure showing gnatcatcher locations with potential territories, vegetation communities and project impacts and a table detailing project impact acres. EIS-A-6
5. Pg. 5.4-78 The DEIR/EIS states that the project is considered an essential public project. The City's Land Development Manual (LDM) states on page [ii (A) pg. 22) that project alternatives must include a wetlands avoidance alternative. Along with the two pipeline alternatives the DEIR/EIS should include an alternative that completely avoids impacts to vernal pools at the NCPWF which are considered wetlands under the LDM. EIS-A-7
6. Page 146 of the Biological Technical Report states that 3.38 acres of impacts to sensitive vegetation have been previously mitigated during the North City Water Reclamation Project for the Clean Water Program, the Metro Biosolids Center Programmatic Environmental Impact Statement and the Miramar Water Treatment Plant Upgrade/Expansion Project Final Environmental Impact Report. The DEIR/EIS should include supporting documentation showing how the project impacts are mitigated by these previous projects and the location and current status of the mitigation and long term management of the mitigation sites. EIS-A-8

EIS-A-2 This comment correctly summarizes the conclusions of the Draft EIR/EIS, which states that surveys completed recently (2015/2016 and 2017) concluded that the North City Pure Water Facility (NCPWF) site is not occupied by San Diego fairy shrimp (*Branchinecta sandiegonensis*). In 2016, the City contacted USFWS for any previous survey reports completed on the NCPWF; no known survey data for the NCPWF site was available at that time. At the preliminary consultation between the Bureau of Reclamation and USFWS regarding the Pure Water North City Project, on November 14, 2017, USFWS provided the City with survey reports for vernal pool branchiopods from 2001 and 2006.

Neither the 2001 or the 2006 survey efforts meet the requirements for a complete survey according to USFWS survey protocol (i.e., sampling did not take place across an entire wet season, and two surveys were not conducted within a 3-year period). The wet season survey conducted in 2001 consisted of only one day (April 21, 2001) of sampling and only two pools (V2 and V5) were inundated. The dry season survey conducted in 2006 only

	sampled from two pools (33 and 34). However, the survey reports from 2001 and 2006 state that San Diego fairy shrimp occurred in two pools (V2 and 33) on the NCPWF site (Figure EIS-A-1, North City Pure Water Facility – Vernal Pool Resources). Pool V2 was found to be occupied by San Diego fairy shrimp in 2001. Pool V2 was not surveyed during the 2015/2016 wet season because it did not inundate nor was it recorded as a potential pool in 2017 even though both 2015/2016 and 2017 were larger rainfall years than 2000/2001. Dudek biologist Paul Lemons (TE-051248-5) conducted a site visit on December 7, 2017, to document the current conditions of pool V2. The pool is located within the northern part of the dirt road that runs through the site. It is not anticipated that this area will pond due to the slope of the road and existing cover of vegetation. It is likely that off-roading activity may have changed the site and damaged this pool so that it no longer exists. Pool 33 was considered occupied by San Diego fairy shrimp in 2006, and this pool occurs within PW56, which was surveyed during 2015/2016. Only versatile fairy shrimp

	(*Branchinecta lindahli)* was observed during both the wet and dry season surveys conducted in 2015/2016. Additionally, a collection effort for the genetic testing of versatile fairy shrimp (Bohonak 2004; Appendix H of the 2002/2003 Vernal Pool Inventory) was completed within Pueblo 2, which also overlaps PW56. According to Andrew Bohonak, author of the genetic testing report, San Diego fairy shrimp does not occur within this pool. Versatile fairy shrimp is known to occur in disturbed sites, and the continual disturbance of off-roading vehicles has increased the distribution of the species in San Diego County (USFWS 2008). Hybridization or competition between species, depletion of the San Diego fairy shrimp cyst bank, replacement by versatile fairy shrimp, sample contamination, or misidentification of one or more samples are all possible explanations for the apparent discrepancy or possible elimination of San Diego fairy shrimp within this pool (USFWS 2008). It should be noted that the 2002/2003 Vernal Pool Inventory (City of San Diego 2003) did not conduct protocol-level surveys on the NCPWF site, which is referred to in that document as Pueblo Lands (I 12). A mapping

	effort was conducted sometime between 2002 and 2003 for the site, and it was determined by a visual inspection (no sampling was done by a permitted biologist) that three road ruts contained fairy shrimp. Although Section 3.2.4 of the 2002/2003 Vernal Pool Inventory (City of San Diego 2003) states that the Pueblo Lands (I 12) pools are occupied by San Diego fairy shrimp, protocol-level surveys were not conducted to verify the species present. Additionally, Table 1 in Appendix H of the 2002/2003 Vernal Pool Inventory (City of San Diego 2003) states that the Pueblo complex was used as a collection site for genetic testing of versatile fairy shrimp. This was confirmed through email correspondence with Andrew Bohonak, author of the genetic testing report (Bohonak, pers. comm. 2017). Other data taken into account by the City regarding the vernal pools on the NCPWF site includes precipitation during each survey year and vernal pool indicator species based on Appendix A of the San Diego Vernal Pool Habitat Conservation Plan (VPHCP; City of San Diego 2017). Average annual rainfall for San Diego between 2000 and 2017 is

	approximately 9.40 inches (NOAA 2017). Wet season surveys were conducted in 2001 and 2015/2016; dry season surveys were conducted in 2006, 2016, and 2017, and a visual inspection for fairy shrimp was conducted during the 2002/2003 Vernal Pool Inventory. The rainfall totals for each survey effort year on the NCPWF include the following: 6.69 inches from November 2000 through June 2001; 11.30 inches from November 2002 through June 2003; 7.31 inches from November 2005 through June 2006; 10.64 inches from November 2015 through June 2016; and 15.80 inches from November 2016 through June 2017. Vernal pool indicator species were mapped within all 13 vernal pools identified in 2001. Vernal pool indicator species were not mapped during the 2006 survey effort; however, pool V33 overlaps two pools mapped during more recent surveys, which did have indicator species present. Vernal pool indicator species were mapped within all features recorded during the 2015/2016 and 2017 surveys on the NCPWF. All pool locations are displayed on Figure EIS-A-1.

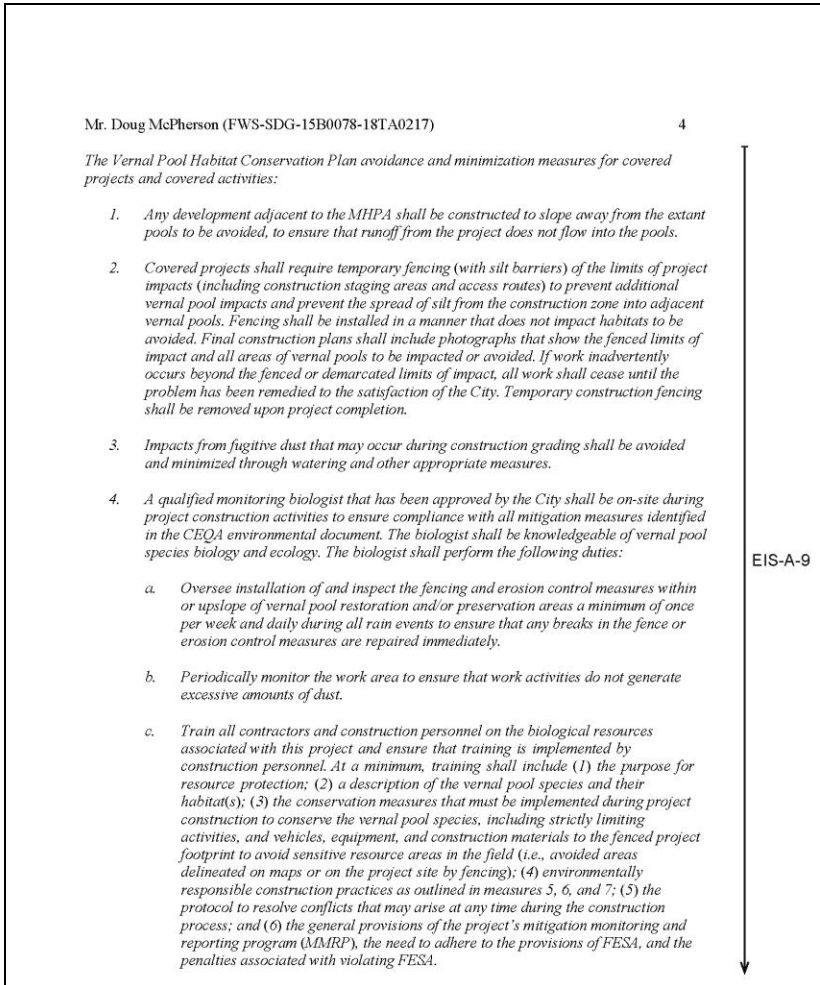
	Based on the information provided above, the City disagrees that the NCPWF site is currently occupied by San Diego fairy shrimp. Based on the most current survey results, which were the only complete protocol-level surveys conducted on the NCPWF, there are no federally listed vernal pool branchiopod species occurring within the NCPWF site. **EIS-A-3** The City has partnered with USFWS to finalize the City of San Diego VPHCP. The Project is included as a covered project under the VPHCP, and impacts to vernal pools at the NCPWF are covered under the VPHCP. **EIS-A-4** Figures 5.4-1H and 5.4-1I of the Draft EIR/EIS include basins mapped by Marine Corps Air Station (MCAS) Miramar to show that all impacts to these features will be avoided. MCAS Miramar provided data for both vernal pools and road ruts and requested that all these features be characterized as basins. Since all impacts to the basins provided by MCAS Miramar will be avoided, basins were combined. The figures have been revised to show which basins are occupied by San Diego fairy shrimp.

	EIS-A-5 The Biological Resources Report, Appendix C of the Draft EIR/EIS, includes discussion on trenchless construction in Section 4 and Figures 4-2A through 4-2M and 4-3A through 4-3R include close-ups of the trenchless areas, vernal pool avoidance areas, sensitive species locations, and Project impacts. Vernal pool watersheds mapped by MCAS Miramar have been added to figures where appropriate. Potential indirect impacts to vernal pools are discussed in Section 4.6.4.1, and direct impacts to vernal pools are discussed in Section 4.3.6.4 of Appendix C. Please refer to response EIS-A-9 below; additional avoidance and minimization measures from the VPHCP have been included as appropriate into the Final EIR/EIS. **EIS-A-6** Focused protocol surveys for coastal California gnatcatcher (*Polioptila californica californica*) in the Project Alternatives study area were conducted by Dudek in May through July 2016 (see Appendix E, 2016 Focused Coastal California Gnatcatcher Survey Report, of Appendix C of the Draft EIR/EIS). Focused protocol surveys for coastal California

		gnatcatcher on MCAS Miramar were conducted separately by MCAS Miramar biologists as part of their yearly monitoring, but preliminary results showing locations of all coastal California gnatcatcher locations within MCAS Miramar, vegetation communities, and Project impacts are included within the Project Alternatives study area shown on Figures 2 through 8 of Appendix A of Appendix C. The results of all surveys overlaid with Project impacts are shown on Figures 4-2A through 4-2M and 4-3A through 4-3R in Appendix C. The City does not agree that additional figures are necessary showing gnatcatcher locations. A coastal California gnatcatcher territory analysis for the Miramar Reservoir Alternative, including a table detailing project impacts to coastal sage scrub, was submitted to the USFWS on December 15, 2017.
	EIS-A-7	As stated in Section 4.1.2 in Appendix C and Section 6.4.8.1 of the Draft EIR/EIS, the North City Project meets the definition of an Essential Public Project as identified in Section IV of the City's Biology Guidelines, in that it is a utility project that will serve the community at large and is not just a single development project or

	property. Because the Project is an Essential Public Project, deviations from the wetland requirements in the Environmentally Sensitive Lands Regulations will be considered only if all of the criteria listed within Section III (page 22) of the City's Biology Guidelines are met. However, as stated in Section 1.3.4 of Appendix C, the Project is a covered project under the City of San Diego VPHCP, which was adopted in January 2018. Upon adoption of the VPHCP, a deviation from wetland requirements in environmentally sensitive lands is no longer required for impacts to vernal pools outside the Multi-Habitat Planning Area (MHPA) provided that mitigation is consistent with the VPHCP. Since the vernal pools on the NCPWF are outside the MHPA and will be mitigated in accordance with Table 2A of the City's Biology Guidelines, which is consistent with the VPHCP requirements, the Project meets the requirements for impacts to vernal pools under the VPHCP. **EIS-A-8** This comment accurately summarizes information from Appendix C; a total of 3.38 acres of previous mitigation has occurred for impacts within the North City Water

	Reclamation Plant at the Del Mar Mesa property (1.16 acres) (City of San Diego 1993), the Metro Biosolids Center at the Goat Mesa parcel (0.90 acre) (City of San Diego 1996), and the Miramar Water Treatment Plant included allocation of credits at the Marron Valley Cornerstone Lands (1.32 acres) (City of San Diego 2002c). All previous mitigation occurred within the City's Multiple Species Conservation Program (MSCP) MHPA and is consistent with the MSCP, which identifies monitoring and management activities. Management activities include signage, fencing, trash removal, and habitat restoration. The Miramar Water Treatment Plant was mitigated through credits at Marron Valley Cornerstone Lands Bank, and the purchase of credits are placed in a special account used to fund maintenance and restoration activities. Del Mar Mesa and Goat Mesa parcels purchased for mitigation within the MSCP MHPA are managed in accordance with the City of San Diego MSCP Subarea Plan directives (City of San Diego 1997). The Final EIR/EIS has been revised to include documentation for these previously mitigated areas.



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The Vernal Pool Habitat Conservation Plan avoidance and minimization measures for covered projects and covered activities:

1. *Any development adjacent to the MHPA shall be constructed to slope away from the extant pools to be avoided, to ensure that runoff from the project does not flow into the pools.*

2. *Covered projects shall require temporary fencing (with silt barriers) of the limits of project impacts (including construction staging areas and access routes) to prevent additional vernal pool impacts and prevent the spread of silt from the construction zone into adjacent vernal pools. Fencing shall be installed in a manner that does not impact habitats to be avoided. Final construction plans shall include photographs that show the fenced limits of impact and all areas of vernal pools to be impacted or avoided. If work inadvertently occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied to the satisfaction of the City. Temporary construction fencing shall be removed upon project completion.*

3. *Impacts from fugitive dust that may occur during construction grading shall be avoided and minimized through watering and other appropriate measures.*

4. *A qualified monitoring biologist that has been approved by the City shall be on-site during project construction activities to ensure compliance with all mitigation measures identified in the CEQA environmental document. The biologist shall be knowledgeable of vernal pool species biology and ecology. The biologist shall perform the following duties:*

   a. *Oversee installation of and inspect the fencing and erosion control measures within or upslope of vernal pool restoration and/or preservation areas a minimum of once per week and daily during all rain events to ensure that any breaks in the fence or erosion control measures are repaired immediately.*

   b. *Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust.*

   c. *Train all contractors and construction personnel on the biological resources associated with this project and ensure that training is implemented by construction personnel. At a minimum, training shall include (1) the purpose for resource protection; (2) a description of the vernal pool species and their habitat(s); (3) the conservation measures that must be implemented during project construction to conserve the vernal pool species, including strictly limiting activities, and vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); (4) environmentally responsible construction practices as outlined in measures 5, 6, and 7; (5) the protocol to resolve conflicts that may arise at any time during the construction process; and (6) the general provisions of the project's mitigation monitoring and reporting program (MMRP), the need to adhere to the provisions of FESA, and the penalties associated with violating FESA.*

EIS-A-9

EIS-A-9 This comment lists the VPHCP avoidance and minimization measures for covered projects and covered activities referenced in comment EIS-A-5. All applicable measures were included in the Draft EIR/EIS as stated in response EIS-A-5. However, there were three VPHCP measures (nos. 1, 8, and 9) that were not included in the EIR/EIS for the following reasons: No. 1 states that development adjacent to the MHPA shall be constructed to slope away from pools; however, the Project would not have any permanent development adjacent to the MHPA. No. 8 requires topsoil salvaging; however, the only vernal pools that would be permanently impacted are those on the NCPWF site which do not contain San Diego fairy shrimp, and only a few of the pools are occupied by versatile fairy shrimp, which would contaminate the San Diego fairy shrimp-occupied pools on the SANDER mitigation site. No. 9 requires permanent fencing along development areas; however, all Project impacts adjacent to vernal pools would be temporary or very minor (<0.01 acre) permanent impacts from the air and blow-off valves (only if the San Vicente Reservoir Alternative is implemented). It should be noted

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d. Halt work, if necessary, and confer with the City to ensure the proper implementation of species and habitat protection measures. The biologist shall report any violation to the City within 24 hours of its occurrence.

e. Submit regular (e.g., weekly) letter reports to the City during project construction and a final report following completion of construction. The final report shall include as- built construction drawings with an overlay of habitat that was impacted and avoided, photographs of habitat areas that were avoided, and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved.

5. The following conditions shall be implemented during project construction:

a. Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint.

b. The project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site.

c. Disposal or temporary placement of excess fill, brush, or other debris shall be limited to areas within the fenced project footprint.

d. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall occur in designated areas within the fenced project impact limits. These designated areas shall be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering the vernal pools or their watersheds, and shall be shown on the construction plans. Fueling of equipment shall take place within existing paved areas greater than 100 feet from the vernal pools or their watersheds. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. A spill kit for each piece of construction equipment shall be on-site and must be used in the event of a spill. "No-fueling zones" shall be designated on construction plans.

6. Grading activities immediately adjacent to vernal pools shall be timed to avoid wet weather to minimize potential impacts (e.g., siltation) to the vernal pools unless the area to be graded is at an elevation below the pools. To achieve this goal, grading adjacent to avoided pools shall comply with the following:

a. Grading shall occur only when the soil is dry to the touch both at the surface and 1 inch below. A visual check for color differences (i.e., darker soil indicating moisture) in the soil between the surface and 1 inch below indicates whether the soil is dry.

EIS-A-9 Cont.

that the numbering of the measures listed in the comment varies slightly from the numbering in the Final VPHCP. The Final EIR/EIS and this response have been updated to include the measures numbered according to the Final VPHCP.

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b. After a rain of greater than 0.2 inch, grading shall occur only after the soil surface has dried sufficiently as described above, and no sooner than 2 days (48 hours) after the rain event ends.

c. To prevent erosion and siltation from storm water runoff due to unexpected rains, best management practices (i.e., silt fences) shall be implemented as needed during grading.

d. If rain occurs during grading, work shall stop and resume only after soils are dry, as described above.

e. Grading shall be done in a manner to prevent runoff from entering preserved vernal pools.

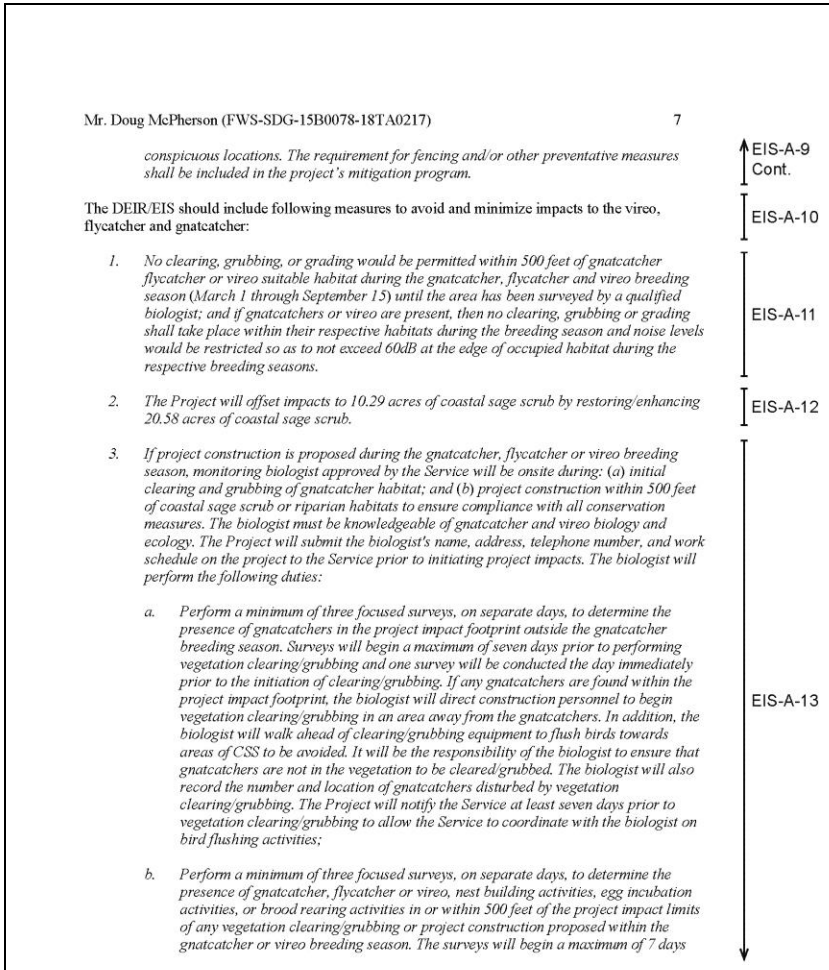
f. If necessary, water spraying shall be conducted at a level sufficient to control fugitive dust but not to cause runoff into vernal pools.

g. If mechanized grading is necessary, grading shall be performed in a manner to minimize soil compaction (i.e., use the smallest type of equipment needed to feasibly accomplish the work).

7. Prior to project construction, topsoil shall be salvaged from the impacted vernal pools or road ruts with fairy shrimp on-site consistent with the requirements of the approved restoration plan (e.g., free of versatile fairy shrimp [Branchinecta lindahli]). Vernal pool soil (inoculum) shall be collected when dry to avoid damaging or destroying fairy shrimp cysts and plant seeds. Hand tools (i.e., shovels and trowels) shall be used to remove the first 2 inches of soil from the pools. Whenever possible, the trowel shall be used to pry up intact chunks of soil, rather than loosening the soil by raking and shoveling, which can damage the cysts. The soil from each pool shall be stored individually in labeled boxes that are adequately ventilated and kept out of direct sunlight in order to prevent the occurrence of fungus or excessive heating of the soil, and stored off-site at an appropriate facility for vernal pool inoculum. Inoculum from different source pools shall not be mixed for seeding any restored pools, unless otherwise approved by the City and Wildlife Agencies. The collected soils shall be spread out and raked into the bottoms of the restored pools. Topsoil and plant materials salvaged from the upland habitat areas to be impacted shall be transplanted to, and/or used as a seed/cutting source for, the upland habitat restoration/creation areas to the maximum extent practicable as approved by the City.

8. Permanent protective fencing along any interface with developed areas and/or use other measures approved by the City to deter human and pet entrance into on- or off-site habitat shall be installed. Fencing shall be shown on the development plans and should have no gates (except to allow access for maintenance and monitoring of the biological conservation easement areas) and be designed to prevent intrusion by pets. Signage for the biological conservation easement area shall be posted and maintained at

EIS-A-9 Cont.



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conspicuous locations. The requirement for fencing and/or other preventative measures shall be included in the project's mitigation program. EIS-A-9 Cont.

The DEIR/EIS should include following measures to avoid and minimize impacts to the vireo, flycatcher and gnatcatcher: EIS-A-10

1. *No clearing, grubbing, or grading would be permitted within 500 feet of gnatcatcher flycatcher or vireo suitable habitat during the gnatcatcher, flycatcher and vireo breeding season (March 1 through September 15) until the area has been surveyed by a qualified biologist; and if gnatcatchers or vireo are present, then no clearing, grubbing or grading shall take place within their respective habitats during the breeding season and noise levels would be restricted so as to not exceed 60dB at the edge of occupied habitat during the respective breeding seasons.* EIS-A-11

2. *The Project will offset impacts to 10.29 acres of coastal sage scrub by restoring/enhancing 20.58 acres of coastal sage scrub.* EIS-A-12

3. *If project construction is proposed during the gnatcatcher, flycatcher or vireo breeding season, monitoring biologist approved by the Service will be onsite during: (a) initial clearing and grubbing of gnatcatcher habitat; and (b) project construction within 500 feet of coastal sage scrub or riparian habitats to ensure compliance with all conservation measures. The biologist must be knowledgeable of gnatcatcher and vireo biology and ecology. The Project will submit the biologist's name, address, telephone number, and work schedule on the project to the Service prior to initiating project impacts. The biologist will perform the following duties:*

   a. *Perform a minimum of three focused surveys, on separate days, to determine the presence of gnatcatchers in the project impact footprint outside the gnatcatcher breeding season. Surveys will begin a maximum of seven days prior to performing vegetation clearing/grubbing and one survey will be conducted the day immediately prior to the initiation of clearing/grubbing. If any gnatcatchers are found within the project impact footprint, the biologist will direct construction personnel to begin vegetation clearing/grubbing in an area away from the gnatcatchers. In addition, the biologist will walk ahead of clearing/grubbing equipment to flush birds towards areas of CSS to be avoided. It will be the responsibility of the biologist to ensure that gnatcatchers are not in the vegetation to be cleared/grubbed. The biologist will also record the number and location of gnatcatchers disturbed by vegetation clearing/grubbing. The Project will notify the Service at least seven days prior to vegetation clearing/grubbing to allow the Service to coordinate with the biologist on bird flushing activities;* EIS-A-13

   b. *Perform a minimum of three focused surveys, on separate days, to determine the presence of gnatcatcher, flycatcher or vireo, nest building activities, egg incubation activities, or brood rearing activities in or within 500 feet of the project impact limits of any vegetation clearing/grubbing or project construction proposed within the gnatcatcher or vireo breeding season. The surveys will begin a maximum of 7 days*

EIS-A-10 Comment noted. The Draft EIR/EIS includes mitigation measures to avoid impacts to coastal California gnatcatcher, least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*) (see mitigation measures MM-BIO-4a, MM-BIO-4b, and MM-BIO-6 in Section 6.4 of the Draft EIR/EIS). Mitigation required upon Project implementation would implement the City's Biology Guidelines, Environmentally Sensitive Lands Regulations, and area-specific management directives (ASMD's) for MSCP Covered Species. Impacts are mitigated to below a level of significance; therefore, revisions to MM-BIO-4a, MM-BIO-4b, and MM BIO-6 are not warranted.

EIS-A-11 Comment noted. This revision would be infeasible due to lack of access within the 500 feet of suitable habitat, and it is not required under the City's Biology Guidelines, which in lieu of surveys the City can assume presence. Furthermore, mitigation measures MM-BIO-4a (within the MHPA), MM-BIO-4b (exceeding ambient noise on MCAS Miramar), and MM-BIO-6 (within and outside the MHPA) mitigate for potential noise

	impacts during nesting season to below a level of significance. **EIS-A-12** The City does concur that the Project will impact 10.29 acres of coastal sage scrub; however, due to the previous mitigation of coastal sage scrub at the North City Water Reclamation Plant, the Metro Biosolids Center, and the Miramar Water Treatment Plant, the total mitigation for impacts to coastal sage scrub would be less than the stated 20.58 acres. Please refer to response EIS-A-8 for details on previous mitigation. The Draft EIR/EIS states that the Project will either permanently impact 2.75 acres and temporarily impact 5.13 acres of coastal sage scrub under the Miramar Reservoir Alternative, or the Project will permanently impact 3.99 acres and temporarily impact 9.51 acres of coastal sage under the San Vicente Reservoir Alternative. As stated in MM-BIO-1a in Section 6.4.3.3 of the Draft EIR/EIS, permanent impacts to coastal sage scrub will be mitigated through the restoration and preservation of 2.75 acres of coastal sage scrub for the Miramar Reservoir Alternative or 5.13 acres of coastal sage scrub for the San Vicente Reservoir

prior to vegetation clearing/grubbing or project construction and one survey will be conducted the day immediately prior to the initiation of work. Additional surveys will be done once a week during project construction in the breeding season. These additional surveys may be suspended as approved by the Service. The Project will notify the Service at least 7 days prior to the initiation of surveys, and within 24 hours of locating any gnatcatchers.

c. Be on site during all vegetation clearing/grubbing and project construction in coastal sage to be impacted or within 500 feet of habitat to be avoided;

d. Oversee installation of and inspect the fencing and erosion control measures within or up-slope of restoration and/or preservation areas a minimum of once per week and daily during all rain events to ensure that any breaks in the fence or erosion control measures are repaired immediately;

e. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust;

f. Train all contractors and construction personnel on the biological resources associated with this project and ensure that training is implemented by construction personnel. At a minimum, training will include: (1) the purpose for resource protection; (2) a description of the gnatcatcher and its/their habitat(s); (3) the conservation measures that should be implemented during project construction to conserve the gnatcatcher, including strictly limiting activities, vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); (4) environmentally responsible construction practices as outlined in measure 8; (5) the protocol to resolve conflicts that may arise at any time during the construction process; (6) the general provisions of the Act, the need to adhere to the provisions of the Act, the penalties associated with violating the Act;

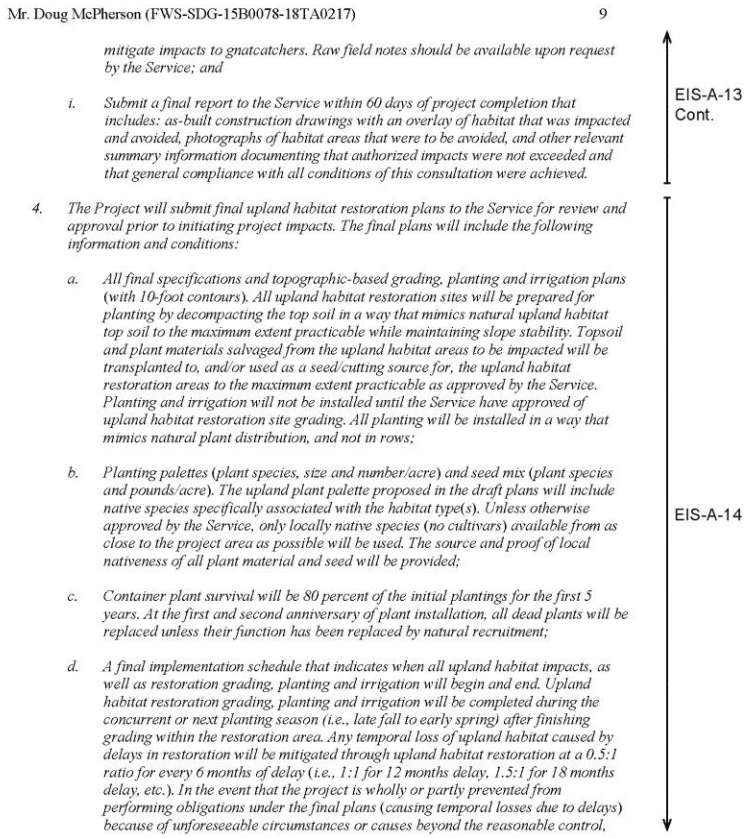
g. Halt work, if necessary, and confer with the Service to ensure the proper implementation of species and habitat protection measures. The biologist will report any violation to the Service within 24 hours of its occurrence;

h. Submit weekly letter reports (including photographs of impact areas) to the Service during clearing of habitat and/or project construction within 500 feet (300 for County) of avoided habitat. The weekly reports will document that authorized impacts were not exceeded, work did not occur within the 500-foot (300 for County) setback except as approved by the Service, and general compliance with all conditions. The reports will also outline the duration of gnatcatcher monitoring, the location of construction activities, the type of construction which occurred, and equipment used. These reports will specify numbers, locations, and sex of gnatcatchers (if present), observed gnatcatcher behavior (especially in relation to construction activities), and remedial measures employed to avoid, minimize, and

EIS-A-13 Cont.

Alternative at the SANDER Vernal Pool and Upland Mitigation Site. All mitigation would occur within the MSCP's MHPA and within the City of San Diego VPHCP hard line preserve. All temporary impacts to coastal sage scrub will be restored according to MM-BIO-2. Temporary impacts occurring within MCAS Miramar will be restored and additional areas will be enhanced to satisfy the Integrated Natural Resources Management Plan requirements. No revisions have been made to mitigation measures in the Draft EIR/EIS as a result of this comment.

EIS-A-13 Comment noted. Please refer to response EIS-A-10.



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mitigate impacts to gnatcatchers. Raw field notes should be available upon request by the Service; and

i. Submit a final report to the Service within 60 days of project completion that includes: as-built construction drawings with an overlay of habitat that was impacted and avoided, photographs of habitat areas that were to be avoided, and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conditions of this consultation were achieved.

EIS-A-13 Cont.

4. The Project will submit final upland habitat restoration plans to the Service for review and approval prior to initiating project impacts. The final plans will include the following information and conditions:

a. All final specifications and topographic-based grading, planting and irrigation plans (with 10-foot contours). All upland habitat restoration sites will be prepared for planting by decompacting the top soil in a way that mimics natural upland habitat top soil to the maximum extent practicable while maintaining slope stability. Topsoil and plant materials salvaged from the upland habitat areas to be impacted will be transplanted to, and/or used as a seed/cutting source for, the upland habitat restoration areas to the maximum extent practicable as approved by the Service. Planting and irrigation will not be installed until the Service have approved of upland habitat restoration site grading. All planting will be installed in a way that mimics natural plant distribution, and not in rows;

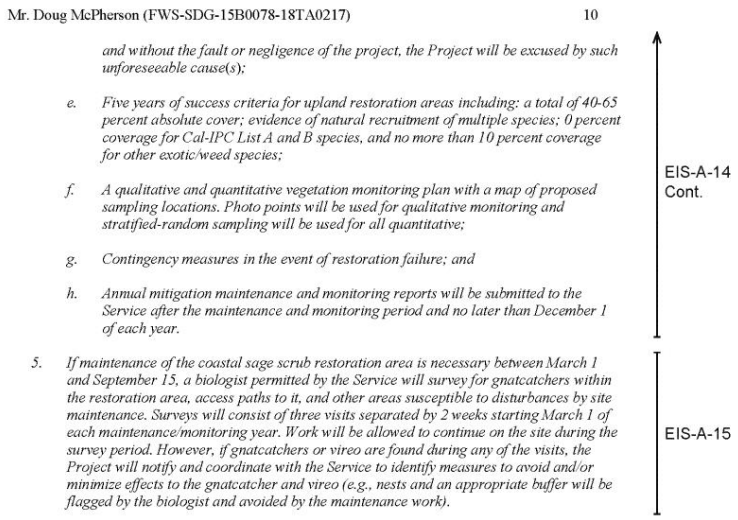
b. Planting palettes (plant species, size and number/acre) and seed mix (plant species and pounds/acre). The upland plant palette proposed in the draft plans will include native species specifically associated with the habitat type(s). Unless otherwise approved by the Service, only locally native species (no cultivars) available from as close to the project area as possible will be used. The source and proof of local nativeness of all plant material and seed will be provided;

EIS-A-14

c. Container plant survival will be 80 percent of the initial plantings for the first 5 years. At the first and second anniversary of plant installation, all dead plants will be replaced unless their function has been replaced by natural recruitment;

d. A final implementation schedule that indicates when all upland habitat impacts, as well as restoration grading, planting and irrigation will begin and end. Upland habitat restoration grading, planting and irrigation will be completed during the concurrent or next planting season (i.e., late fall to early spring) after finishing grading within the restoration area. Any temporal loss of upland habitat caused by delays in restoration will be mitigated through upland habitat restoration at a 0.5:1 ratio for every 6 months of delay (i.e., 1:1 for 12 months delay, 1.5:1 for 18 months delay, etc.). In the event that the project is wholly or partly prevented from performing obligations under the final plans (causing temporal losses due to delays) because of unforeseeable circumstances or causes beyond the reasonable control,

EIS-A-14 Submittal of a final upland restoration plan to USFWS is not required under the City's Land Development Code, Environmentally Sensitive Lands Regulations, or MSCP Subarea Plan. The Project's Conceptual Revegetation Plan does not serve as a mitigation plan for direct impacts to sensitive habitat. MM-BIO-2 address implementation of the MSCP Subarea Plan Section 1.5.2 Restoration as some areas of revegetation occur within the MHPA and are subject to the Conception Revegetation Plan for 25 months or until success of the revegetation effort has been achieved. The Conceptual Revegetation Plan (Appendix P of Appendix C of the Draft EIR/EIS) outlines the topsoil salvaging, planting palettes, irrigation, erosion control, contingency measures, and the revegetation schedule as required by the San Diego Municipal Code, Land Development Code—Landscape Standards. The Conceptual Revegetation Plan adequately addresses each measure listed in the comment.



Mr. Doug McPherson (FWS-SDG-15B0078-18TA0217) 10

and without the fault or negligence of the project, the Project will be excused by such unforeseeable cause(s);

e. Five years of success criteria for upland restoration areas including: a total of 40-65 percent absolute cover; evidence of natural recruitment of multiple species; 0 percent coverage for Cal-IPC List A and B species, and no more than 10 percent coverage for other exotic/weed species;

f. A qualitative and quantitative vegetation monitoring plan with a map of proposed sampling locations. Photo points will be used for qualitative monitoring and stratified-random sampling will be used for all quantitative;

g. Contingency measures in the event of restoration failure; and

h. Annual mitigation maintenance and monitoring reports will be submitted to the Service after the maintenance and monitoring period and no later than December 1 of each year.

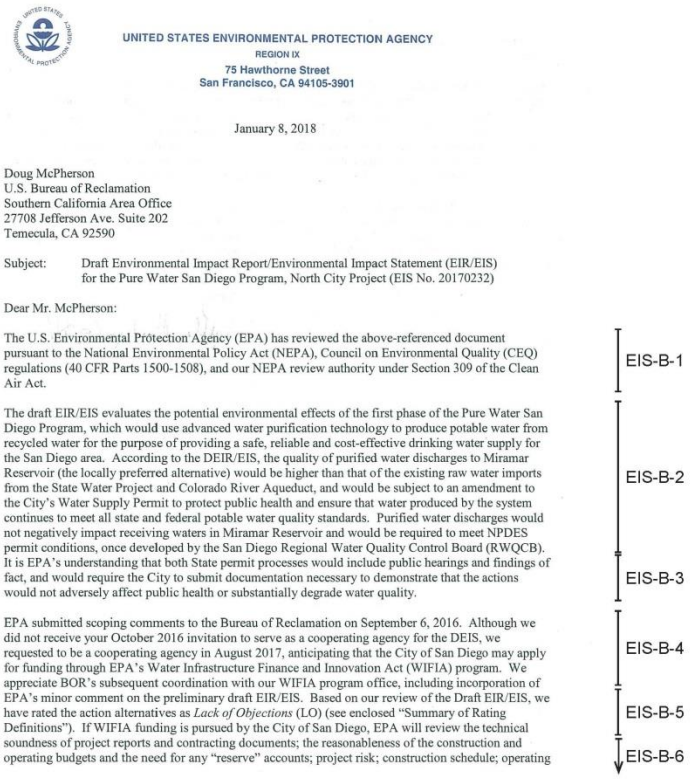
5. If maintenance of the coastal sage scrub restoration area is necessary between March 1 and September 15, a biologist permitted by the Service will survey for gnatcatchers within the restoration area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by 2 weeks starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if gnatcatchers or vireo are found during any of the visits, the Project will notify and coordinate with the Service to identify measures to avoid and/or minimize effects to the gnatcatcher and vireo (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).

EIS-A-14 Cont.

EIS-A-15

EIS-A-15 The Conceptual Revegetation Plan (Appendix P of Appendix C of the Draft EIR/EIS), has been revised to state that all restoration work would adhere to the requirements of mitigation measure MM-BIO-4a when work occurs within or adjacent to the MHPA or MM-BIO-4b when work occurs within MCAS Miramar. Impacts to coastal California gnatcatcher would be avoided by conducting preconstruction surveys for coastal California gnatcatcher and minimizing habitat-disturbing activities between March 1 to August 15 (MM-BIO-4a) or February 15 and August 31 (MM-BIO-4b).

Comment Letter EIS-B



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

January 8, 2018

Doug McPherson
U.S. Bureau of Reclamation
Southern California Area Office
27708 Jefferson Ave. Suite 202
Temecula, CA 92590

Subject: Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Pure Water San Diego Program, North City Project (EIS No. 20170232)

Dear Mr. McPherson:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. EIS-B-1

The draft EIR/EIS evaluates the potential environmental effects of the first phase of the Pure Water San Diego Program, which would use advanced water purification technology to produce potable water from recycled water for the purpose of providing a safe, reliable and cost-effective drinking water supply for the San Diego area. According to the DEIR/EIS, the quality of purified water discharges to Miramar Reservoir (the locally preferred alternative) would be higher than that of the existing raw water imports from the State Water Project and Colorado River Aqueduct, and would be subject to an amendment to the City's Water Supply Permit to protect public health and ensure that water produced by the system continues to meet all state and federal potable water quality standards. Purified water discharges would not negatively impact receiving waters in Miramar Reservoir and would be required to meet NPDES permit conditions, once developed by the San Diego Regional Water Quality Control Board (RWQCB). It is EPA's understanding that both State permit processes would include public hearings and findings of fact, and would require the City to submit documentation necessary to demonstrate that the actions would not adversely affect public health or substantially degrade water quality. EIS-B-2

EPA submitted scoping comments to the Bureau of Reclamation on September 6, 2016. Although we did not receive your October 2016 invitation to serve as a cooperating agency for the DEIS, we requested to be a cooperating agency in August 2017, anticipating that the City of San Diego may apply for funding through EPA's Water Infrastructure Finance and Innovation Act (WIFIA) program. We appreciate BOR's subsequent coordination with our WIFIA program office, including incorporation of EPA's minor comment on the preliminary draft EIR/EIS. Based on our review of the Draft EIR/EIS, we have rated the action alternatives as *Lack of Objections* (LO) (see enclosed "Summary of Rating Definitions"). If WIFIA funding is pursued by the City of San Diego, EPA will review the technical soundness of project reports and contracting documents; the reasonableness of the construction and operating budgets and the need for any "reserve" accounts; project risk; construction schedule; operating EIS-B-3 EIS-B-4 EIS-B-5 EIS-B-6

Response to Comment Letter EIS-B

U.S. Environmental Protection Agency (EPA)
Kathleen Martyn Goldforth
January 8, 2018

EIS-B-1 The City appreciates the EPA's review of the Draft EIR/EIS.

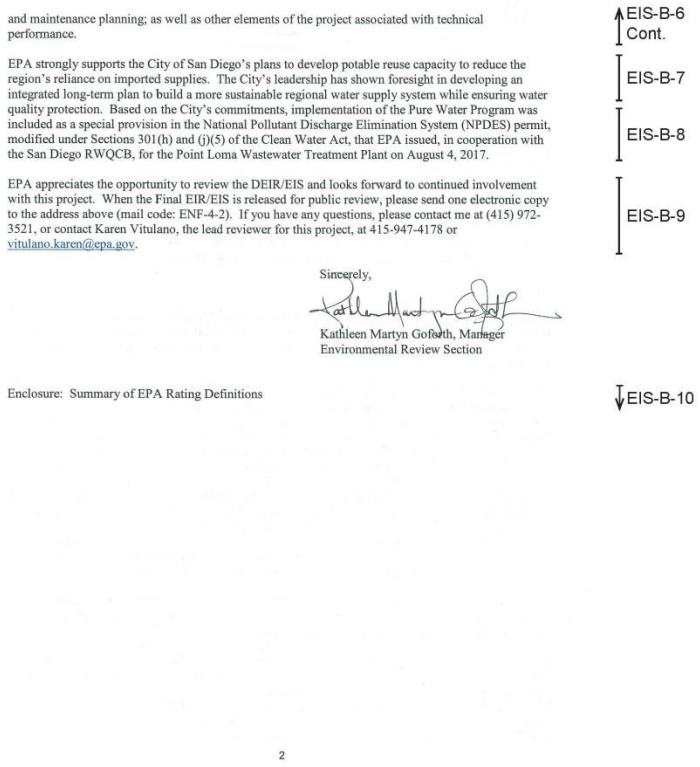
EIS-B-2 This comment accurately summarizes the Project as presented in the Draft EIR/EIS.

EIS-B-3 Comment noted.

EIS-B-4 Comment noted.

EIS-B-5 The City acknowledges the EPA's rating as Lack of Objections; this information is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.

EIS-B-6 Comment noted. The materials listed will be provided to the EPA with the application for Water Infrastructure Finance and Innovation Act funding.



and maintenance planning; as well as other elements of the project associated with technical performance.

EIS-B-6 Cont.

EPA strongly supports the City of San Diego's plans to develop potable reuse capacity to reduce the region's reliance on imported supplies. The City's leadership has shown foresight in developing an integrated long-term plan to build a more sustainable regional water supply system while ensuring water quality protection. Based on the City's commitments, implementation of the Pure Water Program was included as a special provision in the National Pollutant Discharge Elimination System (NPDES) permit, modified under Sections 301(h) and (j)(5) of the Clean Water Act, that EPA issued, in cooperation with the San Diego RWQCB, for the Point Loma Wastewater Treatment Plant on August 4, 2017.

EIS-B-7

EIS-B-8

EPA appreciates the opportunity to review the DEIR/EIS and looks forward to continued involvement with this project. When the Final EIR/EIS is released for public review, please send one electronic copy to the address above (mail code: ENF-4-2). If you have any questions, please contact me at (415) 972-3521, or contact Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

EIS-B-9

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosure: Summary of EPA Rating Definitions

EIS-B-10

2

EIS-B-7 The EPA's support of the Project is noted and will be included in the administrative record.

EIS-B-8 Comment noted.

EIS-B-9 Comment noted. The Final EIR/EIS will be sent as an electronic copy as requested to the email address provided.

EIS-B-10 This comment provides a summary of the EPA's Rating Definitions. The EPA has rated the Project "Lack of Objections", which means that the EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal.

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

EIS-B-10
Cont.

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

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Comment Letter EIS-C

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LINDA T. SOBCZYNSKI

December 12, 2017

VIA CERTIFIED U.S. MAIL & EMAIL

Doug McPherson
Southern California Area Office
Bureau of Reclamation
27708 Jefferson Ave., Suite 202
Temecula, CA 92590
dmcpherson@usbr.gov

Re: Comments on the Draft Environmental Impact Report/ Environmental Impact Statement for the North City Project, Pure Water San Diego Program (SCH #2016081016 / PTS #499621)

We are writing on behalf of California Unions for Reliable Energy ("CURE") to provide comments on the Draft Environmental Impact Report and Draft Environmental Impact Statement ("DEIR/EIS") prepared by the City of San Diego and by the U.S. Bureau of Reclamation, pursuant to the California Environmental Quality Act, and its regulations ("CEQA"),[1] and the National Environmental Policy Act, and its regulations ("NEPA"),[2] respectively, for the Pure Water San Diego Program, North City Project (SCH #201608101/ PTS #499621) ("Project").

The Project is being proposed by the City of San Diego, Public Utilities Department ("City" or "Applicant") and will include expanding the existing North City Water Reclamation Plant and constructing an adjacent North City Pure Water Facility with a purified water pipeline to Miramar Reservoir.[3] A Project alternative would install a longer pipeline to deliver product water to the San Vicente Reservoir.[4] Federal assistance for the Project is authorized by the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992, which directs the

EIS-C-1

[1] California Public Resources Code, §§ 21000 et seq.
[2] National Environmental Policy Act, 42 U.S.C. 4321 et seq.
[3] DEIR/EIS, ES-1-2.
[4] DEIR/EIS, ES-1-2.
3907-017acp

Response to Comment Letter EIS-C

Adams Broadwell Joseph and Cardozo
Linda Sobczynski
November 21, 2017

EIS-C-1 Comment noted.

Secretary of Interior, in cooperation with the City of San Diego, to participate in planning, designing, and constructing demonstration and permanent facilities to reclaim and re-use water in the San Diego metropolitan service area.[5] This authority is delegated to the Bureau of Reclamation.[6]

The North City Project, which includes a variety of facilities, will be located throughout the central coastal areas of San Diego County in the North City geographic area of the University, Mira Mesa, Scripps Miramar Ranch, Clairemont Mesa, Linda Vista, Mission Valley, Kearny Mesa, Tierrasanta, and Navajo Community Plan Areas.[7] A new pure water facility, expanded water reclamation facility, and three pump stations would be located within the corporate boundaries of the City of San Diego.[8] Proposed pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside and other areas in unincorporated San Diego County, as well as federal lands within the Marine Corps Air Station Miramar.[9]

Other project components include: a new pump station and forcemain to deliver additional wastewater to the North City Water Reclamation Plant, a brine discharge pipeline, and upgrades to the existing Metropolitan Biosolids Center.[10] A new North City Renewable Energy Facility is proposed, and would be constructed at the North City Water Reclamation Plant to receive landfill gas from the City's Miramar Landfill gas collection system via a new gas pipeline, providing power to the North City Project components.[11] The landfill gas line would cross Marine Corps Air Station Miramar and will require approval by the United States Marine Corps.[12]

Based on our review of the DEIR/EIS, we conclude that it fails to comply with CEQA and NEPA and must be withdrawn. The document lacks substantial evidence to support its conclusions with respect to air quality, and it does not provide an accurate environmental setting against which to compare the Project's

EIS-C-1 Cont.

EIS-C-2

[5] DEIR/EIS, ES-1-2.
[6] DEIR/EIS, ES-1-2.
[7] DEIR/EIS, ES-1-2.
[8] DEIR/EIS, ES-1-2.
[9] DEIR/EIS, ES-1-2.
[10] DEIR/EIS, ES-1-2.
[11] DEIR/EIS, ES-1-2.
[12] DEIR/EIS, ES-1-2.

3997-017acp

EIS-C-2 The comment is noted. The comment is acknowledged as an introduction to specific comments that follow.

environmental impacts. With respect to construction-related emissions, it fails to properly evaluate, analyze, and mitigate the Project's significant environmental impacts on air quality, public health and odor. Finally, it fails to disclose, analyze and mitigate significant impacts from exposure to Valley Fever. The DEIR/EIS, therefore, fails as an information disclosure document.

Pursuant to CEQA Guidelines, section 15088.5, the City of San Diego must revise the DEIR/EIS for public review, consistent with these comments. The revisions will result in significant new information. Therefore the EIR/EIS must be recirculated to allow the public a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect.[13]

These comments were prepared with the assistance of air quality expert, Phyllis Fox, Ph.D., P.E.. Dr. Fox's technical comments are attached hereto and submitted to the City and Bureau of Reclamation, in addition to the comments in this letter. Accordingly the City and Bureau of Reclamation must address and respond to Dr. Fox's comments separately.[14]

I. STATEMENT OF INTEREST

CURE is a coalition of labor organizations whose members encourage sustainable development of California's energy and natural resources. CURE has an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for the members that they represent. Environmental degradation destroys cultural and wildlife areas, consumes limited fresh water resources, causes air and water pollution, and imposes other stresses on people and the environmental carrying capacity of the State. This in turn jeopardizes future development by making it more difficult and more expensive for industry to expand in San Diego, and by making it less desirable for businesses to locate and people to live and recreate in the City, including the Project vicinity. Its organizations' members live, recreate and work in the communities and regions that suffer the impacts of projects that are detrimental to human health, public safety,

[13] 14 Cal. Code Regs., § 15088.5 ("CEQA Guidelines").
[14] Letter from P. Fox to L. Sobczynski (Nov. 20, 2017) Comments on the Draft Environmental Impact Report/Draft Environmental Impact Statement for the North City Project Pure Water San Diego Program, San Diego, California (hereinafter, "Fox Comments"), **Exhibit A** (Dr. Fox's letter and CV are provided in hard copy and her references are enclosed on a USB).
2597-017acp

EIS-C-2 Cont.

EIS-C-3

EIS-C-4

EIS-C-3 The comment is noted. The comment does not specify what significant new information will be presented that would justify recirculation; therefore, no additional response is provided or required.

EIS-C-4 This comment is noted.

and the environment, including in the San Diego regions that will be negatively impacted by the Project's environmental impacts. CURE therefore has a direct interest in enforcing planning, zoning, land use, and environmental laws to minimize the adverse impacts of projects that would otherwise degrade the environment and threaten public health and safety.

Individual members of CURE's affiliates live, work, recreate and raise their families in the City of San Diego, County of San Diego and the surrounding counties, including the areas in and around where the Project is proposed. Accordingly, they will be directly affected by the Project's environmental and health and safety impacts. Individual members of CURE's affiliates may also work on the Project itself. They will, therefore, be first in line to be exposed to any hazardous materials, air contaminants or other health and safety hazards that exist onsite.

EIS-C-4 Cont.

II. THE DEIR/EIS FAILS TO COMPLY WITH NEPA AND CEQA.

The DEIR/EIS must comply with NEPA's and CEQA's procedural and substantive requirements. As set out in further detail in the following sections, the DEIR/EIS fails to comply with NEPA and CEQA. The DEIR/EIS does not describe the existing setting necessary to adequately analyze potentially significant impacts. Also, the DEIR/EIS fails to disclose potentially significant impacts. Where the DEIR/EIS does discuss impacts, it lacks substantial evidence to support its conclusions and otherwise fails to adequately disclose, analyze, and mitigate those impacts. Consequently, those environmental effects are new or more severe than they are reported. Due to the significant revisions that will be required to adequately analyze undisclosed, potentially significant environmental and public health impacts, and propose all necessary and feasible mitigation to reduce significant impacts, the City and Bureau of Reclamation must revise and recirculate the DEIR/EIS.

EIS-C-5

a. National Environmental Policy Act ("NEPA")

NEPA is "our basic national charter for protection of the environment."[15] Its purpose is "to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance

EIS-C-6

[15] 40 C.F.R. § 1500.1(a).

EIS-C-5 The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

EIS-C-6 The comment is noted regarding the intent of NEPA and EISs.

the environment."[16] NEPA therefore requires federal agencies to take a "hard look at [the] environmental consequences" of their proposed actions.[17] In so doing, NEPA makes certain "that environmental concerns will be integrated into the very process of agency decision-making."[18]

NEPA requires all agencies of the federal government to prepare a "detailed statement" that discusses the environmental effects of, and reasonable alternatives to, all "major Federal actions significantly affecting the quality of the human environment."[19] This statement is commonly known as an EIS. An EIS must describe: (1) the "environmental impact of the proposed action"; (2) any "adverse environmental effects which cannot be avoided should the proposal be implemented"; and (3) any "alternatives to the proposed action."[20] It further requires that "the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth" therein.[21] The environmental "effects" that must be considered in an EIS include both "direct effects which are caused by the action" and "indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."[22]

Pursuant to the Administrative Procedures Act ("APA"), a reviewing court will set aside a federal administrative agency's decision if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[23] An agency's decision made pursuant to NEPA is reviewed under this standard.[24] Although, the standard is deferential to the judgment and expertise of the agency, the agency must support its conclusions with studies that the agency deems reliable.[25] "The agency will have acted arbitrarily and capriciously when 'the record

EIS-C-6
Cont.

[16] *Id.*, § 1500.1(c).
[17] *Robertson v. Methow Valley Citizens Council* (1989) 490 U.S. 332, 350.
[18] *Andrus v. Sierra Club* (1979) 442 U.S. 347, 350.
[19] 42 U.S.C. § 4332(2)(C).
[20] *Id.*
[21] *Id.*
[22] 40 C.F.R. § 1508.8(a), (b).
[23] 5 U.S.C. § 706(2)(A)
[24] *Northern Plains Resource Council, Inc. v. Surface Transp. Bd.* (9th Cir. 2011) 668 F.3d 1067, 1074-1075 (citing *City of Sausalito v. O'Neill* (9th Cir. 2004) 386 F.3d 1186, 1205–06).
[25] *Northern Plains Resource Council, Inc., supra*, 668 F.3d at p. 1075 (citing *Lands Council* (9th Cir. 2006) 537 F.3d 981, 994).
3907-017acp

plainly demonstrates that [the agency] made a clear error in judgment in concluding that a project meets the requirements' of NEPA."[26]

EIS-C-6 Cont.

b. California Environmental Quality Act

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR (except in certain limited circumstances).[27] The EIR is the very heart of CEQA.[28] "The foremost principle in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language."[29]

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project.[30] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'"[31] The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."[32]

EIS-C-7

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures.[33] The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced."[34] If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or

[26] *Northern Plains Resource Council, Inc., supra*, 668 F.3d at p. 1074-1075.
[27] *See, e.g.*, Pub. Resources Code, § 21100.
[28] *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.
[29] *Communities. for a Better Env. v. Cal. Res. Agency* (2002) 103 Cal. App.4th 98, 109 ("*CBE v. CRA*").
[30] CEQA Guidelines, § 15002(a)(1).
[31] *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.
[32] *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[33] CEQA Guidelines, § 15002, subd. (a)(2), (3); *see also Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley, supra*, 52 Cal.3d at p. 564.
[34] CEQA Guidelines, §15002, subd. (a)(2).
3907-017acp

EIS-C-7 The comment is noted regarding the intent of CEQA and EIRs.

substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."[35]

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. *A clearly inadequate or unsupported study is entitled to no judicial deference.*"[36] As the courts have explained, "a prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision making and informed public participation, thereby thwarting the statutory goals of the EIR process."[37]

EIS-C-7 Cont.

III. THE DEIR/EIS FAILS TO PROVIDE AN ADEQUATE DESCRIPTION OF THE ENVIRONMENTAL SETTING.

The DEIR/EIS fails to provide an accurate environmental setting of the Project. The DEIR/EIS omits relevant information regarding high wind (Santa Ana) events and Valley Fever in the region.

EIS-C-8

According to NEPA, an environmental review document must "succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration."[38] Without a description of the areas to be affected by a proposal, the potentially significant effects resulting from a proposal cannot be determined.[39] CEQA requires the lead agency to include an accurate description of the environmental setting to establish the baseline physical conditions against which a lead agency can determine whether an impact is significant.[40]

EIS-C-9

[35] Pub. Resources Code, § 21081; CEQA Guidelines, § 15092, subd. (b)(2)(A) & (B).
[36] *Berkeley Jets, supra*, 91 Cal. App. 4th 1344, 1355 (emphasis added) (quoting *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 391 409, fn. 12).
[37] *Berkeley Jets, supra*, 91 Cal.App.4th at 1355; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal.App.4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946.
[38] 40 C.F.R., § 1502.15.
[39] *Half Moon Bay Fishermans' Marketing Ass'n v. Carlucci* (9th Cir.1988), 857 F.2d 505, 510.
[40] CEQA Guidelines, § 15024, subd. (a).
3997-017acp

EIS-C-8 The comment is noted regarding the Draft EIR/EIS not including high wind events and Valley Fever in the region. The comment is acknowledged as an introduction to specific comments that follow.

EIS-C-9 The comment is noted regarding the discussion of NEPA.

a. The DEIR/EIS fails to provide an adequate description of the environmental setting because it does not describe high wind events.

The description of the environmental setting in the DEIR/EIS is inadequate as it omits highly relevant information regarding reasonably foreseeable high wind events.[41] Dr. Fox writes that the DEIR/EIS assumed a wind speed of 5.8 mph.[42] However, she adds that Santa Ana winds occur regularly and are capable of reaching 30 to 50 mph.[43]

Omitting these high wind events from the DEIR/EIS's description of the setting is a severe flaw because the proposed Project will involve significant amounts of excavation, thus exposing soil surfaces in freshly graded areas and storage piles.[44] Dr. Fox writes that the DEIR/EIS should have included a separate air quality analysis based on the fugitive dust generated by high wind events over the land and storage piles.[45] Without doing so, Dr. Fox states that the DEIR/EIS has not accounted for significant amounts of PM10, PM2.5 and Valley Fever spores, which would be dispersed by wind during the Project's grading, cut and fill, or soil movement, or from bare graded soil surface.[46]

For example, the DEIR/EIS states that PM10 emissions and PM2.5 emissions are below the significance threshold.[47] The significance threshold for PM10 emissions is 100 lb/day.[48] The significance threshold for PM2.5 emissions is 67

EIS-C-10

[41] Fox Comments, p. 13.
[42] Fox Comments, p. 14 (citing DEIR/EIS, Appx. A to Appx. B and Appx. B to Appx. B, 3, 31, 54, *passim*.)
[43] Fox Comments, p. 14; *see also* Fox Comments, p. 6 ("[Windblown dust] must be separately calculated using methods in AP-42 and added to the CalEEMod total."), p. 13 ("The CalEEMod model that the DEIR/DEIS used to calculate construction emissions does not include 'fugitive dust generated by wind over land and storage piles.' Thus, these emissions were not included in the DEIR/DEIS's construction emissions inventory, underestimating emissions of PM10 and PM2.5.")
[44] *See* Fox Comments, p. 13.
[45] Fox Comments, pp. 6, 13.
[46] Fox Comments, p. 14 ("Wind erosion emissions are typically calculated using methods in AP-42, which require detailed information on site topography, wind profiles, and dispersion modeling . . . Generally, wind erosion impacts are estimated using AERMOD.")
[47] DEIR/EIS, Appx. B, pp. 71-72 (Table 7.2-20), pdf. p. 82-83.
[48] DEIR/EIS, Appx. B, pp. 71-72 (Table 7.2-20), pdf. p. 82-83.
3907-017acp

EIS-C-10 Please refer to Response to Comment EIS-C-A-27 for a complete response to this topic.

lb/day.[49] The DEIR/EIS reports that daily PM10 emissions for the Miramar Reservoir Alternative are 70.03 lb/day for PM10 and 36.13 lb/day for PM2.5.[50] However, this conclusion — that the PM10 and PM2.5 emissions are below significance thresholds — is not supported by substantial evidence because the Project's emissions are underestimated. Dr. Fox explains that:

> A Santa Ana wind event could easily significantly increase total PM10 and PM2.5 emissions, which increase with increasing wind velocity[.] [I]ncluding the omitted windblown dust emissions could increase PM10 and PM2.5 emissions over significance thresholds, resulting in significant unmitigated impacts that require all feasible mitigation.[51]

Not only does the DEIR/EIS fail to consider high wind events, as described above, but it also fails to accurately calculate windblown dust from graded areas and storage piles. The DEIR/EIS solely relies on outdated CalEEMod modeling, which does not include fugitive dust generated by wind over land and storage piles.[52] Consequently, Dr. Fox provides substantial evidence that once windblown dust is correctly accounted for,[53] PM2.5 and PM10 could be significant, unmitigated, and require all feasible mitigation.[54]

Accurately describing existing high wind events is critical to evaluating the Project's potentially significant impacts on air quality and public health.[55] The City and the Bureau of Reclamation are required to gather the relevant data and provide an adequate description of the existing environmental setting in a revised DEIR/EIS. Only with a complete description of the existing environmental setting

EIS-C-10 Cont.

EIS-C-11

EIS-C-12

[49] DEIR/EIS, Appx. B, pp. 71-72 (Table 7.2-20), pdf. p. 82-83.
[50] DEIR/EIS, Appx. B, pp. 71-72 (Table 7.2-20), pdf. p. 82-83.
[51] Fox Comments, p. 15.
[52] Fox Comments, p. 6; *id.*, at p. 4 ("Construction emissions should be revised to use [the latest] version [2016.3.2.")
[53] Dr. Fox explains that the DEIR/EIS fails to include emissions from off-road travel, which also increases emissions of PM10 and PM2.5. This is discussed in Section IV.a.i.
[54] Fox Comments, p. 15 ("If Santa Ana winds occurred during grading, cut and fill, or soil movement; or from bare graded soil surfaces, even if periodically wetted, significant amounts of PM10, PM2.5, and associated Valley Fever spores would be released. These emissions could result in public health impacts from Valley Fever spores and/or violations of PM10 and PM2.5 CAAQS and NAAQS.").
[55] CEQA Guidelines, § 15125, subd. (a); *see also Communities For A Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 321.
3907-017acp

EIS-C-11 Please refer to Response to Comment EIS-C-A-29 for a complete response to this topic.

EIS-C-12 Please refer to Response to Comment EIS-C-A-27 for a complete response to this topic.

can the DEIR/EIS accurately analyze and mitigate the environmental effects of the project.

b. The DEIR/EIS discussion of the environmental setting is flawed because it fails to disclose that Valley Fever is endemic in San Diego.

The DEIR/EIS fails to disclose that San Diego County (and thus the City) is endemic for Valley Fever, meaning it is native and common to the region.[56] The County had 649 cases between 2007 and 2011.[57] From 2011 to 2016, that number rose to 728 cases.[58]

The DEIR/EIS fails to disclose Valley Fever in the Project region. Therefore, the DEIR/EIS failed to evaluate the Project's public health impacts and mitigation measures to reduce the impact, as required by CEQA.[59] As discussed in further detail in Section IV.b. below, Dr. Fox provides substantial evidence that the Project's earthmoving activities may expose people to Valley Fever, a significant public health impact that requires mitigation.[60]

IV. THE DEIR/EIS FAILS TO ADEQUATELY ANALYZE THE PROJECT'S ENVIRONMENTAL EFFECTS.

The DEIR/EIS fails as an informational document under NEPA and CEQA by not having substantial evidence to support its conclusions regarding construction emissions, health impacts and odor. Most notably, and despite a federal agency calling for this analysis, the DEIR/EIS also fails to discuss the risk that the Project may expose people to Valley Fever.

NEPA requires a full and fair discussion of every significant impact, as well as disclosure to the decision makers and the public of reasonable alternatives, which would avoid or minimize adverse impacts.[61] CEQA requires that an agency

EIS-C-12 Cont.

EIS-C-13

[56] Fox Comments, p. 29.
[57] Fox Comments, p. 30.
[58] Fox Comments, p. 30 (Table 3: Reported Cases of Valley Fever in San Diego County).
[59] Fox Comments, p. 35.
[60] Fox Comments, p. 35; *see generally* Fox Comments, section 2.
[61] 40 C.F.R. § 1502.
3907-017acp

EIS-C-13 The comment is acknowledged as an introduction to specific comments that follow.

analyze potentially significant environmental impacts in an EIR.[62] The courts may not look for "perfection" but would expect "adequacy, completeness, and a good faith effort at full disclosure [in an EIR]."[63] Incomplete information in an environmental review document will skew the environmental consequences analysis and prevent informed public input.

a. The DEIR/EIS fails to adequately analyze impacts from construction emissions, which, when recalculated, are significant.

The DEIR/EIS failed to adequately support its analysis, and accurately analyze the environmental effect from the Project's construction emissions. Dr. Fox determined that the Project will have significant PM10 emissions, cumulatively significant health impacts from construction equipment emissions, and significant odor impacts on nearby sensitive receptors.

i. The DEIR/EIS underestimates PM10 emissions, which are significant, by omitting emissions from all construction sources.

The DEIR/EIS contains numerous flaws in its construction emission analysis, rendering the analysis unreliable and underestimated. First, the DEIR/EIS does not explain how construction emissions were estimated.[64] Rather, it directs the public to thousands of pages of data and does not explain how to transition that information to emission summaries used for the air quality analysis.[65] To understand and verify the DEIR/EIS's construction emissions, a technical expert must back-calculate emission factors and discern what assumptions the air quality analysis considered in its modeling.[66]

Second, the DEIR/EIS only uses CalEEMod modeling to estimate construction emissions.[67] As Dr. Fox explains in her letter, "this model does not

EIS-C-13 Cont.

EIS-C-14

EIS-C-15

[62] *See* Pub. Resources Code, § 21000; CEQA Guidelines, § 15002.
[63] CEQA Guidelines, § 15151.
[64] Fox Comments, p. 5.
[65] Fox Comments, p. 5.
[66] Fox Comments, p. 5.
[67] Fox Comments, p. 6 ("The DEIR/DEIS exclusively used the CalEEMod model to estimate construction emissions.").
3997-017acp

EIS-C-14 Please refer to Response to Comment EIS-C-A-9 for a complete response to this topic.

EIS-C-15 Please refer to Response to Comments EIS-C-A-27 and EIS-C-A-30 for a complete response to this topic.

include all sources of PM10 and PM2.5 construction emissions. It omits windblown dust from graded areas and storage piles and *fugitive dust from off-road travel.*"[68] Thus, the City and Bureau of Reclamation lack substantial evidence to support their conclusion that PM10 and PM2.5 construction emissions would be less than significant.[69]

EIS-C-15 Cont.

Dr. Fox provides substantial evidence that the Project would actually result in significant air quality impacts during construction. Dr. Fox calculated the PM10 emissions from off-road travel.[70] To calculate the off-road PM10 emissions from construction, Dr. Fox used the AP-42, section 13.2.2, emissions equation.[71] The equation includes fugitive dust from off-road travel generated by the Project's heavy construction equipment.[72] She found that "the emissions from construction equipment working on site are large enough, when combined with emissions estimated using the CalEEMod model, to result in significant daily PM10 impacts for both [Miramar and San Vicente] alternatives."[73]

Dr. Fox calculated that, even assuming mitigation, on-site daily PM10 emissions remain significant for both the Miramar Reservoir and the San Vicente Reservoir alternatives.[74] Thus, daily PM10 emissions from both alternatives "are significant and unavoidable, requiring all feasible mitigation for PM10."[75] Dr. Fox recommended additional, feasible mitigation measures to reduce PM10, which are discussed in further detail below in Section V.a.i.

EIS-C-16

When the PM2.5 emissions from off-road travel are added to the Project's CalEEMod modeling, they do not exceed the significance threshold, as they do for PM10. However, as discussed earlier, windblown dust is a critical component in evaluating PM10, PM2.5, and Valley Fever and excluding high wind events from

[68] Fox Comments, p. 5.
[69] *See generally* DEIR/EIS, ES-5, *id.*, section 6.3-14-20.
[70] *See generally* Fox Comments, section 1.
[71] Fox Comments, p. 6.
[72] Fox Comments, p. 6.
[73] Fox Comments, p. 7.
[74] Fox Comments, p. 9.
[75] Fox Comments, p. 9.
3907-017mcp

EIS-C-16 Please refer to Response to Comments EIS-C-A-13 and EIS-C-A-14 for a complete response to this topic.

the air quality analysis has resulted in a flawed DEIR/EIS.[76] According to Dr. Fox, high wind events may result in significant PM2.5 emissions.[77]

The City and Bureau of Reclamation must revise the DEIR/EIS to add in all emissions sources — windblown dust and fugitive dust from off-road travel — consistent with these comments.[78] The agencies will consequently need to recirculate the revised EIR/EIS to ensure that the public is not deprived of a meaningful opportunity to comment upon the significant PM10 emissions and proposed mitigation measures to reduce this air quality impact.

EIS-C-16 Cont.

ii. The DEIR/EIS does not adequately analyze health impacts caused by construction equipment.

Despite the well-known public health impact that construction is known to have on surrounding communities, the DEIR/EIS does not evaluate health impacts from Project construction equipment emissions.[79] According to Dr. Fox, the Project will use diesel-fueled, off-road equipment such as "heavy-duty trucks, cranes, bulldozers, excavators, and graders."[80] Not only will the equipment emit large amounts of diesel particulate matter ("DPM"), but it will also emit other hazardous air pollutants, such as benzene, which can cause cancer and other acute and chronic health impacts.[81] As Dr. Fox writes in her comments, construction is well known to result in significant health impacts in surrounding communities.[82] And, for this Project, there are sensitive receptors that are very close to construction sites, within 10 feet in some places.[83]

EIS-C-17

Even though the Project's emissions of DPM and other hazardous air pollutants will be near sensitive receptors, the DEIR/EIS did not include an

EIS-C-18

[76] High wind events may result in significant PM10 and PM2.5 emissions. Fox Comments, p. 15.
[77] Fox Comments, p. 15 ("Including the omitted windblown dust emissions could increase PM10 and PM2.5 emissions over these significance thresholds, resulting in significant unmitigated impacts that require all feasible mitigation.").
[78] *See, supra*, Section III.a.; *see also* Fox Comments, p. 14 (The added emissions during Santa Ana winds must be included in the Project emissions.).
[79] Fox Comments, p. 15; *see generally* Fox Comments, section 1.7.
[80] Fox Comments, p. 15.
[81] Fox Comments, p. 15.
[82] Fox Comments, p. 15.
[83] Fox Comments, pp. 18, 22 ("[T]here are many nearby sensitive receptors located within 10 to 70 feet from active construction areas.").
3907-017acp

EIS-C-17 Please refer to Response to Comment EIS-C-A-31 for a complete response to this topic.

EIS-C-18 Please refer to Response to Comments EIS-C-A-31 and EIS-C-A-37 for a complete response to this topic.

evaluation of health impacts from Project construction emissions.[84] Moreover, Dr. Fox comments that the DEIR/EIS failed to evaluate cumulative health impacts of construction:

> [T]he DEIR/DEIS fails to recognize that the substantial diesel engine exhaust emissions typically associated with construction equipment, particularly heavy-duty diesel-powered equipment, would occur concurrently with and subsequent to countless other construction projects elsewhere in the County and in the adjacent South Coast Air Basin.[85]

Consequently, she writes, these health impacts are likely cumulatively significant.[86] To reduce these potentially significant health impacts, Dr. Fox recommends that the Project should require a construction vehicle fleet that includes all Tier 4 equipment.[87] Alternatively, if an all Tier 4 fleet is not available, diesel particulate traps should be used to control DPM.[88]

The City and Bureau of Reclamation must revise and recirculate the DEIR/EIS to include an adequate analysis of, and require all feasible mitigation to reduce, the potentially significant cumulative health impacts from construction equipment emissions.[89]

iii. The DEIR/EIS does not adequately analyze the odor impacts from construction emissions.

Rather than conduct an adequate analysis of odor impacts from construction, the DEIR/EIS claims that impacts would be "temporary" or "intermittent" and also that there is no method to evaluate odor impacts.[90] The DEIR/EIS is legally

EIS-C-18 Cont.

EIS-C-19

EIS-C-20

EIS-C-21

[84] Fox Comments, p. 18.
[85] Fox Comments, pp. 16-18; *id.*, at p. 16 (Figure 2).
[86] Fox Comments, p. 19.
[87] Fox Comments, p. 20.
[88] Fox Comments, p. 20.
[89] *See* Fox Comments, p. 20.
[90] Fox Comments, p. 20 ("The DEIR/DEIS claims there is no method to evaluate odor impacts. However, this is not true. The analysis of odor is no different than the analysis of air quality impacts."); DEIR/EIS, section 5.3-7 ("Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there

EIS-C-19 Please refer to Response to Comments EIS-C-A-31, EIS-C-A-37, and EIS-C-A-40 for a complete response to this topic.

EIS-C-20 Please refer to Response to Comment EIS-C-A-46 for a complete response to this topic.

EIS-C-21 Please refer to Response to Comment EIS-C-A-42 for a complete response to this topic.

incorrect, lacks substantial evidence to support its conclusion and contradicts the City's own CEQA guidelines and regulations.

First, an EIR must identify all potentially significant environmental effects. Significant effects may be "both short-term and long-term."[91] Thus, even temporary Project impacts may have significant effects on the environment that require mitigation.[92]

Second, Dr. Fox states that "the odors and accompanying eye and nose irritation associated with diesel exhaust — smoky, burnt, oily, kerosene — have been documented for decades."[93] Due to this well-known objectionable odor, Dr. Fox concludes that "[a] fleet of heavy-duty, diesel-fueled construction equipment serviced by up to 88 truck trips per day[94], located as close as 10 feet[95] from homes during sensitive nighttime hours, would certainly result in a significant odor impact."[96] Therefore, the DEIR/EIS's conclusion that odor impacts would be less than significant due to its temporary nature is not supported by law or by substantial evidence.

Next, the City's own CEQA Significance Determination Guidelines contradict the DEIR/EIS's assertion that there is no method to evaluate odor impacts.[97] The guidelines indicate that information about the quantity of the odor, proximity to sensitive receptors, and concentration of the odor at the receptor is necessary for determining significance."[98] Thus, the City's guidelines set out some methods for determining significance.

EIS-C-21 Cont.

EIS-C-22

EIS-C-23

EIS-C-24

are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact.").
[91] CEQA Guidelines, § 15126.2, subd. (a).
[92] *C* EQA Guidelines, § 15126.2, subd. (a).
[93] Fox Comments, pp. 20-21.
[94] Fox Comments, p. 22 (citing DEIR/EIS, Table 6.16-4).
[95] Fox Comments, p. 22. Sensitive receptors live within 10 to 70 feet from active construction areas. *Id.*
[96] Fox Comments, p. 21.
[97] Significance Determination Thresholds, City of San Diego (July 2016), *available at* https://www.sandiego.gov/sites/default/files/july_2016_ceqa_thresholds_final_0.pdf.
[98] The guidelines also state that "a *more detailed odor analysis* may be required to fully evaluate and determine significance of the potential impacts if the proposed project would result in objectionable odors to nearby sensitive receptors." Significance Determination Thresholds, *supra*, p. 16 (emphasis added).
3907-017acp

EIS-C-22 The comment is acknowledged and it is noted that it does not appear to relate to any physical effect on the environment. The comment will be included as part of the Final EIR/EIS for review and consideration by the decision-makers prior to a final decision on the project. No further response is required because the comment does not raise an environmental issue.

EIS-C-23 Please refer to Response to Comment EIS-C-A-42 for a complete response to this topic.

EIS-C-24 Please refer to Response to Comment EIS-C-A-44 for a complete response to this topic.

Separately, the San Diego Municipal Code provides a proximity-based regulation, which states that odors should not be permitted to emanate beyond the boundaries of the premises upon which the use emitting the contaminants is located.[99] Dr. Fox adds her expert opinion that analyzing odor is no different than analyzing air quality impacts. She explains that the agency can quantify odor by identifying the odiferous compounds, estimating their emission rates, and using modeling to estimate the concentration of those odiferous compounds at the location of sensitive receptors.[100] The DEIR/EIS's conclusion that there is no method to evaluate odor impacts is not supported by the City's guidelines, by municipal code, or by Dr. Fox's expert opinion.

Dr. Fox provides substantial evidence, based on her expert experience, that odor impacts will be significant.[101] Mitigation is available and should be required to reduce the significant odor impact from all construction within at least 1,000 feet of sensitive receptors.[102] For example, the construction equipment can be equipped with diesel oxidation catalysts, which eliminate odors.[103] The DEIR/EIS must be revised and recirculated to adequately address and mitigate the Project's significant odor impact.

EIS-C-25

b. The DEIR/EIS fails to disclose and analyze significant impacts due to exposure to Valley Fever.

According to Dr. Fox, the Project will have a significant health impact as a result of disturbing soils that may contain Valley Fever spores.[104] Yet, the

EIS-C-26

[99] San Diego Municipal Code Chapter 14: General Regulations, §142.0710 (Air Contaminant Regulations), *available at* http://docs.sandiego.gov/municode/MuniCodeChapter14/Ch14Art02Division07.pdf.
[100] Fox Comments, pp. 21-22.
[101] Fox Comments, pp. 21-22.
[102] Fox Comments, p. 23.
[103] Fox Comments, p. 23; *see also* Fox Comments, p. 23 (discussing Santa Maria Rail Terminal and agency's finding of significant odor impact).
[104] Fox Comments, p. 28.
3997-017acp

EIS-C-25 Please refer to Response to Comments EIS-C-A-43, EIS-C-A-44, and EIS-C-A-45 for a complete response to this topic.

EIS-C-26 Please refer to Response to Comment EIS-C-A-27 for a complete response to this topic.

DEIR/EIS failed to disclose this health impact,[105] despite the U.S. EPA's scoping comments advising the City to include a discussion on the disease.[106]

In her letter, Dr. Fox describes the disease and those who are most at-risk.[107] Coccidiodomycosis, also known as Valley Fever, is contracted by inhaling spores of the dimorphic fungus *Coccidioides spp.* (*Coccidioides immitis and Coccidioides posadasii*) from soil or airborne dust.[108] The fungus lives in the top 2 to 12 inches of soil.[109] When soil containing the fungus is disturbed during earth moving activities, such as digging or construction, the fungal spores become air borne.[110] The spores are too small to be seen by the naked eye and there is no reliable way to test the spores before working in a particular area.[111] However, some areas carry higher risk because they are native and common, or endemic, to the disease. The Project is in an endemic zone for Valley Fever.[112]

"Typical symptoms of Valley Fever include fatigue, fever, cough, headache, shortness of breath, rash, muscle aches, and joint pain. Symptoms of advanced Valley Fever include chronic pneumonia, meningitis, skin lesions, and bone or joint infections."[113] As Dr. Fox writes, no vaccine or known cure exists for the disease.[114] The disease is debilitating particularly to construction and agricultural workers as it prevents them from working.[115]

Additionally, infection rates generally spike during the hot summer months.[116] This means that in California the majority of Valley Fever cases occur

EIS-C-26 Cont.

EIS-C-27

[105] Fox Comments, p. 35.
[106] DEIR/EIS, at Appendix A (Scoping Letter, NOP/NOI, and NOP Comments), pdf. pp. 76-77 (U.S. EPA Detailed Scoping Comments on the Pure Water Project, San Diego County, California, September 6, 2016, pp. 6-7); *see also* Fox Comments, p. 36.
[107] *See* Fox Letter, section 2.
[108] Fox Comments, p. 28.
[109] Fox Comments, p. 28.
[110] Fox Comments, p. 28.
[111] Fox Comments, p. 28.
[112] Fox Comments, p. 29.
[113] Fox Comments, p. 34.
[114] Fox Comments, p. 34.
[115] Fox Comments, p. 32 ("The longest period of disability from occupational exposure in California is to construction workers, with 62% of the reported cases resulting in over 60 days of lost work.").
[116] Fox Comments, p. 34.
3907-017acp

EIS-C-27 The comment is acknowledged and it is noted that it does not appear to relate to any physical effect on the environment. The comment will be included as part of the Final EIR/EIS for review and consideration by the decision-makers prior to a final decision on the project. No further response is required because the comment does not raise an environmental issue.

during the months of June through December.[117] These months are typically periods of peak construction activity.[118]

Dust exposure is one of the primary risk factors.[119] Construction workers, alongside agricultural workers, are the most at-risk populations.[120] In particular, construction workers, who are in close contact with soil are at greater risk, especially if the work involves digging operations.[121]

Other people are also at risk from contracting Valley Fever from construction sites.[122] As Dr. Fox writes, an individual does not need to have direct soil contact to contract Valley Fever.[123] Here, sensitive receptors live within 10 to 70 feet from the Project's active construction areas.[124] In addition, spores can travel as much as 500 miles from their point of origin.[125] Therefore, Project construction may expose people who live, work or travel within 500 miles of the Project's active construction areas.[126]

The Project site will be located in an endemic area and will require extensive earthmoving activities. Dr. Fox provides substantial evidence that construction activities could create a significant health risk to workers and nearby residents. In light of the substantial evidence that Dr. Fox provides, the DEIR/EIS will require significant revisions to address this undisclosed, potentially significant public health impact, and propose all necessary and feasible mitigation to reduce this impact.[127] The City and Bureau of Reclamation will need to recirculate the revised DEIR/EIS to enable meaningful public review and comment.

EIS-C-27 Cont.

EIS-C-28

[117] Fox Comments, p. 34.
[118] Fox Comments, p. 34.
[119] Fox Comments, p. 34.
[120] Fox Comments, p. 32.
[121] Fox Comments, p. 32; *see* DEIR/EIS, section 6.3-9 (construction timeline indicating some construction will occur in summer months).
[122] Fox Comments, pp. 32-33.
[123] Fox Comments, p. 33.
[124] Fox Comments, p. 22.
[125] Fox Comments, p. 33.
[126] Fox Comments, p. 33.
[127] DEIR/EIS, *passim*; *see also* Fox Comments, p. 35.

EIS-C-28 Please refer to Response to Comment EIS-C-A-27 for a complete response to this topic.

V. THE DEIR/EIS FAILS TO REQUIRE ALL FEASIBLE MITIGATION TO REDUCE SIGNIFICANT IMPACTS.

The DEIR/EIS fails to require all feasible mitigation to reduce impacts from construction emissions, and the DEIR/EIS must include mitigation measures to reduce the public health impact from exposure to Valley Fever spores to less than significant.

Pursuant to NEPA, an EIS must include a discussion of "appropriate mitigation measures not already included in the proposed action or alternatives."[128] Mitigation includes "minimizing impacts by limiting the degree or magnitude of the action and its implementation."[129] Under CEQA, an EIR is inadequate unless it includes "a detailed statement setting forth . . . mitigation measures proposed to minimize [the project's] significant effects on the environment."[130] An EIR may conclude an impact is significant and unavoidable only if all available and feasible mitigation measures have been proposed, but are inadequate to reduce the impact to a less than significant level.[131] Mitigation measures must be fully enforceable through permit conditions, agreements or other legally binding instruments.[132] A CEQA lead agency may not rely on mitigation measures of uncertain efficacy or feasibility.[133] This approach helps "insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug."[134]

EIS-C-29

a. Construction emissions are significant and require all feasible mitigation measures.

The DEIR/EIS must include all feasible mitigation measures to reduce impacts from PM10 and NOx emissions from off-road vehicles to less than significant levels.

EIS-C-30

[128] 40 C.F.R., § 1502.14(f).
[129] 40 C.F.R., § 1508.20(b).
[130] Pub. Resources Code, § 21100, subd. (b)(3); CEQA Guidelines, § 15126, subd. (e).
[131] Pub. Resources Code, § 21081; CEQA Guidelines, § 15092, subd. (b)(2)(A) & (B).
[132] CEQA Guidelines, § 15126.4, subd. (a)(2).
[133] *Kings County Farm Bur. v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).
[134] *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.
3907-017acp

EIS-C-29 Please refer to Response to Comments EIS-C-A-50 and EIS-C-A-51 for a complete response to this topic.

EIS-C-30 Please refer to Response to Comments EIS-C-A-14 and EIS-C-A-49 for a complete response to this topic.

***i.* Mitigation Measure MM-AQ-1 is not adequate to mitigate significant off-road PM10 impacts.**

The DEIR/EIS includes some *on-site* particulate fugitive dust control measures in Mitigation Measure MM-AQ-1[135] However, as Dr. Fox writes, none of those mitigation measures would reduce particulate matter from *off-road equipment travel* to less than significant levels. At most, MM-AQ-1 would reduce particulate matter by 40%, which Dr. Fox accounted for in her revised PM10 calculations.[136]

Dr. Fox explains that there are seven reasons for why MM-AQ-1 would not reduce particulate matter from *off-road equipment travel* to less than significant levels.[137] Mitigation Measure MM-AQ-1 states[138]:

> The following best management practices shall be implemented during construction to comply with applicable San Diego Air Pollution Control District (SDAPCD) rules and regulations and to further reduce daily construction emissions:
>
> Best management practices that could be implemented during construction to reduce particulate emissions and reduce soil erosion and trackout include the following:
>
> - Cover or water, as needed, any on-site piles of debris, dirt, or other dusty material.
> - Use adequate water and/or other dust palliatives on all disturbed areas in order to avoid particle blow-off. Due to current drought conditions, the contractor shall consider use of a SDAPCD-approved dust suppressant where feasible to reduce the amount of water to be used for dust control. Use of recycled water in place of potable water shall also be considered provided that the use is approved by the City of San Diego and other applicable regulatory agencies prior to initiation of construction

[135] DEIR/EIS, section 6.3-21-22.
[136] Fox Comments, pp. 9-10 (discussing her calculations, which assumed 40% reductions of PM10).
[137] Fox Comments, pp. 9-10.
[138] DEIR/EIS, section 6.3-21-22; DEIR/EIS, Appendix B, p. 74.
3907-017acp

EIS-C-31

EIS-C-32

EIS-C-31 Please refer to Response to Comment EIS-C-A-16 for a complete response to this topic.

EIS-C-32 This comment is acknowledged that it is an introduction to specific comments that follow.

activity. Use of recycled water shall be in compliance with all applicable City of San Diego Rules and Regulation for Recycled Water (City of San Diego 2016a), particularly for the protection of public health per the California Code of Regulations, Title 22, Division 4.

- Wash down or sweep paved streets as necessary to control track out or fugitive dust.
- Cover or tarp all vehicles hauling dirt or spoils on public roads if sufficient freeboard is not available to prevent material blow-off during transport.
- Use gravel bags and catch basins during ground disturbing operations.
- Maintain appropriate soil moisture, apply soil binders, and plant stabilizing vegetation.[139]

First, the DEIR/EIS contains no discussion of who would be responsible to develop these measures or oversee their implementation.[140]

Second, MM-AQ-1 requires covering or watering stockpiles.[141] As Dr. Fox explains, watering stockpiles does not eliminate off-site, unpaved road dust from flat surfaces, unpaved roadways, and active working areas. [142] Relatedly and third, water or dust palliatives do not control dust from active working areas where excavators, and other equipment, are operating.[143] Dr. Fox estimates that this measure, coupled with moisture control, would control at most 40% of the dust.[144]

Fourth, according to Dr. Fox, washing and sweeping paved streets does not control dust from either on-site or off-site unpaved areas.[145] Fifth, covering trucks

[139] DEIR/EIS, section 6.3-21-22; *id.*, Appendix B, p. 74.
[140] Fox Comments, p. 9.
[141] Fox Comments, pp. 9-10.
[142] Fox Comments, p. 10.
[143] Fox Comments, p. 10.
[144] Fox Comments, p. 10.
[145] Fox Comments, p. 10.
3907-017acp

EIS-C-32 Cont.
EIS-C-33
EIS-C-34
EIS-C-35
EIS-C-36
EIS-C-37

EIS-C-33 Please refer to Response to Comment EIS-C-A-17 for a complete response to this topic.

EIS-C-34 Please refer to Response to Comment EIS-C-A-18 for a complete response to this topic.

EIS-C-35 Please refer to Response to Comment EIS-C-A-19 for a complete response to this topic.

EIS-C-36 Please refer to Response to Comment EIS-C-A-20 for a complete response to this topic.

EIS-C-37 Please refer to Response to Comment EIS-C-A-21 for a complete response to this topic.

does not control dust raised by truck wheels on unpaved surfaces.[146] Sixth, gravel bags and catch basins are storm water management controls and do not control dust raised by equipment wheels and active construction equipment.[147] Seventh, soil moisture control is redundant with the use of water for dust control.[148]

Based on these flaws, construction PM10 impacts would remain significant. Therefore, the City and Bureau of Reclamation do not have substantial evidence to support their conclusion that MM-AQ-1 is adequate to reduce PM10 impacts to less than significant levels.[149] Rather, Dr. Fox provides substantial evidence that additional feasible mitigation is required. Dr. Fox identifies feasible mitigation measures that are necessary to reduce the significant PM10 construction emissions.[150] These measures include installing windbreaks on the windward side of actively disturbed areas of construction, [151] and requiring that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines, [152] among others. [153] These measures must be included in a revised DEIR/EIS and evaluated to determine if they will reduce PM10 construction emission[154] to less than significant levels.

ii. **All feasible NOx mitigation is required for the San Vicente Reservoir Alternative.**

The DEIR/EIS concluded that the San Vicente Reservoir Alternative would have a significant and unavoidable air quality impact due to daily NOx emissions.[155] Most of the emissions would arise from the Mission Trails Booster

EIS-C-37 Cont.
EIS-C-38
EIS-C-39
EIS-C-40
EIS-C-41

[146] Fox Comments, p. 10.
[147] Fox Comments, p. 10.
[148] Fox Comments, p. 10.
[149] DEIR/EIS, section 6.3-13-26.
[150] Fox Comments, p. 10.
[151] Fox Comments, p. 11.
[152] Fox Comments, p. 11.
[153] Fox Comments, pp. 11-12.
[154] Fox Comments, p. 12 (noting that further fugitive PM10 mitigation measures, designed to protect against Valley Fever spores, should be required).
[155] DEIR/EIS, 6.3-21 ("[D]aily construction emissions for the San Vicente Reservoir Alternative would exceed the threshold for NOx and PM10 during construction of the North City Project in 2019 and 2020, resulting in a significant impact under CEQA . . . the San Vicente Reservoir Alternative would exceed the annual significance threshold for NOx during the 2019 construction year, resulting in a significant impact under CEQA.").
3907-017acp

EIS-C-38 Please refer to Response to Comment EIS-C-A-22 for a complete response to this topic.

EIS-C-39 Please refer to Response to Comment EIS-C-A-23 for a complete response to this topic.

EIS-C-40 Please refer to Response to Comment EIS-C-A-25 for a complete response to this topic.

EIS-C-41 This comment is acknowledged that it is an introduction to specific comments that follow.

Station, which requires a substantial amount of excavation work and significant haul trips.[156]

As required by law, the DEIR/EIS proposed mitigation measure MM-AQ-2[157] to reduce significant NOx emissions.[158] MM-AQ-2 states:

> The following measures shall be adhered to during construction activities associated with the North City Project to reduce oxides of nitrogen (NOx):
>
> a. All diesel-fueled construction equipment shall be equipped with Tier 3 or better (i.e., Tier 4 Interim or Tier 4 Final) diesel engines.
>
> b. The engine size of construction equipment shall be the minimum size suitable for the required job.
>
> c. Construction equipment shall be maintained in accordance with the manufacturer's specifications.[159]

MM-AQ-2 does not account for all feasible mitigation for three reasons, as explained by Dr. Fox.[160] First, subsection (a) of MM-AQ-2, which states that all diesel-fuel construction equipment shall be equipped with Tier 3 or better, is meaningless.[161] According to Dr. Fox, the CalEEMod model already assumes that all construction equipment will use Tier 3 engines. Thus, Tier 3 engines are the existing, "base case."[162] The DEIR/EIS therefore improperly relies on measures that are not enforceable mitigation, but merely part of the Project description.[163]

EIS-C-41 Cont.

EIS-C-42

[156] DEIR/EIS, 6.3-26 ("The exceedance in daily maximum NOx emissions is driven by the Mission Trails Booster Station phase of the San Vicente Reservoir Alternative, which requires a substantial amount of excavation work. The haul trips associated with the excavation work comprise the majority of the NOx emissions for that phase in 2019.").
[157] DEIR/EIS, section 6.3-23.
[158] *See* Pub. Resources Code, § 21002.
[159] DEIR/EIS, section 6.3-23.
[160] Fox Comments, section 1.9.
[161] Fox Comments, p. 24.
[162] Fox Comments, p. 24.
[163] CEQA Guidelines, § 15126.4, subd. (a)(2); *Kings County Farm Bur. v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28; *see also Lotus v. Department of Transportation* (2014) 223 Cal.App.4th 645, 650 (applicant erroneously included mitigation measures that were "part of the project").
3997-017scp

EIS-C-42 Please refer to Response to Comment EIS-C-A-47 for a complete response to this topic.

Second, the same subsection defines "or better" as "Tier 4 Interim" or "Tier 4 Final" diesel engines.[164] As Dr. Fox writes, Tier 4 Interim NOx limits are identical to Tier 3 limits.[165] Once again this mitigation measure does nothing.[166]

Third, the measure mentions Tier 4 Final engines as an option, but does not *require* them.[167] Dr. Fox suggests that the measure should be modified to require that all diesel-fueled off-road construction of more than 50 hp be equipped with Tier 4 Final engines.[168] If Tier 4 Final engines are not available, then additional NOx mitigation must be required.[169] Therefore, the City and Bureau of Reclamation lack substantial evidence to support their conclusion that all feasible mitigation measures have been included in the DEIR/EIS for the significant NOx emissions.

Dr. Fox identifies additional feasible mitigation measures to control NOx emissions from construction.[170] These measures include, for example, maintaining all construction equipment in proper tune according to manufacturer's specifications,[171] modifying engines with CARB verified retrofits,[172] and requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx.[173]

Although most of the emissions would arise from the Mission Trails Booster Station,[174] the DEIR/EIS asserts that evaluating other options — *i.e.* redesigning the facility footprint, reducing associated grading — is "outside the scope of this EIR/EIS."[175] The law not only permits, but actually requires this type of evaluation

EIS-C-43

EIS-C-44

EIS-C-45

[164] *See* Fox Comments, p. 24.
[165] Fox Comments, p. 24.
[166] *See* CEQA Guidelines, § 15126.4, subd. (a)(2).
[167] *See* Fox Comments, p. 25.
[168] Fox Comments, p. 25.
[169] Fox Comments, p. 25.
[170] Fox Comments, pp. 25-27.
[171] Fox Comments, p. 26.
[172] Fox Comments, p. 27.
[173] Fox Comments, p. 27 (in addition to reducing particulate matter).
[174] DEIR/EIS, section 6.3-26.
[175] DEIR/EIS, section 6.2-7 ("In order to reduce the impact, the MTBS would need to be redesigned to reduce the facility footprint (and reduce associated grading), reshape cuts and fills to appear as natural forms, retain trees to screen earthwork contrasts, or be relocated to an area with less slope where less excavation would be required, the feasibility and analysis of which is outside the scope of this EIR/EIS.").
3907-017scp

EIS-C-43 Please refer to Response to Comment EIS-C-A-48 for a complete response to this topic.

EIS-C-44 Please refer to Response to Comment EIS-C-A-49 for a complete response to this topic.

EIS-C-45 Please refer to Response to Comments EIS-C-A-49 and EIS-C-A-50 for a complete response to this topic.

when determining the scope of imposing mitigation for a significant and unavoidable impact.[176] The DEIR/EIS must be revised to include additional feasible construction mitigation measures to reduce the significant NOx emissions to below 250 lb/day.[177] The City must then recirculate the revised DEIR/EIS for public review.

EIS-C-45 Cont.

b. Public health impacts from Valley Fever are significant and require all feasible mitigation measures.

As discussed above, the DEIR/EIS did not disclose, or analyze significant health impacts from exposure to Valley Fever spores.[178] Dr. Fox provides substantial evidence that the public health impacts are significant and require mitigation. Although the DEIR/EIS includes a conventional dust control measure to address construction impacts on air quality (Mitigation Measure MM-AQ-1),[179] Dr. Fox writes that the measure is inadequate to address the health risk posed by exposure to Valley Fever spores.[180] Therefore, the DEIR/EIS must be revised and recirculated to include mitigation measures that specifically mitigate the public health impact from exposure to Valley Fever spores.

EIS-C-46

Dr. Fox explains that conventional dust control measures are not adequate to address Valley Fever because those measures "largely focus on visible dust or large dust particles — the PM10 fraction — not the very fine particles where the Valley Fever spores are found."[181] Even after applying dust control measures, and observing that the air appears relatively clear and dust free,[182] the spores, can remain aloft for long periods and be carried hundreds of miles from their point of

EIS-C-47

[176] Pub. Resources Code, § 21002. ("the policy of the state that public agencies *should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures* available which would substantially lessen the significant environmental effects of such projects [italics added].")
[177] DEIR/DEIS, Appx. B, Table 7.2-29.
[178] Fox Comments, p. 35.
[179] Dr. Fox identifies flaws in MM-AQ-1, which she describes on pp. 41-42 of her comment letter. For example, "the DEIR/DEIS contains no discussion of who would be responsible to develop these measures or oversee their implementation." *Id.*
[180] Fox Comments, pp. 36, 41.
[181] Fox Comments, p. 36 (discussing Mitigation Measures MM-AQ-1).
[182] Fox Comments, p. 37 ("Spores of *Coccidioides sap.* have slow settling rates in air due to their small size (0.002 mm) and low terminal velocity, and possibly also due to their buoyancy, barrel shape, and commonly attached empty hyphae cell fragments.").
3967-017acp

EIS-C-46 Please refer to Response to Comment EIS-C-A-51 for a complete response to this topic.

EIS-C-47 Please refer to Response to Comments EIS-C-A-54 and EIS-C-A-66 for a complete response to this topic.

origin.[183] Thus, in the lead agencies' response to these comments, the City and Bureau of Reclamation may not claim that the DEIR/EIS's conventional dust control measures[184] will adequately address the significant health impact from Valley Fever.[185]

Consequently, Dr. Fox provides several recommended measures that go beyond conventional dust control measures[186] and that specifically address Valley Fever, such as:[187]

(1) Re-evaluating and updating the Project's Injury and Illness Prevention Program and ensuring that safeguards to prevent Valley Fever are included[188]
(2) Training all employees about Valley Fever[189]
(3) Controlling dust exposure by providing high-efficiency particulate-filtered, air conditioned enclosed cabs on heavy equipment[190]
(4) Preventing transport of cocci outside endemic areas by thoroughly cleaning equipment[191]
(5) Improving medical surveillance for employees by ensuring that employees have prompt access to medical care[192]
(6) Positioning workers upwind, when possible, when they are digging a trench or performing other soil-disturbing tasks.[193]

EIS-C-47
Cont.

[183] Fox Comments, p. 37.
[184] *See* DEIR/EIS, section 6.3-21-22; *id.*, Appendix B, p. 74 (Mitigation Measures MM-AQ-1).
[185] Fox Comments, p. 43 ("In sum, construction mitigation measures in the DEIR/DEIS are not adequate to control Valley Fever. Projects that have implemented conventional PM10 dust control measures, such as those proposed in the DEIR/DEIS, have experienced fugitive dust issues and reported cases of Valley Fever.").
[186] Fox Comments, p. 37 ("The recommended measures go far beyond the conventional dust control measures recommended in the DEIR/DEIS to control construction emissions, which primarily control PM10."); *id.* p. 41 (describing additional reasons why MM-AQ-1 is inefficient and inadequate).
[187] Fox Comments, section 2.6.
[188] Fox Comments, p. 38.
[189] Fox Comments, p. 38.
[190] Fox Comments, pp. 38-39.
[191] Fox Comments, p. 39 ("Thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations.").
[192] Fox Comments, pp. 39-40.
[193] Fox Comments, p. 42.
3907-017scp

Dr. Fox concludes that "[e]ven if all the [recommended] measures are adopted, a recirculated DEIR/EIS is required to analyze whether these [recommended] measures are adequate to reduce [the Valley Fever] significant impact to a level below significance."[194] The lead agencies must propose mitigation measures that go beyond conventional dust control measures and that are specifically designed to reduce the significant health impacts due to Valley Fever and then analyze their effectiveness.

EIS-C-48 Cont.

VI. CONCLUSION

The DEIR/EIS contains legal errors and lacks substantial evidence to support its conclusions. Instead, substantial evidence shows that the Project will result in significant, unmitigated air quality and public health impacts. Therefore, the City and Bureau of Reclamation must prepare a revised DEIR/EIS. The agencies must then recirculate the revised DEIR/EIS to ensure that the public is not deprived of a meaningful opportunity to comment on the significant impacts and feasible ways to mitigate or avoid those impacts.

EIS-C-49 Cont.

Sincerely,

Linda Sobczynski

LTS: acp

Attachment

[194] Fox Comments, pp. 43-44.
3907-017acp

EIS-C-48 Please refer to Response to Comment EIS-C-A-68 for a complete response to this topic.

EIS-C-49 This comment is acknowledged that it is a summary to specific comments that preceded it.

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Comment Letter EIS-C-A

EXHIBIT A

Response to Comment Letter EIS-C-A

Adams Broadwell Joseph and Cardozo
Linda Sobczynski
November 21, 2017

Comments

on the

Draft Environmental Impact Report/
Draft Environmental Impact Statement

for the

North City Project
Pure Water San Diego Program

San Diego, California

November 21, 2017

Phyllis Fox, PhD, PE
745 White Pine Ave.
Rockledge, FL 32955

The City of San Diego proposes to modify its existing water delivery system to create up to 30 million gallons per day (MGD) of locally controlled recycled water by 2021, treated to meet drinking water standards. The Project would include:

- expansion of North City Water Reclamation Plant;
- construction of adjacent North City Pure Water Facility;
- one of two purified water pipelines to either the Miramar or San Vicente Reservoirs;
- pump station and force main to deliver additional wastewater to the NCWRP;
- brine/centrate discharge pipeline;
- upgrades to existing Metro Biosolids Center;
- new North City Renewable Energy Facility at NCWRP; and
- new Landfill Gas Pipeline between Miramar Landfill gas collection system and NCWRP.

EIS-C-A-1

I reviewed the air quality section of the state Draft Environmental Impact Report (DEIR) and federal Draft Environmental Impact Statement (DEIS) (DEIR/DEIS) and supporting appendices for this Project.[1] The public review period of 77days granted by the City of San Diego (City), the lead agency, is not adequate to review a document as technically complex and long as this DEIR/DEIS.

The DEIR/DEIS consists of a 1,758-page summary, nine technical appendices consisting of many subparts, and appendices within appendices, where all the support for the conclusions in the summary is found. The total number of pages encompassed by the "summary" (1,758 pages) and its nine supporting appendices is 5,809 pages. In addition, the DEIR/DEIS is supported by nine additional reports that contain thousands of pages of complex analyses.

The "summary" does not contain sufficient information to support its conclusions nor citations to where the support can be found, requiring the review of the supporting technical appendices to understand and confirm the DEIR/DEIS's conclusions. For example, if an affected party wished to discover the potential impacts at her nearby property, she would have to review thousands of pages of highly complex

EIS-C-A-2

[1] City of San Diego, North City Project Pure Water San Diego Program, Public Review Draft, Environmental Impact Report/Environmental Impact Statement, September 2017 (DEIR/DEIS); available at https://www.sandiego.gov/water/purewater/purewatersd/reports.

1

EIS-C-A-1 Comment noted regarding the general description of the North City Project, which is consistent with the information presented in the Draft EIR/EIS.

EIS-C-A-2 The comment is acknowledged as an introduction to specific comments that follow. The City strongly believes the summary and all elements of the Draft EIR/EIS are adequate for purposes of complying with both CEQA and NEPA.

calculations and model output and even then, would be unlikely to find the risk at her property.

The allotted review period—September 6, 2017 to November 21, 2017—contains 77 days, of which 20 are weekend days. Assuming a reviewer worked every week day of the review period, she would have to read 198[2] pages of dense technical material every single day to just read the DEIR/DEIS and its supporting appendices, leaving no time to review the nine additional reports or critically evaluate and reverse engineer the many unsupported calculations and then write comments. The reading alone is equivalent to reading a full-length novel every single day of the review period. Few people could devote entire days to doing nothing but reading this DEIR/DEIS, and even fewer are speed readers with the training to figure out how emissions were calculated without inputs and equations to review.

The analyses in the appendices supporting the conclusions in the DEIR/DEIS are highly technical, poorly supported, and contain many inconsistencies, requiring that key assumptions be teased out of hundreds of pages of complex calculations and pdf versions of model inputs and outputs by reverse engineering. This is beyond the ability of members of the public and technical experts, especially without supporting electronic files and cited sources that were not publicly available, in 77 days.

I requested electronic files to support the air quality section of the DEIR/DEIS to facilitate my review, which was limited to air quality due to the short review time. However, the City initially declined the request to provide all electronic files,[3] a routine matter in hundreds of similar cases that I have worked on, thus further complicating the review of this DEIR/DEIS. After a second request, input and output modeling files were privately provided on November 14, 2017 and published to the public on November 17, 2017[4], too late to allow meaningful review. The produced documents included 96 separate health risk assessment and air quality modeling files.

In sum, based on the available material and limited review time, in my opinion the DEIR/DEIS is substantially deficient and does not fulfill its mandate as an informational document under CEQA to inform the public of potential impacts. It has omitted sources of emissions and underestimated others including:

EIS-C-A-2 Cont.

EIS-C-A--3

EIS-C-A--4

EIS-C-A--5

EIS-C-A--6

[2] Number of pages to review, assuming 7 day/week = (1,758 + 5,809)/77 = 98 pages/day.

[3] Excel spreadsheets were provided on October 30, 2017.

[4] Request #17-3304; available at: https://sandiego.nextrequest.com/requests/17-3304.

2

EIS-C-A-3 The comment is noted regarding the length of the review period and length of the Draft EIR/EIS. The public review period is consistent with the CEQA Guidelines.

EIS-C-A-4 The comment is acknowledged as an introduction to specific comments that follow. Also refer to response EIS-C-A-3. As stated in the Public Notice of a Draft EIR, all technical reports and documents referenced in the Draft EIR/EIS were available to the public by request. Only reports prepared specifically to support the analysis in the Draft EIR/EIS were included as technical appendices.

EIS-C-A-5 The comment is acknowledged as an introduction to specific comments that follow.

Refer to responses EIS-C-A-3 through EIS-C-A-5. The City strongly disagrees that the Draft EIR/EIS is "substantially deficient and does not fulfill its mandate as an information document under CEQA to inform the public of potential impacts."

- GHG, criteria pollutants, and TAC emissions from construction equipment were underestimated by assuming 100% Tier 3 construction equipment.
- PM10 and PM2.5 dust emissions from off-road construction activities were omitted.
- PM10 and PM2.5 dust emissions from wind erosion were omitted.
- The impact of Santa Ana winds on PM10 and PM2.5 emissions, and associated Valley Fever spores, were omitted.
- The increases in PM10 emissions for both alternatives are significant and unmitigated when omitted emission sources are included.
- The DEIR/DEIS failed to evaluate health impacts of Project construction, which occurs within 10 feet of sensitive receptors.
- The DEIR/DEIS failed to include all feasible mitigation for the significant increase in NOx emissions during construction of the San Vicente Reservoir alternative.

The DEIR/DEIS also failed to evaluate other impacts of Project construction and operation and fails to require adequate mitigation for these impacts, including:

- Valley fever impacts during Project construction and operation were not disclosed, are significant, and will not be mitigated by construction mitigation measures.
- The impacts of Project construction and operational emissions of NOx and VOC on ambient ozone concentrations and on the ozone attainment status of San Diego Air Basin were not evaluated.
- The impacts of Project construction and operational emissions of criteria pollutants on ambient air quality, to determine if a NAAQS or CAAQS would be violated, were not evaluated.

The DEIR/DEIS concluded that mitigated NOx emissions from construction of the San Vicente Reservoir Alternative would be significant. I also demonstrate that mitigated PM10 impacts from construction of the San Vicente Reservoir Alternative would be significant. The DEIR/DEIS fails to evaluate the impact of these mitigated significant emission increases on ambient air quality. The DEIR/DEIS should have, but did not, conduct ambient air quality modeling to determine if the Project's construction and operational emissions would violate public health standards and any National Ambient Air Quality Standard (NAAQS) or California Air Quality Standard (CAAQS).

My resume is included in Exhibit 1 to these Comments. I have over 40 years of experience in the field of environmental engineering, including air emissions and air

3

EIS-C-A-6 Cont.

EIS-C-A-7

EIS-C-A-6 The comment is acknowledged as an introduction to specific comments that follow.

EIS-C-A-7 The comment is noted regarding Dr. Fox's resume and relevant experience.

pollution control; greenhouse gas (GHG) emission inventory and control; water quality and water supply investigations; hazardous waste investigations; hazard investigations; risk of upset modeling; environmental permitting; nuisance investigations (odor, noise); environmental impact reports (EIRs), including CEQA/NEPA documentation; risk assessments; and litigation support. I have M.S. and Ph.D. degrees in environmental engineering from the University of California at Berkeley. I am a licensed professional engineer in California.

I have prepared comments, responses to comments and sections of CEQA and NEPA documents on air quality, greenhouse gas emissions, water supply, water quality, hazardous waste, public health, risk assessment, worker health and safety, odor, risk of upset, noise, land use, and other areas for well over 500 CEQA and NEPA documents. This work includes EIRs, EISs, Negative Declarations (NDs), and Mitigated Negative Declarations (MNDs). My work has been specifically cited in two published CEQA opinions: *Berkeley Keep Jets Over the Bay Committee, City of San Leandro, and City of Alameda et al. v. Board of Port Commissioners* (2001) 111 Cal. Rptr. 2d 598, and *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal. 4th 310; and has supported the record in many other CEQA and NEPA cases.

EIS-C-A-7 Cont.

1. **CONSTRUCTION IMPACTS ARE UNDERESTIMATED, SIGNIFICANT, AND NOT MITIGATED**

1.1. Construction Emissions Are Not Adequately Supported

The unmitigated and mitigated daily and annual criteria pollutant (NOx, SOx, CO, PM10, PM2.5) emissions from construction of both Project alternatives are summarized in tables in Appendix B to the DEIR/DEIS.[5] These emissions were estimated using default and other assumptions found in the California Emissions Estimator Model (CalEEMod), version 2016.3.1.[6,7] This model has been updated since these analyses were prepared. The most recent version is 2016.3.2.[8] Construction emissions should be revised to use this version. The CalEEMod outputs for the Miramar and San Vicente alternatives are located in Appendices A and B to Appendix B

EIS-C-A-8

[5] DEIR/DEIS, Appx. B, Air Quality Technical Report for the North City Project, Tables 7.2-20/22 (Miramar) and 7.2-27/30 (San Vicente).

[6] CAPCOA, California Emissions Estimator Model, User's Guide, Version 2016.3.2, September 2016 (CAPCOA 2016: Exhibit 2)

[7] DEIR/DEIS, Appx. A (Miramar) and B (San Vicente) to Appx. A (AQTR).

[8] CAPCOA, California Emissions Estimator Model, User's Guide, Version 2016.3.2, October 2017 (CAPCOA 2017); available at http://www.caleemod.com/.

4

EIS-C-A-8 The Draft EIR/EIS was released for public review on September 6, 2017, and the latest version of the California Emissions Estimator Model (CalEEMod; 2016.3.2) wasn't released until October 16, 2017. The following is a list of the revisions and additions that are included in CalEEMod 2016.3.2 version (CAPCOA 2017):

1. The 2016 update to Title 24 (building efficiency % reduction - CEC 2015) was incorporated.
2. A new interactive logging and tracing feature to capture and report errors was implemented to provide technical support.
   - For a handled error (e.g., when CalEEMod encounters an error and recognizes the error), a specific error message will appear on the screen.
   - For an unhandled error (e.g., when CalEEMod encounters an error, but does not recognize the error), a pop-up window will appear on the screen that offers an option for the user to contact the development team.

	3. A new and more stable installer wizard, Windows Installer XML (WiX), has replaced InstallShield. 4. The installation folder was separated from the working folder to allow the user to instantaneously close or exit CalEEMod. 5. A new screen reminder has been added to the fleet mix screen that will alert the user if fleet mix total for each Land Use SubType is above or below 100%. 6. The rolling calendar for construction phases was corrected. 7. The process of loading/opening an existing project file was corrected so that the user-defined fleet mix and user-defined operational year will be preserved. 8. The presentation of the mitigated consumer product emissions in the summer and winter reports was corrected when Parking Land Use Type is defined in the project. 9. Issues with generating a report when carbon dioxide equivalent (CO_2E) greenhouse gas (GHG) is selected or

of the DEIR/DEIS. To avoid confusion in citations, the Air Quality Technical Report is cited as Appx. B (AQTR) to distinguish it from Appx. B to the Air Quality Technical Report, which contains the San Vicente CalEEMod output.

The DEIR/DEIS does not summarize and explain how construction emissions were estimated. Instead, it provides 1,298 pages of pdf output from runs of the CalEEMod model for the Miramar Reservoir Alternative in Appendix A to Appendix B (AQTR)[9] and 1,207 pages of pdf output from runs of the CalEEMod model for the San Vicente Reservoir Alternative in Appendix B to Appendix B (AQTR) of the DEIR/DEIS.[10] The DEIR/DEIS does not explain how to transition from the detailed CalEEMod output to the emission summaries. It does not cite to any page number(s) or headings where the results in the summary tables may be found, summarize the key inputs in an annotated table, or present any method to calculate them from the 2,505 pages of CalEEMod output.

Instead, to understand and verify the DEIR/DEIS's construction emission calculations, the reviewer must master the CalEEMod User's Guide,[11] a 67-page document with six appendices; dig through thousands of pages of hardcopy pdf printout to search for inputs; back-calculate emission factors and compare them with options included in the CalEEMod User's Guide to figure out what the DEIR/DEIS's emission summaries assumed; and figure out which of thousands of outputs were used to categorize and summarize the construction emission summaries. This is beyond the reach of most members of the public who would be impacted by the Project. Further, it cannot be completed by anyone in the 77-day review time, especially without the input and output modeling files, which were only disclosed to the public five days before these comments were due. Thus, the DEIR/DEIS fails as an informational document under CEQA. Due to the lack of time to review the supporting files produced at the last minute, these comments are based on the record that was publicly available for the duration of the review period.

1.2. Construction PM10 and PM2.5 Emissions Are Underestimated

The DEIR/DEIS exclusively used the CalEEMod model to estimate construction emissions. However, this model does not include all sources of PM10 and PM2.5

[9] DEIR/DEIS, Appx. A to Appx. A.

[10] DEIR/DEIS, Appx. B to Appx. A.

[11] CAPCOA 2016.

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EIS-C-A-8 Cont.

EIS-C-A-9

EIS-C-A-10

EIS-C-A-11

EIS-C-A-12

user-defined Phase Name is provided, were fixed.

10. Several issues associated with the comparison of user-defined values against CalEEMod defaults were corrected.
11. Several issues with the checking/ unchecking the "Default" button were corrected.
12. Fixed miscalculation of the annual fugitive dust emissions for PM_{10} and $PM_{2.5}$ (bug caused emissions to be overestimated for projects with multiple construction years).

All the updates made to CalEEMod 2016.3.2 that affect emission results would result in lower emissions for the Project. Therefore, the current emission estimates using the CalEEMod 2016.3.1 are more conservative.

EIS-C-A-9 The general approach and calculation methodology used for the Project is summarized in the Air Quality Technical Report (Appendix B to the Draft EIR/EIS). It clearly states what input assumptions were used to run the CalEEMod emissions model.

	The detailed calculation methodology within CalEEMod can be found within Appendix A to the CalEEMod User's Guide, Calculation Details for CalEEMod (CAPCOA 2017). The CalEEMod is referenced throughout the Air Quality Technical Report where applicable. The detailed CalEEMod output files provided in Appendices A and B to the Air Quality Technical Report are the calculation details for estimating emissions for the Project. They were used to populate the emissions summary tables within the Air Quality Technical Report. The CalEEMod output files provide summary tables indicating daily and annual emissions for each year of construction and for operation. **EIS-C-A-10** As discussed in detail in Comment EIS-C-A-9, the detailed inputs used for calculating emissions with CalEEMod was provided and the CalEEMod internal methodology can be found within its User's Guide. **EIS-C-A-11** The comment is acknowledged, and it is noted that it does not appear to relate to any physical effect on the environment. The

construction emissions. It omits windblown dust from graded areas and storage piles and fugitive dust from off-road travel:[12]

> Fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads. (Fugitive dust from wind blown sources such as storage piles and inactive disturbed areas, as well as fugitive dust from off-road vehicle travel, are not quantified in CalEEMod, which is consistent with approaches taken in other comprehensive models.)

These emissions must be separately calculated using methods in AP-42[13] and added to the CalEEMod total. The DEIR/DEIS did not calculate these emissions. As demonstrated below, when these emissions are added to the total PM2.5 and PM10 reported in the DEIR/DEIS, PM2.5 and PM10 impacts are significant and unmitigated, requiring all feasible mitigation.

EIS-C-A-12 Cont.

1.3. Off-Road Travel PM10 Emissions Are Significant

The DEIR/DEIS does not contain any estimate of off-road travel PM10/PM2.5 emissions from construction equipment. These emissions are calculated from the following equation:[14]

$$E=k(s/12)^a(W/3)^b$$

where

E = size-specific emission factor in lb/VMT

k = particulate size (PM2.5, PM10) constant from AP-42, Table 13.2.2-2 (1.5 for PM10 and 0.15 for PM2.5)

s = surface material silt content (%) from AP-42, Table 13.2.2-1 (8.5% for construction sites)

W = mean vehicle weight (tons)

a = constant from AP-42 Table 13.2.2-2 (0.9 for PM10 and PM2.5)

EIS-C-A-13

[12] CAPCOA 2016, pdf 8. This same language appears in CAPCOA 2017, pdf 7.

[13] U.S. EPA, Compilation of Air Pollutant Emission Factors, Report AP-42; available at https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors#Proposed.

[14] AP-42, Section 13.2.2 Unpaved Roads.

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comment will be included in the administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-12 The comment is acknowledged as an introduction to specific comments that follow.

EIS-C-A-13 The Draft EIR/EIS used CalEEMod to calculate PM_{10}/$PM_{2.5}$ emissions from construction equipment. The following is described in Section 4.3, Dust from Material Movement, in Appendix A of the CalEEMod Users Guide:

> Fugitive dust is generated by the various source activities occurring at a construction site. This dust contributes PM_{10} and $PM_{2.5}$ emissions and for detailed emission breakdowns are distinguished from exhaust particulate matter emissions. The program calculates fugitive dust associated with the site preparation and grading phases from three major activities: haul road grading, earth bulldozing, and truck loading. As recommended by

	SCAQMD, the fugitive dust emissions from the grading phase are calculated using the methodology described in USEPA AP-42. All input information used for the emissions estimations for the Draft EIR/EIS are provided in the Air Quality Technical Report and its appendices. The CalEEMod output files include all detailed information needed to input into CalEEMod. Therefore, all information needed to estimate these emissions were included. Furthermore, the CalEEMod and thus the Draft EIR/EIS does account for off-road emissions from construction equipment. No further response is required.

b = constant from AP-42, Table 13.2.2-2 (0.45 for PM10 and PM2.5)

Further, the DEIR/DEIS also does not contain any of the information required to estimate these emissions: including vehicle weight and distance traveled off road per day or per year for the equipment working a site, site surface silt content; nor a detailed construction schedule, which could be used to figure out these inputs. Thus, the DEIR/DEIS fails as an informational document under CEQA.

EIS-C-A-13 Cont.

My calculations indicate that the emissions from construction equipment working on site are large enough, when combined with emissions estimated using the CalEEMod model, to result in significant PM10 impacts for both alternatives. My calculations assume eight pieces of heavy construction equipment working a given site, consisting of five loaded dump trucks;[15,16] a bulldozer;[17] an excavator;[18] and a grader.[19] This equipment weighs an average of 44 tons.[20] Otherwise, I rely on inputs from AP-42 as follows:

k = 1.5 for PM10 (AP-42, Table 13.2.2-2)

s = 8.5%(AP-42, Table 13.2.2-1)

W = 44 tons

a = 0.9 for PM10 (AP-42 Table 13.2.2-2)

b = 0.45 for PM10 (AP-42, Table 13.2.2-2)

EIS-C-A-14

[15] DEIR/DEIS, pdf 1003 ("five haul trucks per day would be required for backfill/slurry deliveries and soil export.") Two vendor trucks also would be required.

[16] Maximum loaded truck weight in California is 40 tons. *See* FHA, Compilation of Existing State Truck Size and Weight Limit Laws, Report to Congress, May 2015, p. 28 and http://fleetowner.com/management/feature/truck-weight-limit-debate-0409.

[17] Bulldozer operating weight ranges from 49 to 104 tons. *See* https://www.google.com/search?q=weight+of+bulldozer&oq=weight+of+bulldozer&aqs=chrome..69i57j0l5.9001j0j7&sourceid=chrome&ie=UTF-8.

[18] Excavator operating weight ranges from 14 to 89 tons. *See* https://www.construction equipmentguide. com/charts/excavators.

[19] Grader operating weight ranges from 14 to 24 tons. *See* https://www.cat.com/en_US/products/new/equipment/motor-graders.html.

[20] Average weight = [5 trucks + median dozer + median excavator + median grader]/8 = [(5 x 40) + 77 + 52 + 19]/8 = **44.**

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EIS-C-A-14 As stated in response to EIS-C-A-13, the Draft EIR/EIS does include off-road emissions from construction equipment as provided in CalEEMod. Further, the calculations provided by Dr. Fox would be duplicative and over-estimating for the activity and emissions already accounted for within CalEEMod and the Draft EIR/EIS.

As discussed in mitigation measure MM-AQ-1, the following best management practices will be implemented during construction to comply with San Diego Air Pollution Control District (SDAPCD) rules and regulations:

- Best available control measures that could be implemented during construction to reduce particulate emissions and reduce soil erosion and trackout include the following:
  - Cover or water, as needed, any on-site stockpiles of debris, dirt, or other dusty material.
  - Use adequate water and/or other dust palliatives on all disturbed areas in order to avoid particle blow-off. Due to

	current drought conditions, the contractor shall consider use of a SDAPCD-approved dust suppressant where feasible to reduce the amount of water to be used for dust control. Use of recycled water in place of potable water shall also be considered provided that the use is approved by the City of San Diego and other applicable regulatory agencies prior to initiation of construction activity.[1] Use of recycled water shall be in compliance with all applicable City of San Diego Rules and Regulation for Recycled Water (City of San Diego 2008), particularly for the protection of public health per the California Code of Regulations, Title 22, Division 4.

[1] The use of recycled water for construction purposes requires approval of the City and other regulatory agencies on a case-by-case basis. The permit shall be obtained prior to beginning construction. Recycled water used for construction purposes may only be used for soil compaction during grading operations, dust control and consolidation and compaction of backfill in trenches for non-potable water, sanitary sewer, storm drain, gas, and electric pipelines. Equipment operators shall be instructed about the requirements contained herein and the potential health hazards involved with the use of recycled water. Water trucks, hoses, drop tanks, etc. shall be identified as containing non-potable water and not suitable for drinking. Determinations as to specific uses to be allowed shall be in accordance with the standards set forth in Title 22, Division 4 of the California Code of Regulations and with the intent of this ordinance to preserve the public health. The City may, at its discretion, set forth specific requirements as conditions to providing such services and/or require specific approval from the appropriate regulatory agencies (City of San Diego 2008).

	○ Wash down or sweep paved streets as necessary to control trackout or fugitive dust. ○ Cover or tarp all vehicles hauling dirt or spoils on public roads if sufficient freeboard is not available to prevent material blow-off during transport. ○ Use gravel bags and catch basins during ground-disturbing operations. ○ Maintain appropriate soil moisture, apply soil binders, and/or plant stabilizing vegetation. These best management practices will reduce fugitive dust generation from construction of the Project during high wind events. Construction of Project components would also be subject to SDAPCD Rule 55 – Fugitive Dust Control. This rule requires that construction of Project components include steps to restrict visible emissions of fugitive dust beyond the property line (SDAPCD 2009). Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities. The MM-AQ-1 covers all fugitive

Using the above inputs, the PM10 emission factor in pounds per vehicle mile traveled (lb/VMT) is:

$$E_{PM10} = 1.5(8.5/12)^{0.9}(44/3)^{0.45}$$

= 3.7 lb/mi

Assuming that each piece of equipment moves 5 miles while on the construction site each day, the increase in PM10 emissions would be 148 lb/day.[21] The DEIR/DEIS provides no information on on-site trip length for any equipment. Rather, it reports only worker, vendor, and hauling total on-site/off-site trip lengths (16.8, 6.6, 20 mi/day).[22] Assuming, for example, that an excavator moves at 2 mi/hr[23], during an 8-hour workday it would travel 16 miles. Similarly, dozing speeds range from 1 mi/hr up to 4 mi/hr.[24] Thus, assuming 5 mi/day for each piece of on-site equipment, which is equivalent to 0.6 mi/hr, is conservative.

The mitigated PM10 and PM2.5 emissions in Appendices A and B to Appendix B indicate that no fugitive PM10 or PM2.5 mitigation was included for fugitive dust[25] (because fugitive dust emissions were not calculated, a fact not disclosed but which must be dredged out of thousands of pages of pdf model output). Assuming no mitigation for on-site PM10 fugitive emissions, the increase in PM10 emissions from equipment travel in off-road areas is large enough by itself for both Project alternatives to exceed the PM10 daily significance threshold of 100 lb/day.

Thus, as drafted, the DEIR/DEIS does not estimate or require any mitigation for on-site fugitive dust. The maximum daily unmitigated total PM10 emissions for the Miramar Reservoir alternative would be 188 lb/day (148 + 39.85).[26] The maximum daily unmitigated total PM10 emissions for the San Vicente Reservoir alternative would

EIS-C-A-14 Cont.

EIS-C-A-15

[21] Increase in PM10 emissions from on-site travel of construction equipment = 8 pieces of equipment x 5 mi/day x 3.7 lb/mi = 148 lb/day.

[22] DEIR/DEIS, Appx. A and B to Appx. B.

[23] See, for example, Ron Hadaway, 4 Questions to Ask Before Selecting a Wheel Excavator, August 9, 2016 (2.5 to 23 mi/hr); available at http://www.constructionbusinessowner.com/equipment/equipment-management/august-2016-4-questions-ask-selecting-wheel-excavator.

[24] David Roberts, Pipe and Excavation Contracting, 1987, p. 89.

[25] DEIR/DEIS, Appx. A to Appx. B, pdf 13, 15, 17, 19, 41, 43, 45, 47, 64, 66, etc. and Appx. B to Appx. B, pdf 13, 15, 17, 19, 41, 43, etc. (columns for fugitive PM10 and fugitive PM2.5 for mitigated construction on-site are blank).

[26] DEIR/DEIS, Appendix B, Table 7.2-22, pdf 88.

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dust sources during construction. No further response is required.

EIS-C-A-15 As described in responses to comments EIS-C-A-13 and EIS-C-A-14, the Draft EIR/EIS does estimate fugitive dust emissions during construction and has included mitigation within MM-AQ-1. With MM-AQ-1 in place the fugitive PM_{10} emissions are less than significant. No further response is required.

be 218 lb/day (148 + 70.03).[27] The PM10 significance threshold is 100 lb/day. Thus, PM10 emissions from construction of both alternatives are significant without mitigation for on-site fugitive dust.

Assuming mitigation, on-site fugitive PM10 emissions remain significant. The CalEEMod model default control efficiency for watering unpaved road fugitive dust is 40%.[28] Assuming a 40% control efficiency from watering on-site unpaved areas, the PM10 emissions from off-road vehicle travel for the Miramar Reservoir alternative are 129 lb/day[29] and for the San Vicente Reservoir alternative 159 lb/day.[30] Thus, daily PM10 emissions from both alternatives are significant and unavoidable, requiring all feasible mitigation for PM10.

1.4. Off-Road PM10 Mitigation In MM-AQ-1 Is Not Adequate to Mitigate Significant PM10 Impacts

Even though no significant PM10 or PM2.5 impacts were reported, the DEIR/DEIS includes some on-site particulate fugitive dust control measures in mitigation measure MM-AQ-1 to satisfy San Diego Air Pollution Control District rules and regulations.[31] However, none of the mitigation measures in MM-AQ-1[32] would reduce particulate matter from off-road equipment travel on disturbed surfaces beyond that assumed by the default 40% used to calculate revised PM10 emissions.

First, the DEIR/DEIS contains no discussion of who would be responsible to develop these measures or oversee their implementation.

Second, mitigation measure MM-AQ-1 requires covering or watering stockpiles. The DEIR/DEIS does not identify any stockpiles or include any emissions from them. Watering stockpiles does not eliminate off-site, unpaved road dust from flat surfaces,

EIS-C-A-15 Cont.

EIS-C-A-16

EIS-C-A-17

EIS-C-A-18

[27] DEIR/DEIS, Appendix B, Table 7.2-29, pdf 95.

[28] DEIR/DEIS, Appendix A to Appx. B, pdf 5, 33, 56, 79, 108, 132, 156, 187, 213, 239, 262, 280, 298, etc.; Appx. B to Appx. B, pdf 5, 33, 56, 79, 108, 132, 156, 187, etc. The control efficiency assumed for watering on-site unpaved surfaces in the CalEEMod runs was zero because the CalEEMod model does not estimate on-site fugitive dust.

[29] Mitigated off-road PM10 emissions for the Miramar alternative: 0.6 x 148 + 39.85 = **128.65 lb/day**.

[30] Mitigated off-road PM10 emissions for the San Vicente alternative: 0.6 x 148 + 70.03 = **158.83 lb/day**.

[31] DEIR/DEIS, Appx. A to Appx. B, p. 74 and Appx. B to Appx. B, p. 81.

[32] DEIR/DEIS, pdf 1013/1014; Appendix B, pdf 86.

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EIS-C-A-16 As shown in response to comment EIS-C-A-14, which describes MM-AQ-1, there are several measures in place that would reduce particulate matter from off-road equipment travel on disturbed surfaces including:

- Use adequate water and/or other dust palliatives on all disturbed areas in order to avoid particle blow-off. Due to current drought conditions, the contractor shall consider use of a SDAPCD-approved dust suppressant where feasible to reduce the amount of water to be used for dust control. Use of recycled water in place of potable water shall also be considered provided that the use is approved by the City of San Diego and other applicable regulatory agencies prior to initiation of construction activity. Use of recycled water shall be in compliance with all applicable City of San Diego Rules and Regulation for Recycled Water (City of San Diego 2008), particularly for the protection of public health per the California Code of Regulations, Title 22, Division 4.

- Maintain appropriate soil moisture, apply soil binders, and/or plant stabilizing vegetation.

Also, the watering mitigation assumed within the Draft EIR/EIS and the CalEEMod modeling runs was twice watering daily, which equates to a fugitive dust reduction of 55%, which is the CalEEMod default assumption as described in Section 12.1, Construction Mitigation Measures and Regulatory Adjustments, in Appendix A of the CalEEMod Users Guide:

> The mitigation measures in this section apply the specified percent reduction in PM_{10} or $PM_{2.5}$ to the applicable fugitive dust calculations. Watering of unpaved roads recalculates the unpaved road equations using the updated values supplied by the user in this section. These are based on mitigation measures described by SCAQMD.

Therefore, the Draft EIR/EIS assumed a 55% fugitive dust reduction from watering twice daily based on the CalEEMod default.

	EIS-C-A-17 The implementation of MM-AQ-1 is discussed in detail within Chapter 10, Mitigation Monitoring and Reporting Program, of the Draft EIR/EIS in accordance with Section 21081.6 of CEQA. Table 10-10 identifies the responsible person for MM-AQ-1 as the Construction Manager. No further response is required. **EIS-C-A-18** Although no stockpiles were reasonably foreseen within the Project construction, the requirement of covering or watering stockpiles was included as a dust mitigation measure in accordance with SDAPCD Rule 55, which requires all construction activity to prevent generation of visible dust emissions including active operations, open storage piles, and inactive disturbed areas. Furthermore, as the comment notes, calculation of these emissions requires detailed information that is not generally available at the CEQA stage.

unpaved roadways, and active working areas. Thus, this measure is not mitigating anything. EIS-C-A-18 Cont.

Third, water or dust palliatives do not control dust from active working areas where excavators, etc. are operating. This measure, coupled with moisture control, would at most control 40% of the dust, as assumed above in my calculations. EIS-C-A-19

Fourth, washing and sweeping paved streets does not control dust from either on-site or off-site unpaved areas. EIS-C-A-20

Fifth, covering trucks does not control dust raised by truck wheels on unpaved surfaces. EIS-C-A-21

Sixth, gravel bags and catch basins are storm water management controls and do not control dust raised by equipment wheels and active construction equipment. EIS-C-A-22

Seventh, soil moisture control is redundant with the use of water for dust control, required elsewhere in MM-AQ-1. Further, soil moisture cannot be controlled in active work areas. Soil moisture control, achieved using watering, would at most control 40% of the dust, as assumed above in my calculations. Finally, this measure is worded in such a general way as to be basically meaningless and unenforceable. EIS-C-A-23

In sum, the mitigation proposed in MM-AQ-1 does not mitigate the significant PM10 impacts that I calculated in Comment 1.3. Thus, construction PM10 impacts remain significant, requiring all feasible mitigation. EIS-C-A-24

1.5. All Feasible Mitigation Is Required for PM10 Construction Emissions

Other air districts have identified many additional PM10 mitigation measures that should be required for this Project. The Bay Area Air Quality Management District requires these measures for all projects:[33] EIS-C-A-25

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.

[33] BAAQMD, California Environmental Quality Act Air Quality Guidelines, 2012 CEQA Guidelines, May 2017, Section 8-2; available at:

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EIS-C-A-19 As discussed in MM-AQ-1 and shown in response EIS-C-A-14, the Project will use water or dust palliatives for all disturbed areas on site, which includes active working areas. This mitigation effectively resulted in a 55% reduction in particulate emissions in accordance with CalEEMod default assumptions.

EIS-C-A-20 This mitigation measure is not intended for reducing dust emissions of on-site or off-site unpaved areas. This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-21 This measure is not designed to reduce or control dust raised by truck wheels on unpaved surfaces. The dust suppression measure using water at least twice daily on all disturbed surfaces including unpaved roads is intended to control dust raised by truck wheels on unpaved surfaces. No further response is required.

	EIS-C-A-22 The comment is noted and this measure was not intended to control dust from those sources. As stated in response EIS-C-A-21, the dust suppression measure using water at least twice daily on all disturbed surfaces including unpaved roads is intended to control dust raised by truck wheels on unpaved surfaces. No further response is required. **EIS-C-A-23** The soil can be monitored with use of soil moisture sensors ons ite to ensure that the optimum use of water and/or soil palliatives are used. Also, according to the Fugitive Dust Control Handbook prepared by the Western Regional Air Partnership (WRAP), following the wetting of a soil or other surface material, fine particles will move to form a surface crust (Western Governors' Association 2006). The surface crust acts to hold in soil moisture and resist erosion. The degree of protection that is afforded by a soil crust to the underlying soil may be measured by the modulus of rupture (roughly a measure of the hardness of the crust) and thickness of the crust. Similarly, the WRAP document states that increasing soil moisture from 1.4% to 12% decreases

	PM_{10} emissions by 69% on construction and demolition sites. Therefore, soil moisture can be controlled on active work areas.
	EIS-C-A-24 The emissions calculated in Comment 1.3 of Exhibit A are duplicative of those calculated in the Draft EIR/EIS as described in response EIS-C-A-14. Regardless, the watering included in MM-AQ-1 would reduce fugitive dust emissions from the emissions calculated in Comment 1.3 by 55% as provided in the CalEEMod defaults.
	EIS-C-A-25 This comment states that other air districts have additional PM_{10} mitigation measures required for projects. The comment cites the BAAQMD 2012 CEQA Guidelines, but provides a 2017 date. The BAAQMD's 2012 CEQA Guidelines is dated May 2012. The BAAQMD's 2017 CEQA Guidelines is dated May 2017. PM10 mitigation measures recommended by the BAAQMD are provided in Table 8-2 within Section 8.1.2 "Mitigating Criteria Air Pollutant Precursors" (not within Section 8.2, Greenhouse Gases"). The BAAQMD guidelines text quoted in this response is derived from the 2017 BAAQMD

3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
9. Minimizing the idling time of diesel powered construction equipment to two minutes.
10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOX reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
11. Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of PM.
12. Require that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.

In addition, for all projects where construction emissions would exceed the applicable significance threshold, as here, the following additional measures are recommended by the BAAQMD:

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EIS-C-A-25 Cont.

guidelines (BAAQMD 2017). Section 8.2, *Greenhouse Gases*, describes construction related greenhouse gas emissions. Table 8-2 does provide basic construction mitigation measures recommended for all proposed projects, and Table 8-3 provides additional construction mitigation measures recommended for projects with construction emissions above the threshold. The comment states that the mitigation measures in Table 8-2 are required by the BAAQMD for all projects. As stated in the first paragraph of Section 8.1.2, Mitigating Criteria Air Pollutants and Precursors, which introduces Table 8-2:

> For all proposed projects, BAAQMD recommends the implementation of all Basic Construction Mitigation Measures, listed in Table 8-2, whether or not construction-related emissions exceed applicable Thresholds of Significance. Appendix B provides guidance on quantifying mitigated emission reductions using URBEMIS and RoadMod.

Table 1:
Additional Particulate Matter Mitigation Recommended by the BAAQMD

Table 8-3
Additional Construction Mitigation Measures Recommended for Projects with Construction Emissions Above the Threshold

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
9. Minimizing the idling time of diesel powered construction equipment to two minutes.
10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO_X reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
13. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

All of the above measures are feasible and must be required to mitigate significant PM10 impacts on air quality during construction. In addition, further fugitive PM10 mitigation measures, designed to protect against Valley Fever spores, should be required (Comment 2).

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EIS-C-A-25
Cont.

As stated in the BAAQMD CEQA Guidelines Section 8.1.2, the mitigation measures in Table 8-2 are recommended for all projects, not required. Similarly, below Table 8-2 is the following text regarding use of the mitigation measures within Table 8-3. The BAAQMD guidance states the mitigation measures are recommendations for projects and are not mandatory, even if significance thresholds are exceeded:

> BAAQMD recommends that all proposed projects, where construction-related emissions would exceed the applicable Thresholds of Significance, implement the Additional Construction Mitigation Measures. Table 8-3 lists the Additional Construction Mitigation Measures. Appendix B contains more detailed guidance on emission reductions by source type (i.e., fugitive dust and exhaust) for quantification in URBEMIS and RoadMod.

It is also unclear that the mitigation measures stated in the comment are from the document actually cited, as they do not

	align with what is actually in the BAAQMD CEQA Guidelines. For example, the comment states that the following measures are required for all projects including: "1) All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture can be verified by lab samples or moisture probe." This measure is not listed within the BAAQMD CEQA Guidelines in Table 8-2 as required; it is listed as recommended in Table 8-3 for projects exceeding thresholds. The comment also included a screen-shot of the mitigation measures within Table 8-3 after they were previously typed, alluding to the fact that they are additional from what was already stated. It is acknowledged that these mitigation measures are included within the guidance to reduce emissions within the San Francisco Bay Area Air Basin, as stated in Section 1.1, Purpose of Guidelines, of the BAAQMD CEQA Guidelines. These mitigation measures and CEQA Guidance document are not applicable to projects within the jurisdiction of the SDAPCD and the San Diego Air Basin.

1.6. Windblown Dust PM10/PM2.5 Emissions Were Omitted

Windblown dust is a significant source of PM10, PM2.5, and Valley Fever spores (Comment 2). The Project will involve significant amounts of excavation, exposing soil surfaces in freshly graded areas and storage piles. The DEIR/DEIS indicates that 208.25 acres would be disturbed by the Miramar Reservoir Alternative[34] and 258.58 acres by the San Vicente Reservoir Alternative.[35] Elsewhere, the DEIR/DEIS admits that the San Vicente Reservoir Alternative "may require a substantial amount of excavation work at the site."[36] The soil exposed during excavation and until it is revegetated or otherwise covered, is a major source of fugitive PM10 and PM2.5 dust and Valley Fever spores.

The CalEEMod model that the DEIR/DEIS used to calculate construction emissions does not include "fugitive dust generated by wind over land and storage piles."[37] Thus, these emissions were not included in the DEIR/DEIS's construction emissions inventory, underestimating emissions of PM10 and PM2.5. Further, the DEIR/DEIS does not contain any of the information required to independently calculate these emissions – including the acres graded, geometry and location of storage piles, types of trucks that would be used,[38] number of on-site and off-site truck trips, wind speeds,[39] etc.

Windblown dust from disturbed soils is a particular concern at this site due to Santa Ana winds, which occur in the area.[40] These winds are strong, extremely dry, down-slope winds that originate inland and affect coastal Southern California.[41] As

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[34] DEIR/DEIS, Table 6.4-2, pdf 1055.

[35] DEIR/DEIS, Table 6.4-3, pdf 1060.

[36] DEIR/DEIS, pdf 903, 927.

[37] CalEEMod User's Guide, p. 54; available at http://www.caleemod.com/.

[38] The DEIR/DEIS identifies only "off-highway trucks" (DEIR/DEIS, Table 6.6-2, 6.6-11), "haul trucks" (DEIR/DEIS, pdf 1002, 1003, 1004, 1234, 1276), "heavy trucks" (DEIR/DEIS, Table 6.12-4, 6.12-6, pdf 1410, 1418), "heavy-duty trucks" (DEIR/DEIS, pdf 152, 561, 562, 1030), "heavy-duty pickup trucks (DEIR/DEIS, pdf 562), "semi-trucks" (DEIR/DEIS, pdf 562), "large pickup trucks" (DEIR/DEIS, pdf 562), "dump truck" (DEIR/DEIS, pdf 152) and "vendor trucks" (DEIR/DEIS, pdf 1002, 1003, 1004, 1275, 1276, 1277), among others. These descriptors are not useful for evaluating impacts as truck loaded weights are required.

[39] AP-42, Section 13.2.5: Industrial Wind Erosion.

[40] DEIR/DEIS, p. 5.3-2 (pdf 342), 5.9-2 (pdf 588); Appx. B, p. 23 (pdf 35).

[41] See, for example, Gary Robbins, Powerful Santa Ana Winds Could Affect Traffic Across Much of San Diego County Friday-Saturday, *The San Diego Union-Tribune*, April 28, 2017; available at http://www.sandiegouniontribune.com/weather/sd-me-santaanas-weekend-20170427-story.html and Santa Ana Winds, Wikipedia; available at https://en.wikipedia.org/wiki/Santa_Ana_winds.

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EIS-C-A-26 The comment is acknowledged as an introduction to specific comments that follow.

EIS-C-A-27 The Draft EIR/EIS provides the acres graded, number of truck trips, and wind speed in the appendices to the Air Quality Technical Report (Appendix B to the Draft EIR/EIS). Each component of the Miramar Reservoir Alternative and San Vicente Reservoir Alternatives were modeled separately and thus have individual outputs. Each output provides that information used for that component of the project.

It is recognized that high wind events including Santa Ana winds do occur within Southern California and San Diego County. There have been 254 days of Santa Ana wind events documented from August 1, 1950, through August 31, 2017 (NOAA 2017). This historical record suggests that on average a Santa Ana wind event occurs once every 3.8 years. Although San Diego County has a history of high wind events, the infrequent occurrence would suggest that the Santa Ana winds do not occur regularly. The wind speed assumed within CalEEMod, as discussed in Chapter 2 of

	Appendix A of the CalEEMod Users Guide (CAPCOA 2017), is the default wind speed for San Diego County which is taken from data from the Gillespie Field meteorological station and includes data from 1996 through 2006 (WRCC 2017). This dataset includes hourly wind data as recorded by that station for that time period, which includes high-wind events. Therefore, the fugitive dust emissions calculated within CalEEMod account for high-wind events within its results. From historical records, Santa Ana winds can easily exceed 50 miles per hour, and during a high-wind event, earth-disturbing work would not occur. This would be a standard approach by the contractor to comply with SDAPCD Rules 55 (Fugitive Dust), 50 (Visible Emissions), and 51 (Nuisance). As stated within the Draft EIR/EIS, the Project will comply with all SDAPCD applicable rules. Specifically, the Project would be prevented from allowing emissions during a high-wind event by SDAPCD Rule 50, which states: a person shall not discharge into the atmosphere from any single source of

	emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any period of 60 consecutive minutes which is darker in shade than that designated as Number 1 on the Ringelmann Chart. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* (*C. immitis*) fungus that commonly grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading or other earth-moving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils. The County of San Diego Health and Human Services Agency compiles Valley Fever rates per zip code. Based on County of San Diego

	Health and Human Services Agency information, the Project site is within an area with a low background risk of Valley Fever in the County. The Project area zip codes reported a total of 118 incidents of Valley Fever from 2007 through 2016 (Nelson, pers. comm. 2017). Also, the zip codes where the Project is located reported an average incident rate of 2.78 per 100,000 population compared to 4.4 per 100,000 for San Diego County (CAPCOA 2017). In addition, according to the California Department of Public Health (CDPH), an average of 115 confirmed cases of Valley Fever were reported in San Diego County each year between 2011 and 2015 (CDPH 2017). There is no evidence to suggest Valley Fever is a significant concern within the vicinity of the Project site. Even if present at the site, construction activities may not result in increased incidence of Valley Fever. Propagation of *C. immitis* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. *C. immitis* spores

	can be released when filaments are disturbed by earth-moving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing Valley Fever. Moreover, exposure to *C. immitis* does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2000). While the risk of releasing Valley Fever spores during the Project's construction phase is reasonably anticipated to be low based on the location of the Project site, it also should be noted that the applicant would comply with SDAPCD Rule 55, which establishes fugitive dust abatement measures, including watering disturbed areas on the Project site three or more times per day during the construction phase, to minimize adverse air quality impacts. Further, mitigation measure M-AQ-1 requires that the applicant apply a dust control agent or water disturbed areas on the Project site at least twice daily, stabilize grading areas as quickly as possible, and

	comply with numerous additional fugitive dust abatement measures. Per mitigation measure MM-HAZ-4 in Section 6.9.5 of the Draft EIR/EIS, all applicable procedures outlined in the City of San Diego's "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances, will be followed (City of San Diego 2015b). The Whitebook requires all City projects to incorporate, among other things, control methods to prevent fugitive dust, mist, odors, and vapors. This includes "pumping out non-aqueous phase liquids (NAPL), covering off-gassing excavations or stockpiles, backfilling off-gassing excavations, using off-gassing stockpiles as backfill, misting excavations or stockpiles with water, covering excavations or stockpiles with foam or other vapor suppressing agents, locating stockpiles away from and downwind of public receptors, and stopping Work" (City of San Diego 2015b). These requirements are consistent with CDPH recommendations for the implementation of dust control measures, including regular application of water during soil-disturbance activities, to reduce

	exposure to Valley Fever – the watering minimizes the potential that the fungal spores become airborne (CDPH 2013). Further, regulations designed to minimize exposure to Valley Fever hazards are included in Title 8 of the California Code of Regulations and would be complied with during the Project's construction phase (California Department of Industrial Relations 2018). In summary, the Project would not result in a significant impact attributable to Valley Fever exposure based on its geographic location and compliance with applicable regulatory standards and mitigation measure M-AQ-1, which will serve to minimize the release of and exposure to fungal spores.

these winds are particularly strong, reaching 30 to 50 mph, they can raise significant amounts of dust, even when conventional tracking and other such controls are used, often prompting alerts from air pollution control districts.[42] The DEIR/DEIS assumed a wind speed of 5.8 mi/hr (2.6 m/s).[43] If Santa Ana winds occurred during grading, cut and fill, or soil movement; or from bare graded soil surfaces, even if periodically wetted, significant amounts of PM10, PM2.5, and associated Valley Fever spores would be released. These emissions could result in public health impacts from Valley Fever spores and/or violations of PM10 and PM2.5 CAAQS and NAAQS. These potential impacts were not evaluated in the DEIR/DEIS. Thus, the DEIR/DEIS fails as an informational document under CEQA.

EIS-C-A-27 Cont.

Wind erosion emissions are typically calculated using methods in AP-42,[44] which require detailed information on site topography, wind profiles, and dispersion modeling. This information is not cited or included in the DEIR/DEIS. Generally, wind erosion impacts are estimated using AERMOD. The DEIR/DEIS does not include any calculations of wind erosion emissions or ambient air quality impacts, but rather tacitly assumes that compliance with conventional construction mitigation measures and regulations constitutes adequate wind erosion control,[45] without any analysis at all or without acknowledging the added emissions during Santa Ana winds that were not included in the Project emissions.

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The maximum daily mitigated PM10 emissions reported for the Miramar Reservoir Alternative are 70.03 lb/day, compared to the significance threshold of 100 lb/day.[46] The maximum daily mitigated PM2.5 emissions are 36.13 lb/day, compared to the significance threshold of 67 lb/day.[47] These emissions are underestimated because they do not include windblown dust (or emissions from off-road travel). A

EIS-C-A-30

[42] SCAQMD Issues Dust and Ash Advisory Due to Strong Winds in the Southland; available at https://lasentinel.net/scaqmd-issues-dust-and-ash-advisory-due-to-strong-winds-in-the-southland.html.

[43] DEIR/DEIS, Appx. A to Appx. B and Appx. B to Appx. B, pdf 3, 31, 54, 77, 106, 130, 154, 185, 211, 237, 260, 278, 296, 327, 353, 379, 412, 441, etc. This wind velocity is used to calculate truck loading and demolition emissions, not windblown dust from graded areas and storage piles. CAPCOA, California Emissions Estimator Model, User's Guide, Appx. A (Sept. 2016) pp. 13-14, *available at* http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/02_appendix-a2016-3-1.pdf?sfvrsn=2.

[44] U.S. EPA, AP-42, Section 13.2.5 Industrial Wind Erosion; available at https://www3.epa.gov/ttnchie1/ap42/ch13/final/c13s0205.pdf.

[45] DEIR/DEIS, pdf 1376 (BMPs), 1378 (dust control to prevent wind erosion).

[46] DEIR/DEIS, Appx. B, Table 7.2-20, p. 72.

[47] DEIR/DEIS, Appx. B, Table 7.2-29, p. 83 (pdf 95).

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EIS-C-A-28 The comment is noted that it provides factual background information and does not raise an environmental issue within the meaning of CEQA. The comment will be included in the administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-29 The section of AP-42 cited by the commenter focuses on "wind erosion of open aggregate storage piles and exposed areas within an industrial facility." Thus, this section is not relevant for a construction site. Furthermore, as the comment notes, calculation of these emissions requires detailed information that is not generally available at the CEQA stage.

The City considers the analysis in the Draft EIR/EIS, which utilizes CalEEMod methodology, sufficient for the purposes of CEQA. CalEEMod considers fugitive dust associated with the site preparation and grading phases from three major activities: haul road grading, earth bulldozing, and truck loading (CalEEMod User's Guide page 32 and Appendix A, Subchapter 4.3). Notably,

	CalEEMod's methods have been adapted from the U.S. Environmental Protection Agency's (EPA's) AP-42 method for Western Coal Mining, and thus account for fugitive dust consistent with AP-42 methods. As Section 15151 of the CEQA Guidelines states, "An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible." The City considers the evaluation of fugitive dust emissions using CalEEMod's analytical method appropriate and adequate. **EIS-C-A-30** As noted in Response to Comment EIS-C-A-27, the Santa Ana wind events were included in the CalEEMod dataset used to calculate fugitive dust emissions. No further response is required.

Santa Ana wind event could easily significantly increase total PM10 and PM2.5 emissions, which increase with increasing wind velocity. Including the omitted windblown dust emissions could increase PM10 and PM2.5 emissions over these significance thresholds, resulting in significant unmitigated impacts that require all feasible mitigation.

EIS-C-A-30 Cont.

1.7. Health Effects of Construction Were Not Evaluated

Construction uses diesel-fueled, off-road equipment such as heavy-duty trucks, cranes, bulldozers, excavators, and graders. This equipment emits large amounts of diesel particulate matter or DPM, which is a potent carcinogen. This equipment also emits other hazardous air pollutants (HAPs)—including benzene, aldehydes, dioxins, and polynuclear aromatic hydrocarbons—which result in cancer and acute and chronic health impacts. Health impacts are a significant concern for this Project because sensitive receptors are very close to construction sites.

Construction is well known to result in significant health impacts in surrounding communities. In a study of construction health impacts in California,[48] the San Diego Air Basin ranked fourth in California for construction health impacts, which included the following[49]:

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- nearly 90 premature deaths
- more than 80 hospitalizations for respiratory and cardiovascular disease
- more than 170 cases of acute bronchitis
- more than 2,000 incidences of asthma attack and other lower respiratory symptoms
- 38,500 days of lost work and school absences
- more than 100,000 days of restricted activity

Figure 1[50] and Figure 2[51] show that the greatest health risks occur in almost all the areas in which the Project will be built.

[48] Don Anair, Union of Concerned Scientists, Digging Up Trouble. The Health Risks of Construction in California, 2006; available at http://www.ucsusa.org/sites/default/files/legacy/assets/documents/clean_vehicles/digging-up-trouble.pdf.

[49] Id., p. 16 and Table 8.

[50] Id., Figure 4.

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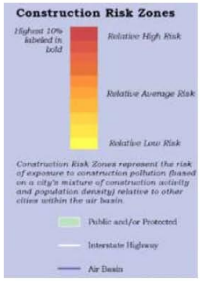
EIS-C-A-31 In order to determine potential health risk associated with construction of Project facilities, sensitive receptors were identified in proximity to each of the sites identified in the Draft EIR/EIS. These sensitive receptors were shown in Figures 5.3-1A through 5.3-1D within the Draft EIR/EIS. The Mission Trails Booster Station (MTBS) is the only facility site with sensitive receptors within 1,000 feet of the facility construction area that has a construction duration longer than 2 months. As such, this facility was used as the worst-case exposure scenario, with the understanding that if construction health risk was below applicable thresholds for this facility, then health risk would be less-than-significant for the other facilities. Notably, a 1,000-foot radial distance is considered the distance in which pollutant concentrations are greatest, and serves as a general "notification" distance from receptors. For example, research conducted by the California Air Resources Board (CARB) indicated an 80% drop-off in pollutant concentrations at approximately 1,000 feet from major sources (CARB 2005). Therefore, a 1,000-foot distance is often used in analyzing

Figure 1: Construction Pollution Risk in the San Diego Air Basin

Figure 2: Health Risks Due to Construction TAC Emissions in the San Diego Air Basin



The DEIR/DEIS states that the Project would have a significant environmental impact if it would "[r]esult in air emissions that would substantially deteriorate ambient

[51] Id., Figure 4.

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impacts to receptors from distribution centers, freeways, rail yards, stationary sources, and other pollutant sources.

Construction of the MTBS would result in diesel particulate matter (DPM) emissions from heavy-duty construction equipment and trucks operating within the facility construction area. DPM is characterized as a toxic air contaminant (TAC) by CARB. The State of California Office of Environmental Health Hazard Assessment (OEHHA) has identified carcinogenic and chronic noncarcinogenic effects from long-term (chronic) exposure, but it has not identified health effects due to short-term (acute) exposure to DPM (OEHHA 2015). The nearest existing off-site sensitive receptors from the MTBS site consist of residences located adjacent to the eastern boundary of the Project site.

Cancer risk is defined as the increase in lifetime probability (chance) of an individual developing cancer due to exposure to a carcinogenic compound, typically expressed as the increased probability in 1 million. The

	cancer risk from inhalation of a TAC is estimated by calculating the inhalation dose in units of milligrams/kilogram body weight per day based on an ambient concentration in units of micrograms per cubic meter ($\mu g/m^3$), breathing rate, age-specific sensitivity factors, and exposure period, and multiplying the dose by the inhalation cancer potency factor, expressed as units of inverse dose [i.e., (milligrams/kilogram body weight per day)$^{-1}$]. Typically, population-wide cancer risks are based on a lifetime (70 years) of continuous exposure and an individual resident cancer risk is based on a 30-year exposure duration; however, for the purposes of this analysis, a 3-year exposure scenario corresponding to the construction period for MTBS was assumed. Cancer risks are typically calculated for all carcinogenic TACs and summed to calculate the overall increase in cancer risk to an individual. The calculation procedure assumes that cancer risk is proportional to concentrations at any level of exposure and that risks from various TACs are additive. This is considered a conservative

assumption at low doses and is consistent with the updated OEHHA-recommended approach (OEHHA 2015).

Noncancer health impact of an inhaled TAC is measured by the hazard quotient, which is the ratio of the ambient concentration of a TAC in units of $\mu g/m^3$ divided by the reference exposure level (REL), also in units of $\mu g/m^3$. The inhalation REL is the concentration at or below which no adverse health effects are anticipated. The REL is typically based on health effects to a particular target organ system, such as the respiratory system, liver, or central nervous system. Hazard quotients are then summed for each target organ system to obtain a hazard index.

To estimate the ambient DPM concentrations resulting from construction activities at nearby sensitive receptors, a dispersion modeling analysis was performed using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) dispersion model, Version 16216r, in conjunction with the Hotspots Analysis and

	Reporting Program Version 2 (HARP 2). CARB developed HARP 2 as a tool to implement the risk assessments and incorporates all the requirements provided by OEHHA as outlined in the Air Toxics Hot Spot Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015). The DPM emissions from diesel-powered construction equipment and on-site diesel-powered trucks that would be used during construction are based on the CalEEMod model output for the MTBS construction, as provided in Appendix B. Annual emissions of construction-related exhaust PM_{10}, as a surrogate for DPM, were calculated and then converted to grams per second for use in the AERMOD model. Additional construction details were available at the time this Health Risk Assessment (HRA) was performed, and it was determined that construction equipment would be operating 4 hours per day, Monday through Friday, as opposed to 8 hours per day in the Draft EIR/EIS (Brown and Caldwell 2018). This HRA also assumed that heavy-duty diesel vehicles would have a trip length of 0.25 mile to

represent on-site emissions. An unmitigated emission rate of 3.91 x 10^{-3} grams per second was calculated as follows:

0.0484 total tons exhaust PM_{10} = 96.8 total pounds (lbs) DPM during construction

96.8 lbs × 453.6 g/lb ÷ (4 hrs/day × 780 working days) ÷ 3600 seconds/hour = 3.91 x 10^{-3} g/second

An area source representing the site area was used to represent the emissions released by the construction equipment, as equipment will move freely around the site. A release height of 5 meters was provided to represent the midrange of the expected plume rise from frequently used construction equipment during daytime atmospheric conditions. These parameters reflect those utilized in the South Coast Air Quality Management District's Localized Significance Thresholds (LST) Methodology (SCAQMD 2008). In addition, the SDAPCD recommends the use of the rural dispersion coefficient as the modeling default, based on the close proximity to the coastline (SDAPCD 2015).

	The three latest years of AERMOD-ready meteorological data from 2014 through 2016 for the Kearny Mesa Monitoring Station were provided by the SDAPCD for use in AERMOD. The SDAPCD processed the data using EPA's AERMET meteorological data processor. The cancer risk calculations were performed using the HARP 2 Air Dispersion Modeling and Risk Tool by importing the predicted annual DPM concentrations from AERMOD for the sensitive receptors, including the Maximally Exposed Individual Resident (MEIR). Cancer risk parameters, such as age sensitivity factors, daily breathing rates, and cancer potency factors were based on the values and data recommended by OEHHA (2015) as implemented in HARP 2. The potential exposure pathway for DPM includes inhalation only. The potential exposure through other pathways (e.g., ingestion) requires substance and site-specific data, and the specific parameters for DPM are not known for these pathways. For the purposes of this construction HRA, given the less-than-lifetime exposure period, and the higher breathing rates and

sensitivity of children to TACs, the cancer risk calculation assumes that the exposure would affect children early in their lives. For the derived cancer risk calculation under the worst-case scenario, the 3-year exposure duration was assumed to start during the third trimester of pregnancy. Additionally, as a conservative assumption, a "fraction at home" (FAH) factor was not applied for age bins less than 16, whereas OEHHA recommends a 0.85 FAH for third trimester through 3 years old for evaluating residential cancer risk.

In addition to the potential cancer risk, DPM has chronic (i.e., long-term) noncarcinogenic health impacts. The chronic hazard index was evaluated using the OEHHA inhalation RELs. The chronic noncarcinogenic inhalation hazard index for construction activities was also calculated using the HARP 2 Air Dispersion Modeling and Risk Tool.

DPM Concentrations, Cancer Risk, and Chronic Hazard

The results of the AERMOD and HARP 2 modeling are provided in Appendix B. The

	modeled maximum annual concentration at the MEIR would be 0.021 µg/m^3. The associated cancer risk for the child MEIR (exposure starting in third trimester) would be approximately 7.95 in 1 million, which would not exceed the County significance threshold of 10 in 1 million for cancer impacts. The associated chronic hazard index for the child MEIR would be approximately 0.004, which would not exceed the County significance threshold of 1.0 for noncarcinogenic health impacts. Since emissions of DPM generated by construction at the MTBS facility would result in cancer and noncarcinogenic risk below the applicable thresholds, the impact would be less than significant. In addition, as noted in the "Analysis Methodology" section above, since the MTBS site was used as the worst-case exposure scenario, the health risk impacts associated with construction of facilities at the other sites for the Project would also be less than significant.
	EIS-C-A-32 This comment cites that the OEHHA risk assessment guidance recommends cancer risks be evaluated for short-term exposures,

	such as construction. What the commenter does not include from the OEHHA guidance section is the following (OEHHA 2015): > Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime. There are some studies indicating that dose rate changes the potency of a given dose of a carcinogenic chemical. In others words, a dose delivered over a short time period may have a different potency than the same dose delivered over a lifetime. As stated in Response to Comment EIS-C-A-31, the Project would not involve construction of pipelines near sensitive receptors for more than a few days and as recommended by the OEHHA guidance (OEHHA 2015), it is not recommended to perform a HRA for projects lasting less than

		2 months. For the Project components that are being constructed in one location for more than 2 months, all are in excess of 1,000 feet from sensitive receptors except the MTBS. Notably, a 1,000-foot radial distance is considered the distance in which pollutant concentrations are greatest, and serves as a general "notification" distance from receptors. For example, research conducted by CARB indicated an 80% drop-off in pollutant concentrations at approximately 1,000 feet from major sources (CARB 2005). Therefore, a 1,000-foot distance is often used in analyzing impacts to receptors from distribution centers, freeways, rail yards, stationary sources, and other pollutant sources. However, as shown in Response to Comment EIS-C-A-31, the Project would not exceed SDAPCD health risk significance thresholds during construction of the MTBS.
	EIS-C-A-33	"Extensive" was used within the context of the Draft EIR/EIS to refer to a high-density use with a long duration of equipment. It is noted that the comment states that smaller projects have resulted in significant impacts.

dumpers/tenders, excavators, and plate compactors for 90 days.[57] This purely speculative discussion is not acceptable under CEQA. In fact, projects much smaller in scope than this one often result in significant impacts from construction diesel exhaust when there are nearby sensitive receptors, as here.

EIS-C-A-33 Cont.

The DEIR/DEIS air quality section obscures the fact that there are nearby sensitive receptors by asserting that sensitive receptors are "within 1000 feet" of construction.[58] This figure is not only not supported but is misleading. "Within 1,000 feet" could encompass much nearer locations, as close as 5 to 10 feet. Instead, one must dig through thousands of pages of documents to discover figures that locate noise sensitive receptors in Appendix H.[59] Noise sensitive receptors are the same as public health sensitive receptors. The noise sensitive receptor figures show that there are residences, recreational facilities, and public institutions that abut the construction area in virtually all disturbed areas. Elsewhere, the DEIR/DEIS identifies sensitive receptors at 20 feet from the pump station,[60] 50 feet from the alignment of the North City Pipeline, and 150 feet from the alignment of the Morena Pipeline, Morena Wastewater Forcemain, and Brine/Centrate Line.[61] "Typical source-receiver" distances at these locations range from 65 to 70 feet.[62] While all of these locations are "within 1,000 feet," they are close enough to experience significant health impacts as well as odor impacts (Comment 1.8) from nearby construction equipment diesel exhaust emissions. Further, all of the North City Pipeline and slightly more than half of the Morena Pipeline work is anticipated to take place during nighttime hours,[63] when more people are home (i.e., children will not be in school and are uniquely sensitive) and will be exposed.

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Further, the DEIR/DEIS fails to recognize that the substantial diesel engine exhaust emissions typically associated with construction equipment, particularly heavy-duty diesel-powered equipment, would occur concurrently with and subsequent to countless other construction projects elsewhere in the County and in the adjacent South Coast Air Basin. In other words, the DEIR/DEIS failed to evaluate cumulative health impacts of construction, which according to Figure 2, are likely significant.

EIS-C-A-37

[57] DEIR/DEIS, Appx. B, Table 7.2-4.

[58] DEIR/DEIS, pdf 343, 837.

[59] DEIR/DEIS, Appx. H, Figures 5A-5D.

[60] DEIR/DEIS, pdf 1416.

[61] DEIR/DEIS, pdf 1408, 1416. See also Appx. H, Table 30.

[62] DEIR/DEIS, Appx. H, Table 30, p. 79.

[63] DEIR/DEIS, pdf 1408.

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The comment will be included in the administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-34 This is a very extensive project with pipelines going for miles with various Project components and multiple Project alternatives. In order to best show the proximity to which the Project pipelines and various components would be in relation to existing sensitive receptors, Figures 5.3-1A through 5.3-1D were included in the Draft EIR/EIS. The commenter's assertion that the figures were buried in an appendix are false.

EIS-C-A-35 The comment is acknowledged, but as shown in Response to Comment EIS-C-A-31, the health risk was shown to be less than significant to sensitive receptors.

EIS-C-A-36 As stated in Response to Comment EIS-C-A-31, the Project would not construct pipelines near sensitive receptors for more than a few days, and as recommended by the OEHHA guidance (OEHHA 2015), it is not

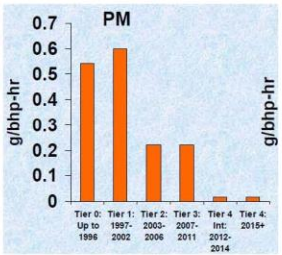
	recommended to perform a HRA for projects lasting less than 2 months. Therefore, the risk to sensitive receptors during nighttime work hours would be less than significant.
	EIS-C-A-37 Chapter 7 of the Draft EIR/EIS addresses cumulative impacts. Table 7-2 indicates that the Miramar Reservoir Alternative did not have cumulatively considerable impacts and the San Vicente Reservoir Alternative did have cumulatively considerable impacts. The comment did not make any specific comments on the adequacy of this analysis. No further response is required.

The DEIR/DEIS has failed to provide the most basic information required to evaluate the impact of Project construction on the health of nearby sensitive receptors. Thus, the DEIR/DEIS fails as an informational document.

EIS-C-A-38

In fact, heavy-duty diesel-powered construction equipment and trucks would release considerable amounts of diesel exhaust, especially if equipped with Tier 3 engines (Figure 3), which is all that is required by MM-AQ-2:

Figure 3: Comparison of DPM (PM) Emissions in Tier 0 to Tier 4 Engines[64]



EIS-C-A-39

Diesel exhaust contains nearly 40 toxic substances. In 1998, the California Air Resources Board ("CARB") formally identified the particulate fraction of diesel exhaust as a toxic air contaminant and concluded that exposure to diesel exhaust particulate matter causes cancer and acute respiratory effects.[65] The EPA followed suit in 2002 and classified diesel exhaust as a probable human carcinogen. Diesel exhaust is estimated to contribute to more than 70 percent of the added cancer risk from air toxics in the United States.[66]

Because the DEIR/DEIS concludes without any support that diesel particulate emissions from construction equipment would be less than significant, it fails to require

[64] CARB, In-Use Off-Road Diesel Vehicle Regulation; available at https://www.arb.ca.gov/msprog/ordiesel/documents/ordfall08presentation.pdf.

[65] California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998.

[66] Environmental Defense Fund, Cleaner Diesel Handbook, Bring Cleaner Fuel and Diesel Retrofits into Your Neighborhood, April 2005; http://www.edf.org/sites/default/files/4941_cleanerdieselhandbook.pdf.

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EIS-C-A-38 The comment is acknowledged as an introduction to specific comments that follow.

EIS-C-A-39 The commenter confuses constituents within diesel exhaust and diesel exhaust throughout this comment. The amount of diesel exhaust is not determined by the engine tier. The constituents within the diesel exhaust (including DPM) are determined by the engine tier. The commenter fails to distinguish the difference between the two. Further, the analysis determined that particulate matter emissions were less than significant with MM-AQ-1 and MM-AQ-2 in place for the Miramar Reservoir Alternative. This significance was based on the thresholds established by the City of San Diego (City of San Diego 2016).

As stated in Response to Comment EIS-C-A-31, the Project would not construct pipelines near sensitive receptors for more than a few days and as recommended by the OEHHA guidance (OEHHA 2015), it is not recommended to perform a HRA for projects lasting less than 2 months. It was also shown

any mitigation measures to address these emissions. Mitigation measure MM-AQ-2 and the CalEEMod emission calculations only require the use of Tier 3 engines, which emit significant amounts of diesel exhaust (Figure 3).

The DEIR/DEIS should be revised to specifically identify all nearby sensitive receptors and quantify health risks at each due to construction equipment exhaust, both due to the Project as well as on a cumulative basis, and require all feasible mitigation. Because, as discussed above, construction emissions result in cumulatively and regionally significant public health impacts (Figures 1 and 2), the Project should be required to employ a construction vehicle fleet that includes all Tier 4 equipment, or to otherwise reduce emissions of carcinogenic diesel exhaust to the extent feasible. If Tier 4 equipment is not available, diesel particulate traps should be used to control DPM.

EIS-C-A-39 Cont.

EIS-C-A-40

1.8. Odor Impacts of Construction Were Not Evaluated and Are Significant

The DEIR/DEIS's odor analysis consists of the following terse paragraph:

> Project construction and operations would include diesel exhaust sources, such as off-road construction equipment and generators and train locomotives that could result in the creation of objectionable odors. However, these emissions would be temporary and/or intermittent in nature and the closest sensitive receptors to the Project site are residences that would be at distances of over 2,000 feet, thus odor impacts associated with diesel combustion during Project construction activities and operations would be less than significant. This impact would be less than significant.[67]

EIS-C-A-41

This "analysis" is entirely inadequate, and the DEIR/DEIS's conclusion regarding the significance of odor impacts is completely unsupported as well as incorrect.

The odors and accompanying eye and nose irritation associated with diesel exhaust – smoky, burnt, oily, kerosene-- have been documented for decades.[68] A 1970

EIS-C-A-42

[67] Draft EIR, p. 4.1-26.

[68] Arthur D. Little, Inc., Chemical Identification of the Odor Components in Diesel Engine Exhaust, June 1971; available at: https://nepis.epa.gov/Exe/ZyNET.exe/9101G0ZG.TXT?ZyActionD=ZyDocument&Client=EPA&Index=Prior+to+1976&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C70thru75%5CTxt%5C00000021%5C9101G0ZG.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=h

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in Response to Comment EIS-C-A-31 that the health risk for the most conservative Project component was less than significant.

EIS-C-A-40 As discussed in Response to Comment EIS-C-A-31 and EIS-C-A-37, the cumulative impacts of the Project were presented in Chapter 7 of the Draft EIR/EIS. Further, the Project was determined to have a less than significant impact with mitigation (MM-AQ-2) for the Miramar Reservoir Alternative and a significant and unavoidable impact for the San Vicente Reservoir Alternative. Since the Miramar Reservoir Alternative was less than significant with MM-AQ-2, it is not necessary to employ Tier 4 equipment.

EIS-C-A-41 This comment states that the Draft EIR/EIS's odor analysis is entirely inadequate and unsupported. The text that the commenter quotes is footnoted as from Draft EIR/EIS, p. 4.1-26. There is no such page within the Draft EIR/EIS. Chapter 4 is the History of Project Changes and mentions no such text as cited by the commenter. The comment will be included in the administrative record for the Project as part of the Final EIR/EIS for

	review. No further response is required because the comment does not raise an environmental issue.
	EIS-C-A-42 As discussed in Sections 5.3.3.2 and 6.3.6.1 of the Draft EIR/EIS, odors would be generated during construction mainly from unburned hydrocarbons. The odors anticipated from the Project were evaluated in accordance with the CEQA Guidelines and the City of San Diego CEQA Guidelines (City of San Diego 2016). The City's Guidelines state to evaluate whether creating objectionable odors would affect a substantial number of people. As discussed in Response to Comment EIS-C-A-31, the Project equipment would not be located close to sensitive receptors for more than a few days as pipelines are constructed. A significant impact is said to be where there has been more than one confirmed or three confirmed complaints per year (averaged over a 3-week period) about the odor source. The commenter also cites EPA documents from the 1970s and a 2002 EPA document that summarized findings from a study in 1967, 1971, and 1962 (EPA 2002). While the

	findings that odors from diesel exhaust may warrant concern, diesel fuel has undergone substantial changes since the 1970s and even since the EPA paper was published in 2002. Since 2002 alone, CARB has required diesel fuel to meet a lubricity requirement of a maximum wear scar diameter of 520 microns by ASTM D6079, the High Frequency Reciprocating Rig and limit sulfur in diesel to 15 parts per million (TransportPolicy 2017). The major component within diesel exhaust that is odorous is the sulfur dioxide (U.S. Department of Labor n.d.). The emissions of sulfur dioxide have been reduced significantly over the last 15 years with the reduction in sulfur composition in diesel fuel. For the project, emissions of oxides of sulfur (SO_x) are shown in Draft EIR/EIS Tables 6.3-8 and 6.3-9 for construction. The maximum SO_x emissions for the Project were shown to be less than 0.2% of the City's significance threshold. Per mitigation measure MM-HAZ-4 in Section 6.9.5 of the Draft EIR/EIS, all applicable procedures outlined in the City of San Diego's "Whitebook" Part 1 – General Provisions (A),

	Section 7-22, Encountering or Releasing Hazardous Substances will be followed (City of San Diego 2015b). The Whitebook requires all City projects to incorporate, among other things, control methods to prevent fugitive dust, mist, odors, and vapors. This includes "pumping out non-aqueous phase liquids (NAPL), covering off-gassing excavations or stockpiles, backfilling off-gassing excavations, using off-gassing stockpiles as backfill, misting excavations or stockpiles with water, covering excavations or stockpiles with foam or other vapor suppressing agents, locating stockpiles away from and downwind of public receptors, and stopping Work" (City of San Diego 2015b). The cited 88 truck trips per day (44 trucks) would occur over an 8-hour shift, or an average of 6 trucks per hour. The haul trucks are subject to CARB anti-idling policy, which limits diesel vehicles from idling for more than 5 minutes at a time (CARB 2016). This policy is also in place for all off-road engines or equipment CARB 2009). The comment further states that clouds of soot from diesel-powered equipment can travel downwind for miles and drift into heavily populated areas. The

EPA report noted that "[exhaust gases emitted by diesel engines are characterized by offensive odors, which can be rated by human judges." Elsewhere, the EPA noted that "[o]dor is undoubtedly the prime sensory attribute of diesel exhaust under the typical circumstances of human exposure."[69]

First, the DEIR/DEIS's dismissal of potential odor impacts of diesel exhaust emissions due to their "temporary" or "intermittent" nature is not acceptable. The odor of diesel exhaust is considered by most people to be objectionable. The EPA found that, at high intensities, diesel exhaust may produce sufficient physiological and psychological effects to warrant concern for public health.[70] A fleet of heavy-duty, diesel-fueled construction equipment serviced by up to 88 truck trips per day[71], located as close as 10 feet from homes during sensitive nighttime hours, would certainly result in a significant odor impact. Further, clouds of soot from diesel-powered equipment when working and idling at the Project site can travel downwind for miles and drift into heavily populated areas.[72]

The DEIR/DEIS claims there is no method to evaluate odor impacts. However, this is not true. The analysis of odor is no different than the analysis of air quality impacts. One identifies the odiferous compounds that would be present, in this case diesel exhaust, represented by PM10 or another surrogate, such as aldehydes[73], estimates their emission rates, and uses AERMOD or other dispersion models to

EIS-C-A-42 Cont.

EIS-C-A-43

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[69] Amos Turk and others, Sensory Evaluation of Diesel Exhaust Odors, U.S. Department of Health, Education, and Welfare Report; available at: https://nepis.epa.gov/Exe/ZyNET.exe/9100HJM4.TXT?ZyActionD=ZyDocument&Client=EPA&Index=Prior+to+1976&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C70thru75%5CTxt%5C00000012%5C9100HJM4.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL#.

[70] EPA, Health Assessment Document for Diesel Engine Exhaust, EPA/600/8-90/057F, May 2002; http://www.epa.gov/ttn/atw/dieselfinal.pdf. (Exhibit 49)

[71] DEIR/DEIS, Table 6.16-4, pdf 1491.

[72] Union of Concerned Scientists, *op. cit.* (Exhibit 11)

[73] M. M. Roy and N. N. Mustafi, Investigation of Odorous Components in the Exhaust of DI Diesel Engines, International Conference o Mechanical Engineering, December 26-28, 2001, pp. II 31-36; available at: me.buet.ac.bd/icme/icme2001/cdfiles/Papers/Environment/6_Final_en01(31-36).pdf.

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reference provided by the commenter has no link or title provided and is just listed as Union of Concerned Scientists (Exhibit 11) and was not provided in the reference package. Since there is no reference and no Exhibit 11 included in the comment letter, there is no further response required.

EIS-C-A-43 It is acknowledged that this is one way to perform a detailed odor analysis. This kind of analysis is warranted on significant sources of odor that would affect substantial amounts of people as stated in the City's CEQA Guidelines. The Project would not affect substantial amounts of people during construction. The comment further references a citation for published significance thresholds, which was a study on a composting facility that is not relevant to this Project (Alpert and Wu 2010).

estimate ambient concentrations of the odiferous compounds at the location of sensitive receptors. The modeled ambient concentrations are then compared to published odor thresholds[74]. The DEIR/DEIS does not contain any analysis at all. Design criteria, for example, have been developed for diesel-fueled equipment based on the 1:2000 odor dilution threshold, including for a 400-hp diesel truck, a 250-kW diesel generator, and a 2,000-kW diesel generator. The resulting design criteria are 5,293 ug/m^3/g/s; 492 ug/m^3/g/s; and 66 ug/m^3/g/s, respectively, for this equipment.[75]

EIS-C-A-43 Cont.

Second, the odor discussion is inconsistent with the City of San Diego's CEQA Significance Determination Thresholds.[76] These guidelines indicate that a "…detailed odor analysis may be required to fully evaluate and determine significance of the potential impacts if the proposed project would result in objectionable odor to nearby sensitive receptors."[77] As demonstrated elsewhere in these comments, there are many nearby sensitive receptors located within 10 to 70 feet from active construction areas. Based on my personal experience at construction sites, this is close enough to smell noxious diesel exhaust fumes. The San Diego guidelines set out odor thresholds that can be used to estimate odor impacts, noting they can be supplemented with other sources.[78] Elsewhere, the San Diego Guidance notes that San Diego Municipal Code addresses odor impacts at Chapter 14, Article 2, Division 7, paragraph 142.0710 as follows:

EIS-C-A-44

> Air contaminants including smoke, charred paper, dust, soot, grime, carbon, noxious acids, toxic fumes, gases, odors, and particulate matter, or any emissions that endanger human health, cause damage to vegetation or property, or cause soiling shall not be permitted to emanate beyond the boundaries of the premises upon which the use emitting the contaminants is located.

The DEIR/DEIS made no attempt to address these requirements.

[74] See, for example, J. E. Alpert and N. T. Wu, Odor Modeling as a Tool in Site Planning, BioCycle Magazine, 2012; available at: www.compostingcouncil.org/wp/wp-content/uploads/2014/02/9-OdorModeling.pdf

[75] U.S. EPA, Modeling Exhaust Dispersion for Specifying Acceptable Exhaust/Intake Designs, Table 1; available at: https://www.nrel.gov/docs/fy11osti/52017.pdf

[76] City of San Diego, California Environmental Quality Act Significance Determination Thresholds, July 2016 (San Diego 2016).

[77] San Diego 2016, p. 16.

[78] San Diego 2016, Table A-4 and p. 17.

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EIS-C-A-44 As provided in the City's Guidelines and omitted by the commenter (City of San Diego 2016):

> For a project proposing placement of sensitive receptors near an existing odor source, a significant odor impact will be identified if the project site is closer to the odor source than any existing sensitive receptor where there has been more than one confirmed or three confirmed complaints per year (averaged over a three week period) about the odor source. For projects proposing placement of sensitive receptors near a source of odors where there is currently no nearby existing receptors, the determination of significance should be based on the distance and frequency at which odor complaints from the public have occurred in the vicinity of a similar odor source at another location.

The City's Guidelines are clearly designed for evaluating the odor impacts of long-term

	operation of a facility as that will have the largest potential for affecting a substantial number of people. Although the guidelines do not reference short-term or construction projects within its evaluation of odor, the Draft EIR/EIS does recognize that construction of the Project would have a short-term temporary potential impact. Similar to the City, the County of San Diego provides guidance within its Guidelines for Determining Significance (County of San Diego 2007), which states: > Projects proposing activities that create a point source of odor emissions such as sewage lift stations, restaurants, equestrian centers, etc. may be conditioned to require project design measures, equipment design measures, BMPs [best management practices], and/or off-site disposal of animal waste. The County also directs its evaluation of odor impacts towards long-term operation of potential projects and not construction.

	Not only were the potential odor issues addressed within Section 6.3.6.1 of the Draft EIR/EIS, mitigation measure MM-AQ-3 was put in place to reduce potential odors from operation of the various Project components. The mitigation actively reduces and manages any potential odors from the long-term operation of the Project. Therefore, the City's Guidelines were sufficiently followed within the Draft EIR/EIS.

Third, mitigation is available and should be required for all construction within at least 1,000 feet of sensitive receptors. Construction equipment that operates near sensitive receptors, for example, can be equipped with diesel oxidation catalyst, which eliminate odors.[79]

The DEIR for the Phillips 66 Santa Maria Rail Terminal in San Louis Obispo County, for example, provided a quantitative odor analysis estimating that fugitive crude oil vapor emissions from equipment leaks could produce H_2S levels at the property line of up to 1.7 parts per billion ("ppb") and less than 1 ppb at residences. Based on an H_2S odor limit of 2 ppb with a significant impact being assigned to levels that could exceed the 50 percent odor threshold at 1 ppb, the Santa Maria Rail Terminal Draft EIR found that fugitive emissions could cause odor impacts offsite and odor emissions would be potentially significant.[80]

EIS-C-A-45

1.9. All Feasible NOx Mitigation Required for San Vicente Reservoir Alternative

The DEIR/DEIS concluded that mitigated daily NOx emissions from construction of the San Vicente Reservoir Alternative would be significant in 2019, amounting to 693.64 lb/day, compared to the significance threshold of 250 lb/day.[81] The DEIR/DEIS states that this exceedance is driven by the Mission Trails Booster Station (MTBS) phase of this alternative, which requires a substantial amount of excavation work. Haul trips to remove excavated soil comprise the bulk of the NOx emissions.[82] Thus, the DEIR/DEIS concluded that the "San Vicente Reservoir Alternative would have a potential significant and unavoidable impact."

EIS-C-A-46

An EIR may conclude that an impact is significant and unavoidable only if all available and feasible mitigation measures have been proposed, but are inadequate to reduce the impact to a less than significant level.[83] However, the lead agency cannot

[79] Aw. Addy Majewski, Diesel Oxidation Catalyst, 2012; available at: https://www.dieselnet.com/tech/cat_doc.php.

[80] Draft EIR for Santa Maria Rail Terminal Phillips 66, *op. cit.*, p. 4.3-51; http://www.slocounty.ca.gov/Assets/PL/Santa+Maria+Refinery+Rail+Project/Draft+EIR-Phillips+66+Rail+Spur+Extension+Project+(November+2013)/Full+EIR+-+Large+File/p66.pdf (Exhibit 50).

[81] DEIR/DEIS, Appx. B, Table 7.2-29.

[82] DEIR/DEIS, Appx. B, p. 83 (pdf 95).

[83] See Cal. Code Regs. Title 14 ("CEQA Guidelines"), § 15126.2.

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EIS-C-A-45 The commenter has not proven that the Project would have a significant impact during construction, which would warrant mitigation. As discussed in Response to Comment EIS-C-A-44, the odor impacts associated with long-term operation are the focus of the significance thresholds. Also, the construction of the Project that takes place within 1,000 feet of sensitive receptors would be for a very short duration. As further noted by the source the commenter cites, diesel oxidation catalysts began being used in the United States for on-road diesel vehicles in 1994 and continue to be used as an emission control strategy (Majewski 2011). Mitigation measure MM-AQ-2 requires the use of at least Tier 3 off-road vehicles during construction, and Tier 3 engines were first introduced in model year 2006 (DieselNet 2017). It is therefore very likely that the fleet of construction equipment and heavy-duty trucks supporting the Project would employ emissions control equipment similar to diesel oxidation catalysts if not already equipped.

The commenter further discusses the analysis within a Draft EIR for the Phillips 66

	Santa Maria Rail Terminal. That Draft EIR does not apply to the Project as it was for a crude oil processing facility. The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.
	EIS-C-A-46 The commenter fails to properly cite or interpret the CEQA Guidelines in this case. The CEQA Guidelines section cited does not state or conclude that an EIR may conclude that an impact is significant and unavoidable only if all available and feasible mitigation measures have been proposed (14 CCR 15126.2). That section states the following in section (b): Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented. Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated

simply conclude that an impact is significant and unavoidable without requiring all feasible mitigation.

In this case, the only mitigation measure proposed to reduce significant NOx emissions is MM-AQ-2:

MM-AQ-2 The following measures shall be adhered to during construction activities associated with the Project to reduce oxides of nitrogen (NO_x):

a. All diesel-fueled construction equipment shall be equipped with Tier 3 or better (i.e., Tier 4 Interim or Tier 4 Final) diesel engines.

b. The engine size of construction equipment shall be the minimum size suitable for the required job.

c. Construction equipment shall be maintained in accordance with the manufacturer's specifications.

This is not all feasible mitigation, for the reasons set out below.

First, the unmitigated construction emissions were calculated using the CalEEMod model, assuming Tier 3 engines.[84] Thus, requiring Tier 3 engines as mitigation is not mitigation, but rather the base case.

Second, the measure defines "or better" as "Tier 4 Interim or Tier 4 Final" diesel engines. Tier 4 Interim NOx limits are identical to Tier 3 limits (Figure 4)[85] and thus is also not mitigation, but rather the base case.

[84] DEIR/DEIS, Appx. B, Appx. A, pdf 4, 5, 32, 33, 55, 56, 78, 79, 107, 108, 131, 132, 155, 156, 157, 186, 187, 188, 212, 213, 214, 238, 239, 261, 262, 279, 280, 297, 298, 328, 329, 354 etc. Tier 4 was not specified for any construction equipment in this appendix. Appx. B, Appx. B, pdf 4 5, 32, 33, 55, 56, etc. Tier 4 was not specified for any construction equipment in this appendix,.

[85] CARB, In-Use Off-Road Diesel Vehicle Regulation; available at https://www.arb.ca.gov/msprog/ordiesel/documents/ordfall08presentation.pdf

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EIS-C-A-46 Cont.

EIS-C-A-47

EIS-C-A-48

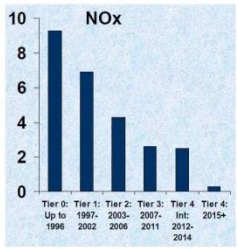
without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.

The Draft EIR/EIS fully described the significant environmental effects in accordance with the CEQA Guidelines. The mitigation measure MM-AQ-2 did not bring the emissions from the San Vicente Reservoir Alternative to below the significance level. Therefore, the impact was determined to be significant and unavoidable.

EIS-C-A-47 There is nowhere within the Draft EIR/EIS that describes the construction equipment having Tier 3 engines as the base case. The CalEEMod model runs show both an unmitigated and mitigated emissions scenario. The unmitigated emission summary shows the equipment assuming default CalEEMod assumptions. The mitigated emission summary shows the equipment using Tier 3 engines. Each CalEEMod emission summary provided in Appendices A and B of the Air Quality Technical Report (Appendix B to the Draft

	EIR/EIS) provides both an unmitigated and mitigated emission summary as described above. No further response is required because the comment is a false statement.
	EIS-C-A-48 As described in Response to Comment EIS-C-A-48, Tier 3 engines and MM-AQ-2 were not the base case and were calculated as mitigation as shown in Appendices A and B of Appendix B of the Draft EIR/EIS. No further response is required.

Figure 4: Comparison of NOx Emissions in Tier 0 to Tier 4 Engines



Third, this measure, while it mentions Tier 4 Final engines as an option, does not require Tier 4 engines on any equipment, which would mitigate the impact if required. Rather, the measure only proposes Tier 4 Final engines as an alternative to Tier 3, leaving the choice to the discretion of the Applicant. This measure should be modified to require that "all diesel-fueled off-road construction equipment of more than 50 hp shall be equipped with Tier 4 Final engines." If Tier 4 Final engines are not available for all construction equipment, then additional NOx mitigation must be required.

EIS-C-A-49

The following summarizes frequently recommended measures to control NOx, emissions from construction that were not identified in the DEIR/DEIS and that have been required in other CEQA documents and recommended by various air pollution control districts, e.g., BAAQMD,[86] and other public agencies. The following is a partial list:

- In addition to maintaining all construction equipment in proper tune according to manufacturer's specifications, the equipment must be checked by an ASE-certified mechanic and determined to be running in proper condition before it is operated (CalAm IS/MND[87]; Chevron FEIR[88]).

EIS-C-A-50

[86] BAAQMD, CEQA Guidelines, Updated May 2017, Tables 8-2 and 8-2.

[87] SWCA Environmental Consultants, Draft Initial Study and Mitigated Negative Declaration for the California American Water Slant Test Well Project, Prepared for City of Marina, May 2014 (CalAm IS/MND).

[88] Chevron Refinery Modernization Project EIR, March 2014, Chapter 4.8, Greenhouse Gases; available at https://s3.amazonaws.com/chevron/Volume+1_DEIR_r1.pdf and Chapter 5, Mitigation

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EIS-C-A-49 As shown in the Draft EIR/EIS, the MTBS emissions causes the San Vicente Reservoir Alternative's impacts to be significant and unavoidable. Appendix B of Appendix B of the Draft EIR/EIS provides the detailed CalEEMod output files for the San Vicente Reservoir Alternative and the MTBS, which also shows that in the unmitigated scenario, off-road equipment comprised only 21.4% of the maximum daily NO_x emissions in 2019, which was the year of the significance threshold exceedance. Under the mitigated scenario, off-road equipment comprised only 12.5% of the maximum daily NO_x emissions in 2019 for the MTBS. The haul trucks alone were estimated to generate 371.87 pounds of NO_x per day in 2019 from the MTBS. This means that if there were no off-road equipment operating, or if they were zero-emissions equipment and no other component of the Project was operating in 2019, the haul trucks from the MTBS would still exceed the City's significance threshold for NO_x of 250 pounds per day. Therefore, implementing a Tier 4 final mitigation measure would not mitigate the impact to less than significant as purported by the commenter.

- Diesel-powered equipment shall be replaced by gasoline-powered equipment whenever feasible (CalAm IS/MND, Chevron FEIR).
- The engine size of construction equipment shall be the minimum practical size (CalAm IS/MND).
- Catalytic converters shall be installed on gasoline-powered equipment (CalAm IS/MND).
- Limit idle time to 2 minutes.[89]
- Signs shall be posted in designated queuing areas and job sites to remind drivers and operators of the idling limit (CalAm IS/MND, Chevron FEIR).
- Diesel equipment idling shall not be permitted within 1,000 feet of sensitive receptors (CalAm IS/MND).
- Engine size of construction equipment shall be the minimum practical size (CalAm IS/MND).
- Construction worker trips shall be minimized by providing options for carpooling and by providing for lunch onsite (CalAm IS/MND, Chevron FEIR).
- Use alternative diesel fuels, such as Aquazole fuel, Clean Fuels.
- Technology (water emulsified diesel fuel), or O2 diesel ethanol-diesel fuel (O2 Diesel) in existing engines (Monterey County General Plan EIR).[90]
- Modify engines with ARB verified retrofits.
- Repower engines with Tier 4 final diesel technology.[91]
- Convert part of the construction truck fleet to natural gas.[92]

EIS-C-A-50 Cont.

Measure Monitoring and Reporting Program; available at https://s3.amazonaws.com/chevron/Final+EIR/5_MMRP.pdf.

[89] Some states—for example, Connecticut, Delaware, the District of Columbia, and New Jersey—and some cities, such as Santa Barbara, Minneapolis, Burlington and Chicago, limit idling to 3 minutes for all on- and/or off-road vehicles. *See* Idling Database; available at https://cleancities.energy.gov/files/docs/idlebox_idlebase_database.xlsx.

[90] Monterey County General Plan EIR, Section 6.4.3.3, p. 6-14 ("The EIRs prepared for the desalination plants are expected to require that construction equipment use alternative fuels or other means to reduce their emissions of ozone precursors. Although, depending upon the intensity of construction, there is the potential for a significant impact on air quality from ozone precursors."); available at http://www.co.monterey.ca.us/planning/gpu/2007_GPU_DEIR_Sept_2008/Text/Sec_06_Other_CEQA.pdf. See also Union of Concerned Scientists, November 2009, pp. 23-24.

[91] Union of Concerned Scientists, November 2006, p. 23.

[92] This is a mitigation measure used by PG&E to offset NOx emissions from its Otay Mesa Generating Project. *See* GreenBiz, Natural Gas Trucks to Offset Power Plant Emissions, September 12,

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EIS-C-A-50 The comment will be included in the administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

- Use new or rebuilt equipment.
- Use diesel-electric and hybrid construction equipment.[93]
- Use low rolling resistance tires on long haul class 8 tractor-trailers.[94]
- Use idle reduction technology, defined as a device that is installed on the vehicle that automatically reduces main engine idling and/or is designed to provide services, *e.g.*, heat, air conditioning, and/or electricity to the vehicle or equipment that would otherwise require the operation of the main drive engine while the vehicle or equipment is temporarily parked or is stationary.[95]
- Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM (BAAQMD).
- Require that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.[96]
- Solicit bids that include all of these measures (SCAG).

EIS-C-A-50 Cont.

Alternatively, as discussed in the DEIR/DEIS, the MTBS component of the San Vicente Reservoir Alternative could be redesigned to reduce the facility footprint, reducing associated grading; reshape cuts and fills to appear as natural forms, retain trees to screen earthwork contrasts, or be relocated to an area with less slope where less

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2000; available at http://www.greenbiz.com/news/2000/09/12/natural-gas-trucks-offset-power-plant-emissions.

[93] Tom Jackson, How 3 Diesel-Electric and Hybrid Construction Machines are Waging War on Wasted Energy, Equipment World, June 1, 2014; available at http://www.equipmentworld.com/diesel-electric-and-other-hybrid-construction-equipment-are-waging-war-on-wasted-energy/; Kenneth J. Korane, Hybrid Drives for Construction Equipment, Machine Design, July 7, 2009; available at http://machinedesign.com/sustainable-engineering/hybrid-drives-construction-equipment; Caterpillar's D7E Electric Drive Redefines Dozer Productivity; available at http://www.constructionequipment.com/caterpillars-d7e-electric-drive-redefines-dozer-productivity.

[94] EPA, Verified Technologies for SmartWay and Clean Diesel, Learn About Low Rolling Resistance (LRR) New and Retread Tire Technologies; available at https://www.epa.gov/verified-diesel-tech/learn-about-low-rolling-resistance-lrr-new-and-retread-tire-technologies; EPA, Verified Technologies for SmartWay and Clean Diesel, SmartWay Verified List for Low Rolling Resistance (LRR) New and Retread Tire Technologies; available at https://www.epa.gov/verified-diesel-tech/smartway-verified-list-low-rolling-resistance-lrr-new-and-retread-tire.

[95] EPA Names Idle Reduction Systems Eligible for Federal Tax Exemptions, March 2009, available at http://www.greenfleetmagazine.com/channel/green-operations/article/story/2009/03/epa-names-idle-reduction-systems-eligible-for-federal-excise-tax-exemptions-grn.aspx. *See also* Idle Reduction, Wikipedia; available at https://en.wikipedia.org/wiki/Idle_reduction and Diesel Emissions Reduction Program (DERA): Technologies, Fleets and Project Information, Working Draft Version 1.0; available at https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100CVIS.TXT.

[96] BAAQMD, CEQA Guidelines, Updated May 2017, Table 8-3, Measure 13.

excavation would be required.[97] The DEIR/DEIS asserts that evaluating these other options is "outside the scope of this EIR/EIS."[98] However, such evaluation is not outside of the scope of imposing mitigation.

In sum, all feasible mitigation must be required when an impact is significant and unavoidable. Thus, the DEIR/DEIS must be revised to include additional feasible construction mitigation measures to reduce the significant NOx impact to below 250 lb/day, and recirculated for public review.

EIS-C-A-50 Cont.

2. THE DEIR/DEIS FAILS TO ANALYZE SIGNIFICANT HEALTH IMPACTS DUE TO VALLEY FEVER

Valley Fever, or coccidioidomycosis (abbreviated as cocci), is an infectious disease caused by inhaling the spores of *Coccidioides ssp.*[99], a soil-dwelling fungus. The fungus lives in the top 2 to 12 inches of soil. When soil containing this fungus is disturbed by activities such as digging, vehicles, construction activities, dust storms, or during earthquakes, the fungal spores become air borne.[100] The Valley Fever fungal spores are too small to be seen by the naked eye, and there is no reliable way to test the soil for spores before working in a particular area.[101] The California Department of Public Health has concluded:[102]

[97] DEIR/DEIS, pdf 903; Appx. B, pdf 96.

[98] DEIR/DEIS, pdf 903, 927.

[99] Two species of *Coccidioides* are known to cause Valley Fever: C. *immitis*, which is typically found in California, and C. *posadasii*, which is typically found outside California. See Centers for Disease Control, Coccidioidomycosis (Valley Fever), Information for Health Professionals; available at https://www.cdc.gov/fungal/diseases/coccidioidomycosis/health-professionals.html.

[100] California Department of Public Health, Valley Fever Fact Sheet, January 2016; available at https://archive.cdph.ca.gov/HealthInfo/discond/Documents/VFGeneral.pdf.

[101] California Department of Public Health, Preventing Work-Related Coccidioidomycosis (Valley Fever), June 2013; available at https://archive.cdph.ca.gov/healthinfo/discond/Pages/Coccidioidomycosis.aspx.

[102] California Department of Public Health, Preventing Work-Related Coccidioidomycosis (Valley Fever), June 2012; available at https://archive.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf.

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Valley Fever is an illness that usually affects the lungs. It is caused by the fungus *Coccidioides immitis* that lives in soil in many parts of California. When soil containing the fungus is disturbed by digging, vehicles, or by the wind, the fungal spores get into the air. When people breathe the spores into their lungs, they may get Valley Fever.

Is Valley Fever a serious concern in California? YES!

Often people can be infected and not have any symptoms. In some cases, however, a serious illness can develop which can cause a previously healthy individual to miss work, have long-lasting and disabling health problems, or even result in death.

EIS-C-A-50 Cont.

2.1. San Diego County Is Endemic for Valley Fever

The disease is endemic (native and common) in the semiarid regions of the southwestern United States.[103] San Diego County, including the Project site, is located within the established endemic range of Valley Fever,[104] as shown in Figure 5.[105]

[103] San Luis Obispo County Public Health Department, Valley Fever in San Luis Obispo County (undated); available at http://www.slocounty.ca.gov/health/publichealth/commdisease/Cocci_in_SLO_County.htm.

[104] See, for example, K. Schmitt, R. Plevin and T. Wood, Just One Breath: Valley Fever Cases Reach Epidemic Levels, But Harm Remains Hidden, September 8, 2012 ("The cocci fungus is common in much of the southwest and in northwestern Mexico, especially in the dry earth of California's Central Valley and in the areas around Phoenix and Tucson in Arizona. It can be found, however, in soils of the beach haven of San Diego, the wine country of Sonoma County and inland in the Sierra foothills."); available at https://www.centerforhealthjournalism.org/content/just-one-breath-valley-fever-cases-reach-epidemic-levels-harm-remains-hidden.

[105] Medical Board of California Newsletter, v. 141, Winter 2017, pdf 21; available at http://www.mbc.ca.gov/Publications/Newsletters/newsletter_2017_01.pdf.

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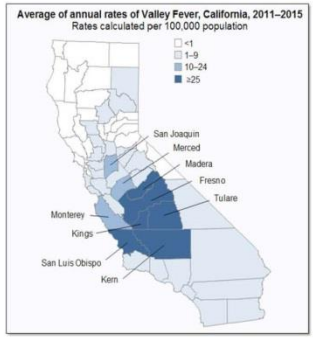
Figure 5: Endemic Areas for Valley Fever in California



The number of Valley Fever cases in San Diego County has been rising countywide since 1990.[106] San Diego County had the sixth highest number of reported cases statewide over the 2007–2011 period: 649 cases.[107] The number of reported cases in San Diego County has continued to rise, reaching 728 over the next five-year period, as shown in Table 3.[108]

Table 3: Reported Cases of Valley Fever in San Diego County

Year	No. of Cases
2012	159
2013	126
2014	117
2015	168
2016	158

[106] Janice Arenofsky, San Diego Has Sixth Highest Rate of Valley Fever in California, Concerns Voiced that Imperial County Cases May be Underreported, July 2014, East County Magazine; available at https://www.eastcountymagazine.org/cost-valley-fever-human-and-economic.

[107] MacLean 2014, Table 1.

[108] County of San Diego, Reportable Diseases and Conditions by Year, 2012–2016; available at http://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/documents/Reportable_Diseases_and_Conditions_SDC_2012-2016.pdf.

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EIS-C-A-50
Cont.

2.2. Construction Workers Are an At-Risk Population

The CDPH specifically notes that construction workers in endemic areas, such as those that will build the Project, are at risk:[109]

Figure 6: Valley Fever Risk to Construction Workers

➤ In October 2007, a construction crew excavated a trench for a new water pipe. Within three weeks, 10 of 12 crew members developed coccidioidomycosis (Valley Fever), an illness with pneumonia and flu-like symptoms. Seven of the 10 had abnormal chest x-rays, four had rashes, and one had an infection that had spread beyond his lungs and affected his skin. Over the next few months, the 10 ill crew members missed at least 1660 hours of work and two workers were on disability for at least five months.

Dust exposure is one of the primary risk factors for contracting Valley Fever.[110] Specific occupations and outdoor activities associated with dust generation such as construction, farming, road work, military training, gardening, hiking, camping, bicycling, or fossil collecting increase the risk of exposure and infection. The risk appears to be more specifically associated with the amount of time spent outdoors than with doing specific activities.[111]

EIS-C-A-50 Cont.

[109] CDPH, June 2012.

[110] Rafael Laniado-Laborin, Expanding Understanding of Epidemiology of Coccidioidomycosis in the Western Hemisphere, *Annals of the New York Academy of Sciences*, v. 111, 2007, pp. 20-22; Frederick S. Fisher, Mark W. Bultman, Suzanne M. Johnson, Demosthenes Pappagianis, and Erik Zaborsky, Coccidioides Niches and Habitat Parameters in the Southwestern United States, a Matter of Scale, *Annals of the New York Academy of Sciences*, v. 111, 2007, pp. 47-72 ("All of the examined soil locations are noteworthy as generally 50% of the individuals who were exposed to the dust or were excavating dirt at the sites were infected."); available at http://www.researchgate.net/publication/6461426_Coccidioides_niches_and_habitat_parameters_in_the_southwestern_United_States_a_matter_of_scale/file/72e7e51c9b9f058a45.pdf?origin=publication_detail.

[111] Kern County Public Health Services Department, Prevention ("The risk appears to be more specifically associated with the amount of time spent outdoors than with doing specific activities"); available at http://kerncountyvalleyfever.com/what-is-valley-fever/prevention/.

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The most at-risk populations are construction and agricultural workers,[112] the former the very population that would be most directly exposed by the Project. A refereed journal article on occupational exposures notes that "[l]abor groups where occupation involves close contact with the soil are at greater risk, especially if the work involves dusty digging operations."[113] One study reported that at study sites, "generally 50% of the individuals who were exposed to the dust or were excavating dirt at the sites were infected."[114]

The disease debilitates the population and thus prevents them from working.[115] The longest period of disability from occupational exposure in California is to construction workers, with 62% of the reported cases resulting in over 60 days of lost work.[116] Another study estimated the average hospital stay for each (non-construction work) case of coccidioidomycosis at 35 days.[117]

EIS-C-A-50 Cont.

2.3. Sensitive Receptors Near the Project Site Are an At-Risk Population

The California Department of Public Health and the State Health Officer have warned that "[p]eople who live, work or travel in Valley Fever areas are also at a higher risk of getting infected, especially if they work or participate in activities where soil is disturbed."[118] Thus, those living, working, or recreating in the vicinity of the Project site during construction are also at risk of being affected from windblown dust, both during construction and after soils have been disturbed but lie fallow until mitigation has been implemented.

The potentially exposed population in surrounding areas is much larger than construction workers because the non-selective raising of dust during Project

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[112] Lawrence L. Schmelzer and R. Tabershaw, Exposure Factors in Occupational Coccidioidomycosis, *American Journal of Public Health and the Nation's Health*, v. 58, no. 1, 1968, pp. 107-113, Table 3; available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1228046/?page=1.

[113] *Ibid*, p. 110.

[114] Fisher et al., 2007.

[115] Frank E. Swatek, Ecology of *Coccidioides Immitis*, *Mycopathologia et Mycologia Applicata*, v. 40, Nos. 1-2, pp. 3-12, 1970.

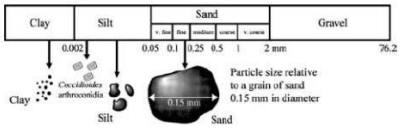
[116] Schmelzer and Tabershaw, 1968, Table 4.

[117] Demosthenes Pappagianis and Hans Einstein, Tempest from Tehachapi Takes Toll or Coccidioides Conveyed Aloft and Afar, *Western Journal of Medicine*, v. 129, Dec. 1978, pp. 527-530; available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1238466/pdf/westjmed00256-0079.pdf.

[118] California Department of Public Health, State Health Officer Warns About Dangers of Valley Fever, Number 15-055, August 4, 2015; available at https://archive.cdph.ca.gov/Pages/NR15-055.aspx.

construction will carry the very small spores, 0.002-0.005 millimeters ("mm") (Figure 7),[119] into non-endemic areas.[120,121] These very small particles are not controlled by conventional construction dust control mitigation measures.

Figure 7: Size of Cocci Spores Compared to Soil Particles (in mm)



Valley Fever spores have been documented to travel as much as 500 miles,[122] and thus dust raised during construction could potentially expose a large number of people hundreds of miles away. Therefore, this is a significant concern for this Project because there are sensitive receptors around all Project components, including many single-family residences along pipeline routes, recreational facilities, and public institutions. The highest mean Valley Fever incidence rate in San Diego County is among those aged 65 and over.[123] An individual does not have to have direct soil contact to contract Valley Fever.[124]

EIS-C-A-50 Cont.

[119] Fisher et al., 2007, Fig. 3.

[120] Schmelzer and Tabershaw, 1968, p. 110; Pappagianis and Einstein, 1978.

[121] Pappagianis and Einstein, 1978, p. 527 ("The northern areas were not directly affected by the ground level windstorm that had struck Kern County but the dust was lifted to several thousand feet elevation and, borne on high currents, the soil and arthrospores along with some moisture were gently deposited on sidewalks and automobiles as "a mud storm" that vexed the residents of much of California." The storm originating in Kern County, for example, had major impacts in the San Francisco Bay Area and Sacramento.).

[122] David Filip and Sharon Filip, *Valley Fever Epidemic*, Golden Phoenix Books, 2008, p. 24.

[123] M. L. MacLean, Health Officer, Kings County, The Epidemiology of Coccidioidomycosis—15 California Counties, 2007-2011, January 22, 2014, Table 5; available at http://www.countyofkings.com/home/showdocument?id=3014.

[124] J.A. Wilken et al., Coccidioidomycosis Among Cast and Crew Members at an Outdoor Television Filming Event—California, 2012, Morbidity and Mortality Weekly Report, April 18, 2014; available at https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Coccidioidomycosis.aspx#.

2.4. Valley Fever Symptoms

Typical symptoms of Valley Fever include fatigue, fever, cough, headache, shortness of breath, rash, muscle aches, and joint pain. Symptoms of advanced Valley Fever include chronic pneumonia, meningitis, skin lesions, and bone or joint infections. The most common clinical presentation of Valley Fever is a self-limited acute or subacute community-acquired pneumonia that becomes evident 13 weeks after infection.[125] No vaccine or known cure exists for the disease.[126] However, the FDA recently granted Fast Track designation for a proposed treatment.[127] Between 1990 and 2008, more than 3,000 people have died in the United States from Valley Fever, with about half of the deaths occurring in California.[128] Between 2000 and 2013 in California, 1,098 deaths were attributed to Valley Fever.[129] In recent years, reported Valley Fever cases in the Southwest have increased dramatically.[130]

Infections by *Coccidioides ssp.* frequently have a seasonal pattern, with infection rates that generally spike in the first few weeks of hot dry weather that follow extended milder rainy periods. In California, infection rates are generally higher during the hot summer months, especially if weather patterns bring the usual winter rains between November and April.[131] The majority of cases of Valley Fever accordingly occur during the months of June through December, which are typically periods of peak construction activity.

EIS-C-A-50 Cont.

[125] *See, e.g.*, Lisa Valdivia, David Nix, Mark Wright, Elizabeth Lindberg, Timothy Fagan, Donald Lieberman, Prien Stoffer, Neil M. Ampel, and John N. Galgiani, Coccidioidomycosis as a Common Cause of Community-Acquired Pneumonia, *Emerging Infectious Diseases*, v. 12, no. 6, June 2006; available at http://europepmc.org/articles/PMC3373055.

[126] Rebecca Plevin, National Public Radio, Cases of Mysterious Valley Fever Rise in American Southwest, May 13, 2013; available at http://www.npr.org/blogs/health/2013/05/13/181880987/cases-of-mysterious-valley-fever-rise-in-american-southwest.

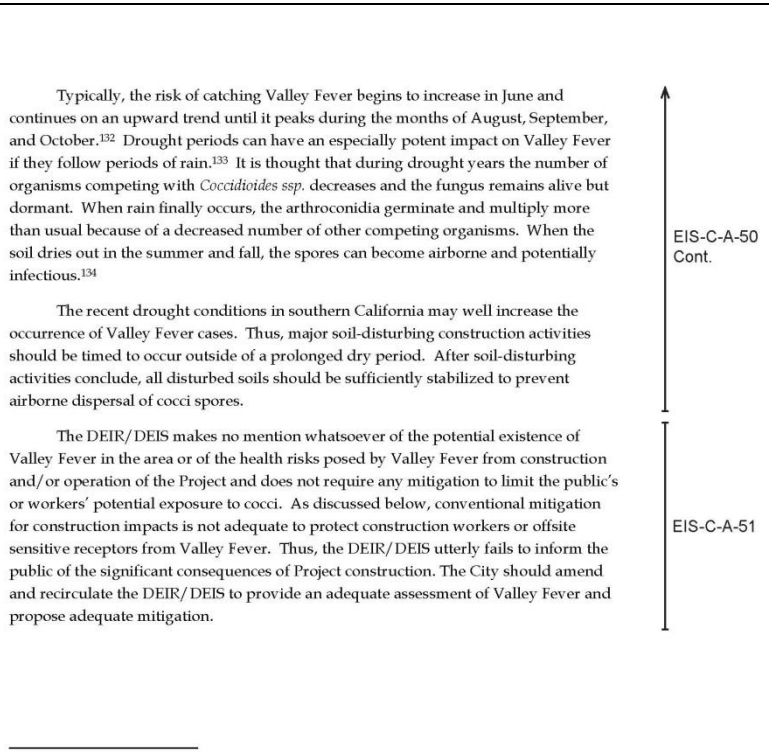
[127] Mathew Shanley, Valley Fever Treatment Granted FDA Fast Track Designation, July 14, 2017; available at http://www.raredr.com/news/valley-fever-drug-fast-track-designation.

[128] Jennifer Y. Huang, Benjamin Bristow, Shira Shafir, and Frank Sorvillo, Coccidioidomycosis-Associated Deaths, United States, 1990–2008, *Emerging Infectious Diseases*, v. 18, no. 11, November 2012; available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3559166/.

[129] G. L. Sondermeyer et al., Coccidioidomycosis-Associated Deaths in California, 2000-2013, *Public Health Reports*, v. 131, no. 4, 2016; available at http://journals.sagepub.com/doi/10.1177/0033354916662210.

[130] See Centers for Disease Control; Fungal Pneumonia: A Silent Epidemic, Coccidioidomycosis (Valley Fever); available at http://www.cdc.gov/fungal/pdf/cocci-fact-sheet-sw-us-508c.pdf.

[131] *Ibid.*



Typically, the risk of catching Valley Fever begins to increase in June and continues on an upward trend until it peaks during the months of August, September, and October.[132] Drought periods can have an especially potent impact on Valley Fever if they follow periods of rain.[133] It is thought that during drought years the number of organisms competing with *Coccidioides ssp.* decreases and the fungus remains alive but dormant. When rain finally occurs, the arthroconidia germinate and multiply more than usual because of a decreased number of other competing organisms. When the soil dries out in the summer and fall, the spores can become airborne and potentially infectious.[134]

The recent drought conditions in southern California may well increase the occurrence of Valley Fever cases. Thus, major soil-disturbing construction activities should be timed to occur outside of a prolonged dry period. After soil-disturbing activities conclude, all disturbed soils should be sufficiently stabilized to prevent airborne dispersal of cocci spores.

The DEIR/DEIS makes no mention whatsoever of the potential existence of Valley Fever in the area or of the health risks posed by Valley Fever from construction and/or operation of the Project and does not require any mitigation to limit the public's or workers' potential exposure to cocci. As discussed below, conventional mitigation for construction impacts is not adequate to protect construction workers or offsite sensitive receptors from Valley Fever. Thus, the DEIR/DEIS utterly fails to inform the public of the significant consequences of Project construction. The City should amend and recirculate the DEIR/DEIS to provide an adequate assessment of Valley Fever and propose adequate mitigation.

EIS-C-A-50 Cont.

EIS-C-A-51

[132] Kern County Public Health Services Department, What Is Valley Fever, Prevention, Valley Fever Risk Factors; available at http://kerncountyvalleyfever.com/what-is-valley-fever/risk-factors/.

[133] Gosia Wozniacka, Associated Press, Fever Hits Thousands in Parched West Farm Region, May 5, 2013, Updated April 29, 2016, citing Prof. John Galgiani, Director of the Valley Fever Center for Excellence at the University of Arizona; available at http://www.denverpost.com/2013/05/05/valley-fever-hits-thousands-in-parched-west/.

[134] Theodore N. Kirkland and Joshua Fierer, Coccidioidomycosis: A Reemerging Infectious Disease, *Emerging Infectious Diseases*, v. 3, no. 2, July-September 1996; available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2626789/pdf/8903229.pdf.

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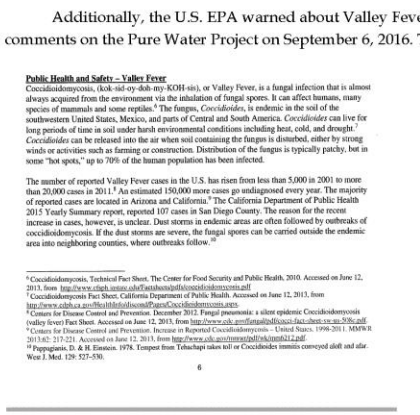
EIS-C-A-51 See Response to Comment EIS-C-A-27 regarding the low risk of releasing Valley Fever spores during the Project's construction phase.

While the risk of releasing Valley Fever spores during the Project's construction phase and transporting spores off site is reasonably anticipated to be low based on the Project site location, it also should be noted that the applicant would comply with SDAPCD Rule 55, which establishes track-out/carry-out control for dust from transport trucks, operations, erosion, etc. Further, mitigation measure MM-AQ-1 requires that the applicant cover or water, as needed, any on-site stockpiles of debris, dirt, or other dusty material; use adequate water and/or other dust palliatives on all disturbed areas in order to avoid particle blow-off; wash down or sweep paved streets as necessary to control trackout or fugitive dust; cover or tarp all vehicles hauling dirt or spoils on public roads if sufficient freeboard is not available to prevent material blow-off during transport; use gravel bags and catch basins during ground-disturbing operations; and

	maintain appropriate soil moisture, apply soil binders, and/or plant stabilizing vegetation etc. to ensure that dust is not transported offsite. These requirements are consistent with CDPH recommendations to prevent transport of spores off-site by cleaning tools, equipment, and vehicles prior to their transport off-site (CDPH 2013). In summary, the Project would not result in a significant impact off site attributable to Valley Fever exposure based on its geographic location and compliance with applicable regulatory standards and mitigation measure MM-AQ-1, which will serve to minimize the release of, transport of, and exposure to fungal spores.



Additionally, the U.S. EPA warned about Valley Fever in its detailed scoping comments on the Pure Water Project on September 6, 2016. The agency stated[135]:

Public Health and Safety – Valley Fever
Coccidioidomycosis, (kok-sid-oy-doh-my-KOH-sis), or Valley Fever, is a fungal infection that is almost always acquired from the environment via the inhalation of fungal spores. It can affect humans, many species of mammals and some reptiles.[6] The fungus, *Coccidioides*, is endemic in the soil of the southwestern United States, Mexico, and parts of Central and South America. *Coccidioides* can live for long periods of time in soil under harsh environmental conditions including heat, cold, and drought.[7] *Coccidioides* can be released into the air when soil containing the fungus is disturbed, either by strong winds or activities such as farming or construction. Distribution of the fungus is typically patchy, but in some "hot spots," up to 70% of the human population has been infected.

The number of reported Valley Fever cases in the U.S. has risen from less than 5,000 in 2001 to more than 20,000 cases in 2011.[8] An estimated 150,000 more cases go undiagnosed every year. The majority of reported cases are located in Arizona and California.[9] The California Department of Public Health 2015 Yearly Summary report, reported 107 cases in San Diego County. The reason for the recent increase in cases, however, is unclear. Dust storms in endemic areas are often followed by outbreaks of coccidioidomycosis. If the dust storms are severe, the fungal spores can be carried outside the endemic area into neighboring counties, where outbreaks follow.[10]

[6] Coccidioidomycosis, Technical Fact Sheet. The Center for Food Security and Public Health, 2010. Accessed on June 12, 2013, from http://www.cfsph.iastate.edu/FactSheets/pdfs/coccidioidomycosis.pdf
[7] Coccidioidomycosis Fact Sheet. California Department of Public Health. Accessed on June 12, 2013, from http://www.cdph.ca.gov/HealthInfo/discond/Pages/CoccidioidomycosisLetter.aspx
[8] Centers for Disease Control and Prevention. December 2012. Fungal pneumonia: a silent epidemic Coccidioidomycosis (valley fever) Fact Sheet. Accessed on June 12, 2013, from http://www.cdc.gov/ffungal/pdf/cocci-fact-sheet-vw-au-508c.pdf
[9] Centers for Disease Control and Prevention. Increase in Reported Coccidioidomycosis – United States, 1998-2011. MMWR 2013;62: 217-221. Accessed on June 12, 2013, from http://www.cdc.gov/mmwr/pdf/wk/mm6212.pdf.
[10] Pappagianis, D. & H. Einstein. 1978. Tempest from Tehachapi takes toll or Coccidioides immitis conveyed aloft and afar. West J. Med. 129: 527-530.

6

The Draft EIS/EIR should assess potential exposures to the fungus, *Coccidioides*, and susceptibilities of workers and nearby residents to Valley Fever due to soil-disturbing activities of the project. Mitigation or prevention measures that may be used to protect workers and nearby residents should also be described.

EIS-C-A-52

2.5. A Conventional Dust Control Plan Is Inadequate to Address Health Risks Posed by Exposure to Valley Fever

Conventional dust control measures that are included in the mitigation measures for the Project in Mitigation Measures MM-AQ-1 are not effective at controlling Valley Fever[136] as they largely focus on visible dust or larger dust particles – the PM10

[135] Appendix A (Scoping Letter, NOP/NOI, and NOP Comments), pdf. pp. 76-77 (U.S. EPA Detailed Scoping Comments on the Pure Water Project, San Diego County, California, September 6, 2016, pp. 6-7).

[136] *See, e.g.*, Cummings et al., 2010, p. 509; Schneider et al., 1997, p. 908 ("Primary prevention strategies (*e.g.*, dust-control measures) for coccidioidomycosis in endemic areas have limited effectiveness.").

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EIS-C-A-52 Upon further investigation, the sources cited for stating that "conventional dust control measures….are not effective at controlling Valley Fever" (source 136 in comment letter) do not state or assert what the commenter has purported. The article, authored by K.C. Cummings et al., is about a Valley Fever outbreak at a construction site in Camp Roberts (Cummings et al. 2010). The article sites that none of the workers used the provided respiratory protection and did not rely on the ventilation filtration within the equipment as the doors were left open. Therefore, it was not the dust suppression techniques that were used that contributed to the outbreak, but the lack of use of personal protective equipment supplied that contributed to the outbreak. Therefore, this source does not have bearing on this Project.

The second source cited (Schneider et al., 1997 p. 908) which is titled "A Coccidioidomycosis Outbreak Following the Northridge, California, Earthquake," has no relation to the Project or Valley Fever incidences at construction sites. The comment will be included in the

fraction – not the very fine particles where the Valley Fever spores are found. While dust exposure is one of the primary risk factors for contracting Valley Fever and dust-control measures are an important defense against infection, it is important to note that PM10 and visible dust, the targets of conventional control mitigation, are only indicators that *Coccidioides ssp.* spores may be airborne in a given area. Freshly generated dust clouds usually contain a larger proportion of the more visible coarse particles, PM10 (</=0.01 mm), compared to cocci spores (0.002 mm). However, these larger particles settle more rapidly and the remaining fine respirable particles may be difficult to see and are not controlled by conventional dust control measures.

EIS-C-A-52 Cont.

Spores of *Coccidioides ssp.* have slow settling rates in air due to their small size (0.002 mm) and low terminal velocity, and possibly also due to their buoyancy, barrel shape, and commonly attached empty hyphae cell fragments.[137] Thus spores, whose size is well below the limits of human vision, may be present in air that appears relatively clear and dust free. Such ambient airborne spores with their low settling rates can remain aloft for long periods and be carried hundreds of miles from their point of origin. Thus, implementation of conventional dust control measures will not provide sufficient protection for both on-site workers and the general public, especially Phase I occupants during construction of Phase II and nearby off-site sensitive receptors.

EIS-C-A-53

2.6. The DEIR/DEIS Fails to Require Adequate Mitigation for Valley Fever

In response to an outbreak of Valley Fever in construction workers in 2007 at a construction site for a solar facility within San Luis Obispo County, its Public Health Department, in conjunction with the California Department of Public Health,[138] developed recommendations to limit exposure to Valley Fever based on scientific information from the published literature. The recommended measures go far beyond the conventional dust control measures recommended in the DEIR/DEIS to control construction emissions, which primarily control PM10. They include the following measures that are not required in the DEIR/DEIS to mitigate construction emissions from the Project:

EIS-C-A-54

[137] Frederick S. Fisher, Mark W. Bultman, and Demosthenes Pappagianis, Operational Guidelines (version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever), U.S. Geological Survey Open-File Report 00-348, 2000; available at https://pubs.usgs.gov/of/2000/0348/.

[138] CDPH June 2013, pp. 4-6.

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administrative record for the Project as part of the Final EIR/EIS for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-53 As the Project does not have a Phase I or Phase II, this comment is clearly referring to a different project. The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-54 The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

1. Re-evaluate and update your Injury and Illness Prevention Program (as required by Title 8, Section 3203) and ensure safeguards to prevent Valley Fever are included.

2. Train all employees on the following issues:

   - The soils in San Diego County may contain cocci spores;
   - Inhaling cocci spores may cause Valley fever;
   - How to recognize symptoms of Valley Fever; these symptoms resemble common viral infections, and may include fatigue, cough, chest pain, fever, rash, headache, and body and joint ache);
   - Work with a medical professional with expertise in cocci as you develop your training program and consult information on public health department websites;
   - Workers must promptly report suspected symptoms of work-related Valley Fever to a supervisor;
   - Workers are entitled to receive prompt medical care if they suspect symptoms of work-related Valley Fever. Workers should inform the health care provider that they may have been exposed to cocci;
   - To protect themselves, workers should use control measures as outlined here.

3. Control dust exposure:

   – Consult with local Air Pollution Control District Compliance Assistance programs and with California Occupational Safety and Health Administration ("Cal/OSHA") compliance program regarding meeting the requirements of dust control plans and for specific methods of dust control. These methods may include wetting the soil while ensuring that the wetting process does not raise dust or adversely affect the construction process;
   – Provide high-efficiency particulate ("HEP")-filtered, air-conditioned enclosed cabs on heavy equipment. Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment and keeping windows closed.
   – Provide communication methods, such as 2-way radios, for use in enclosed cabs.
   – Employees should be medically evaluated, fit-tested, and properly trained on the use of the respirators, and a full respiratory protection program in accordance with the applicable Cal/OSHA Respiratory Protection Standard (8 CCR 5144) should be in place.

EIS-C-A-54
Cont.

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- Provide National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers with a prior history of Valley Fever.
- Half-face respirators equipped with N-100 or P-100 filters should be used during digging. Employees should wear respirators when working near earth moving machinery.
- Prohibit eating and smoking at the worksite, and provide separate, clean eating areas with hand-washing facilities.
- Avoid outdoor construction operations during unusually windy conditions or in dust storms.
- Consider limiting outdoor construction during the Fall to essential jobs only, as the risk of cocci infection is higher during this season.

4. Prevent transport of cocci outside endemic areas:

   - Thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations.
   - Provide workers with coveralls daily, lockers (or other systems for keeping work and street clothing and shoes separate), daily changing and showering facilities.
   - Clothing should be changed after work every day, preferably at the work site.
   - Train workers to recognize that cocci may be transported offsite on contaminated equipment, clothing, and shoes; alternatively, consider installing boot-washing.
   - Post warnings onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection.

5. Improve medical surveillance for employees:

   - Employees should have prompt access to medical care, including suspected work-related illnesses and injuries.
   - Work with a medical professional to develop a protocol to medically evaluate employees who have symptoms of Valley Fever.
   - Consider preferentially contracting with 1-2 clinics in the area and communicate with the health care providers in those clinics to ensure that providers are aware that Valley Fever has been reported in the area. This will increase the likelihood that ill workers will receive prompt, proper and consistent medical care.

EIS-C-A-54
Cont.

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- Respirator clearance should include medical evaluation for all new employees, annual re-evaluation for changes in medical status, and annual training, and fit-testing.
- Skin testing is not recommended for evaluation of Valley Fever. [139]
- If an employee is diagnosed with Valley Fever, a physician must determine if the employee should be taken off work, when they may return to work, and what type of work activities they may perform.

Two other studies have developed complementary recommendations to minimize the incidence of Valley Fever. The U.S. Geological Survey ("USGS") has developed recommendations to protect geological field workers in endemic areas.[140] An occupational study of Valley Fever in California workers also developed recommendations to protect those working and living in endemic areas.[141] These two sources identified the following measures, in addition to those identified by the San Luis Obispo County Public Health Department, to minimize the exposure to Valley Fever:

EIS-C-A-54 Cont.

- Evaluate soils to determine if each work location is within an endemic area.
- Implement a vigorous program of medical surveillance.
- Implement aggressive enforcement of respiratory use where exposures from manual digging are involved.
- Test all potential employees for previous infection to identify the immune population and assign immune workers to operations involving known heavy exposures.
- Hire resident labor whenever available, particularly for heavy dust exposure work.
- All workers in endemic areas should use dust masks to protect against inhalation of particles as small as 0.4 microns. Mustaches or beards may prevent a mask from making an airtight seal against the face and thus should be discouraged.

[139] Short-term skin tests that produce results within 48 hours are now available. See Kerry Klein, NPR for Central California, New Valley Fever Skin Test Shows Promise, But Obstacles Remain, November 21, 2016; available at http://kvpr.org/post/new-valley-fever-skin-test-shows-promise-obstacles-remain.

[140] Fisher et al., 2000.

[141] Schmelzer and Tabershaw, 1968, pp. 111-113.

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– Establish a medical program, including skin tests on all new employees, retesting of susceptibles, prompt treatment of respiratory illness in susceptibles; periodic medical examination or interview to discover a history of low grade or subclinical infection, including repeated skin testing of susceptible persons. EIS-C-A-54 Cont.

The DEIR/DEIS's construction control measure MM-AQ-1 does not include these measures. A few similar measures are required, but they do not go far enough to control Valley Fever. Some examples follow. EIS-C-A-55

First, the DEIR/DEIS contains no discussion of who would be responsible to develop these measures or oversee their implementation. EIS-C-A-56

Second, mitigation measure MM-AQ-1 requires covering or watering stockpiles. The DEIR/DEIS does not identify any stockpiles or include any emissions from them. Watering stockpiles does not eliminate off-site, unpaved road dust from flat surfaces, unpaved roadways, and active working areas. Thus, this measure is not mitigating anything. EIS-C-A-57

Third, water or dust palliatives do not control dust from active working areas where excavators, etc. are operating. This measure, couple with moisture control, would at most control 40% of the dust, as assumed above in my calculations. EIS-C-A-58

Fourth, washing and sweeping paved streets washing and sweeping paved streets does not control dust from either on-site or off-site unpaved areas. EIS-C-A-59

Fifth, covering trucks does not control dust raised by truck wheels on unpaved surfaces. EIS-C-A-60

Sixth, gravel bags and catch basins are storm water management controls and do not control dust raised by equipment wheels and active construction equipment. EIS-C-A-61

Seventh, soil moisture control duplicates the use of water for dust control, required elsewhere in MM-AQ-1. Further, soil moisture cannot be controlled in active work areas. Soil moisture control, achieved using watering, would at most control 40% of the dust, as assumed above in my calculations. Finally, this measure is worded in such a general way as to be basically meaningless and unenforceable. EIS-C-A-62

Generic "soil moisture control" and the use of water and palliatives are not comparable to the above Valley Fever specific measures. The CDPH recommends for Valley Fever control, that "[w]hen soil will be disturbed by heavy equipment or vehicles, wet the soil before disturbing it and continuously wet it while digging to keep EIS-C-A-63

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EIS-C-A-55 This comment states that the Draft EIR/EIS's MM-AQ-1 does not include the measures described within comment EIS-C-A-54. This comment is acknowledged, and the Project's response to Valley Fever is fully explained in Response to Comment EIS-C-A-27. The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-56 The implementation of MM-AQ-1 is discussed in detail within Chapter 10 (Mitigation Monitoring and Reporting Program) of the Draft EIR/EIS in accordance with CEQA Section 21081.6A, and in Draft EIR/EIS Table 10-10 lists the responsible person for MM-AQ-1 as the Construction Manager. No further response is required.

EIS-C-A-57 This mitigation strategy in MM-AQ-1 is consistent with the SDAPCD Rule 55 requirements and the fugitive dust management requirements within the City's Whitebook. The mitigation measure is not meant to reduce off-site, unpaved

	road dust from flat surfaces, unpaved roadways, and active working areas. No further response is required.
	EIS-C-A-58 Please see Response to Comment EIS-C-A-16 for a complete discussion regarding this topic. No further response is required.
	EIS-C-A-59 MM-AQ-1 is not intended for reducing dust emissions on-site or off-site unpaved areas. This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR for reviewct. No further response is required because the comment does not raise an environmental issue.
	EIS-C-A-60 MM-AQ-1 is not intended for reducing dust emissions from truck wheels on unpaved surfaces. This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.
	EIS-C-A-61 MM-AQ-1 is not intended for reducing dust emissions by equipment wheels and active

	construction equipment. This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue. **EIS-C-A-62** Please see Response to Comment EIS-C-A-23 for a complete discussion regarding this topic. No further response is required. **EIS-C-A-63** Please see Response to Comment EIS-C-A-27 for a complete discussion regarding this topic. No further response is required.

dust levels down."[142] The watering trucks themselves used in watering generate fugitive dust, which is not addressed by the DEIR/DEIS's measure, but is addressed by CDPH by requiring the use of "wetting methods that do not raise dust." The BAAQMD requires that all exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12%, verified by lab samples or moisture probe.[143]

The best method of preventing roadway dust is to consolidate it, requiring a large quantity of water. The DEIR/DEIS is silent on the amount of water that would be used and methods of dispensing it. Water evaporates quickly in hot climates such as those at the Project site, requiring frequent spraying which is not required in the DEIR/DEIS.

Further, methods are available to improve dust control. The calcium chloride method or the salt crust process, for example, achieve better control than water alone. Further, fine atomized sprays or mist sprays with droplet diameters of 60 um, produced by swirl-type pressure nozzles or pneumatic atomizers, should be used on the watering trucks.[144]

Mitigation Measure MM-AQ-1 requires wheel washers on trucks only prior to entry on public roads, while CDPH Valley Fever control requires contractors to "[t]horoughly clean equipment, vehicles, and other items before they are moved off-site to other work locations."

In addition to the above discussed measures, I recommend the following mitigation measures to protect workers and off-site sensitive receptors:

- Continuously wet the soil before and while digging or moving the earth. Landing zones for helicopters and areas where bulldozers, graders, or skid steers operate are examples where continuously wetting the soil is necessary.
- When digging a trench or fire line or performing other soil-disturbing tasks, position workers upwind when possible.

EIS-C-A-63 Cont.

EIS-C-A-64

EIS-C-A-65

EIS-C-A-66

[142] CDPH June 2013, p. 4.

[143] Bay Area Air Quality Management District (BAAQMD), California Environmental Quality Act Air Quality Guidelines, CEQA Guidelines, Updated May 2017, Table 8-2, Measure 1; available at http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines.

[144] Amar Solanki, Dust Suppression System, p. 15-19, 25; available at https://www.slideshare.net/abhi24mining/prevention-suppression-of-dust.

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EIS-C-A-64 This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-65 This comment states that MM-AQ-1 requires wheel washers on trucks prior to entry on public roads, while CDPH Valley Fever control requires contractors to thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations. This comment is put in quotations as citing the CDPH, but no reference is provided and thus is considered an opinion. This comment is acknowledged and will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-66 This comment is acknowledged and the Project's response to Valley Fever is fully explained in Response to Comment EIS-C-A-27. The comment will be included in the

- Place overnight camps, especially sleeping quarters and dining halls, away from sources of dust such as roadways.
- Minimize the amount of digging by hand. Instead, use heavy equipment with the operator in an enclosed, air-conditioned, HEPA-filtered cab.

In sum, construction mitigation measures in the DEIR/DEIS are not adequate to control Valley Fever. Projects that have implemented conventional PM10 dust control measures, such as those proposed in the DEIR/DEIS, have experienced fugitive dust issues and reported cases of Valley Fever.

For example, construction of First Solar's Antelope Valley Solar Ranch One ("AVSR1") was officially halted in April 2013 due to the company's failure to bring the facility into compliance with ambient air quality standards, despite similar dust control measures. A dust storm in Antelope Valley on April 8, 2013 was so severe that it resulted in multiple car pileups in the sparsely populated region, as well as closure of the Antelope Valley Freeway. The company was issued four violations by the Antelope Valley Air Quality Management District. Dust from the project led to complaints of respiratory distress by local residents and a concern of Valley Fever. [145]

At two photovoltaic solar energy projects in San Luis Obispo County, Topaz Solar Farm and California Valley Solar Ranch, 28 construction workers contracted Valley Fever. One man was digging into the ground and inhaled dust and subsequently became ill. A blood test confirmed Valley Fever.[146]

All the above health-protective measures recommended by the San Luis Obispo County Public Health Department and the California Department of Public Health are feasible for the Project and must be required in an enhanced dust control plan to reduce the risk to construction workers, on-site residents, and the public of contracting Valley Fever. Many of these measures have been required by the County of Monterey in other EIRs.[147] They are also required in the EIR for the California High-Speed Train.[148] Even

EIS-C-A-66 Cont.

EIS-C-A-67

EIS-C-A-68

[145] Herman K. Trabish, Green Tech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site.

[146] Julie Cart, Los Angeles Times, 28 Solar Workers Sickened by Valley Fever in San Luis Obispo County May 01, 2013; available at http://articles.latimes.com/2013/may/01/local/la-me-ln-valley-fever-solar-sites-20130501.

[147] County of Monterey, California Flats Solar Project Final Environmental Impact Report, December 2014; available at http://www.co.monterey.ca.us/Planning/major/California%20Flats%20Solar/FEIR/FEIR_PLN120294_122314.pdf.

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administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-67 The first project cited in this comment is First Solar's Antelope Valley Solar Ranch One, and the commented indicated the following was pulled from an article: "Dust from the project led to complaints of respiratory distress by local residents and a concern of Valley Fever." What was put in quotations is a paraphrase of several items within the article cited. The only mention of Valley Fever in the article is as follows (Trabish 2013):

> Dust, in general, has led to complaints of respiratory distress by residents and a concern about soil-borne Valley Fever, as well as increased reports of Dry Land Distemper in horses.

This statement within the article was taken out of context by the commenter and is not directly pointing to fugitive dust created by the project, as shown above.

if all the above measures are adopted, a recirculated DEIR/DEIS is required to analyze whether these measures are adequate to reduce this significant impact to a level below significance. EIS-C-A-68 Cont.

[148] California High-Speed Rail Authority and U.S. Department of Transportation, California High-Speed Train Project Environmental Impact Report/Environmental Impact Statement, Fresno to Bakersfield, Mitigation Monitoring and Enforcement Program Amendments, September 2015; available at http://www.hsr.ca.gov/Programs/Environmental_Planning/final_merced_fresno.html.

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The comment regarding the two projects in San Luis Obispo County are acknowledged. The comment will be included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

The comment also states that all the health protective measures recommended by the San Luis Obispo County Public Health Department and the California Department of Public Health are feasible and must be required to reduce the risk of workers, residents, and the public contracting Valley Fever. This comment is acknowledged and the Project's response to Valley Fever and mitigation is fully explained in Response to Comment EIS-C-A-27. The comment will be included as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

EIS-C-A-68 This comment is acknowledged and the Project's response to Valley Fever and mitigation is fully explained in Response to Comment EIS-C-A-27. The comment will be

	included in the administrative record for the Project as part of the Final EIR for review. No further response is required because the comment does not raise an environmental issue.

EXHIBIT 1

EIS-C-A-69

EIS-C-A-69 The author's resume is noted.

Phyllis Fox, Ph.D, PE
Environmental Management
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Rockledge, FL 32955
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Dr. Fox has over 40 years of experience in the field of environmental engineering, including air pollution control (BACT, BART, MACT, LAER, RACT), greenhouse gas emissions and control, cost effectiveness analyses, water quality and water supply investigations, hydrology, hazardous waste investigations, environmental permitting, nuisance investigations (odor, noise), environmental impact reports, CEQA/NEPA documentation, risk assessments, and litigation support.

EDUCATION

Ph.D. Environmental/Civil Engineering, University of California, Berkeley, 1980.
M.S. Environmental/Civil Engineering, University of California, Berkeley, 1975.
B.S. Physics (with high honors), University of Florida, Gainesville, 1971.

REGISTRATION

Registered Professional Engineer: Arizona (2001-2014: #36701; retired), California (2002-present; CH 6058), Florida (2001-2016; #57886; retired), Georgia (2002-2014; #PE027643; retired), Washington (2002-2014; #38692; retired), Wisconsin (2005-2014; #37595-006; retired)
Board Certified Environmental Engineer, American Academy of Environmental Engineers, Certified in Air Pollution Control (DEE #01-20014), 2002-2014; retired)
Qualified Environmental Professional (QEP), Institute of Professional Environmental Practice (QEP #02-010007, 2001-2015: retired).

PROFESSIONAL HISTORY

Environmental Management, Principal, 1981-present
Lawrence Berkeley National Laboratory, Principal Investigator, 1977-1981
University of California, Berkeley, Program Manager, 1976-1977
Bechtel, Inc., Engineer, 1971-1976, 1964-1966

PROFESSIONAL AFFILIATIONS

American Chemical Society (1981-2010)
Phi Beta Kappa (1970-present)
Sigma Pi Sigma (1970-present)
Who's Who Environmental Registry, PH Publishing, Fort Collins, CO, 1992.
Who's Who in the World, Marquis Who's Who, Inc., Chicago, IL, 11th Ed., p. 371, 1993-present.

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Who's Who of American Women, Marquis Who's Who, Inc., Chicago, IL, 13th Ed., p. 264, 1984-present.
Who's Who in Science and Engineering, Marquis Who's Who, Inc., New Providence, NJ, 5th Ed., p. 414, 1999-present.
Who's Who in America, Marquis Who's Who, Inc., 59th Ed., 2005.
Guide to Specialists on Toxic Substances, World Environment Center, New York, NY, p. 80, 1980.
National Research Council Committee on Irrigation-Induced Water Quality Problems (Selenium), Subcommittee on Quality Control/Quality Assurance (1985-1990).
National Research Council Committee on Surface Mining and Reclamation, Subcommittee on Oil Shale (1978-80)

REPRESENTATIVE EXPERIENCE

Performed environmental and engineering investigations, as outlined below, for a wide range of industrial and commercial facilities including: petroleum refineries and upgrades thereto; reformulated fuels projects; refinery upgrades to process heavy sour crudes, including tar sands and light sweet crudes from the Eagle Ford and Bakken Formations; petroleum, gasoline and ethanol distribution terminals; coal, coke, and ore/mineral export terminals; LNG export, import, and storage terminals; crude-by-rail projects; shale oil plants; crude oil/condensate marine and rail terminals; coal gasification and liquefaction plants; oil and gas production, including conventional, thermally enhanced, hydraulic fracking, and acid stimulation techniques; underground storage tanks; pipelines; compressor stations; gasoline stations; landfills; railyards; hazardous waste treatment facilities; nuclear, hydroelectric, geothermal, wood, biomass, waste, tire-derived fuel, gas, oil, coke and coal-fired power plants; transmission lines; airports; hydrogen plants; petroleum coke calcining plants; coke plants; activated carbon manufacturing facilities; asphalt plants; cement plants; incinerators; flares; manufacturing facilities (e.g., semiconductors, electronic assembly, aerospace components, printed circuit boards, amusement park rides); lanthanide processing plants; ammonia plants; nitric acid plants; urea plants; food processing plants; wineries; almond hulling facilities; composting facilities; grain processing facilities; grain elevators; ethanol production facilities; soy bean oil extraction plants; biodiesel plants; paint formulation plants; wastewater treatment plants; marine terminals and ports; gas processing plants; steel mills; iron nugget production facilities; pig iron plant, based on blast furnace technology; direct reduced iron plant; acid regeneration facilities; railcar refinishing facility; battery manufacturing plants; pesticide manufacturing and repackaging facilities; pulp and paper mills; olefin plants; methanol plants; ethylene crackers; alumina plants, desalination plants; selective catalytic reduction (SCR) systems; selective noncatalytic reduction (SNCR) systems; halogen acid furnaces; contaminated property redevelopment projects (e.g., Mission Bay, Southern Pacific Railyards, Moscone Center expansion, San Diego Padres Ballpark); residential developments; commercial office parks, campuses, and shopping centers; server farms;

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Cont.

transportation plans; and a wide range of mines including sand and gravel, hard rock, limestone, nacholite, coal, molybdenum, gold, zinc, and oil shale.

EXPERT WITNESS/LITIGATION SUPPORT

- For the California Attorney General, assist in determining compliance with probation terms in the matter of People v. Chevron USA.
- For plaintiffs, assist in developing Petitioners' proof brief for National Parks Conservation Association et al v. U.S. EPA, Petition for Review of Final Administrative Action of the U.S. EPA, In the U.S. Court of Appeals for the Third Circuit, Docket No. 14-3147.
- For plaintiffs, expert witness in civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1997-2000) at the Cemex cement plant in Lyons, Colorado. Reviewed produced documents, prepared expert and rebuttal reports on PSD applicability based on NOx emission calculations for a collection of changes considered both individually and collectively. Deposed August 2011. *United States v. Cemex, Inc.*, In U.S. District Court for the District of Colorado (Civil Action No. 09-cv-00019-MSK-MEH). Case settled June 13, 2013.
- For plaintiffs, in civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1988 – 2000) at James De Young Units 3, 4, and 5. Reviewed produced documents, analyzed CEMS and EIA data, and prepared netting and BACT analyses for NOx, SO2, and PM10 (PSD case). Expert report February 24, 2010 and affidavit February 20, 2010. *Sierra Club v. City of Holland, et al.*, U.S. District Court, Western District of Michigan (Civil Action 1:08-cv-1183). Case settled. Consent Decree 1/19/14.
- For plaintiffs, in civil action alleging failure to obtain MACT permit, expert on potential to emit hydrogen chloride (HCl) from a new coal-fired boiler. Reviewed record, estimated HCl emissions, wrote expert report June 2010 and March 2013 (Cost to Install a Scrubber at the Lamar Repowering Project Pursuant to Case-by-Case MACT), deposed August 2010 and March 2013. *Wildearth Guardian et al. v. Lamar Utilities Board,* Civil Action No. 09-cv-02974, U.S. District Court, District of Colorado. Case settled August 2013.
- For plaintiffs, expert witness on permitting, emission calculations, and wastewater treatment for coal-to-gasoline plant. Reviewed produced documents. Assisted in preparation of comments on draft minor source permit. Wrote two affidavits on key issues in case. Presented direct and rebuttal testimony 10/27 - 10/28/10 on permit enforceability and failure to properly calculate potential to emit, including underestimate of flaring emissions and omission of VOC and CO emissions from wastewater treatment, cooling tower, tank roof landings, and malfunctions. *Sierra Club, Ohio Valley Environmental Coalition, Coal River Mountain Watch, West Virginia Highlands Conservancy v. John Benedict, Director, Division*

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Cont.

of Air Quality, West Virginia Department of Environmental Protection and TransGas Development System, LLC, Appeal No. 10-01-AQB. Virginia Air Quality Board remanded the permit on March 28, 2011 ordering reconsideration of potential to emit calculations, including: (1) support for assumed flare efficiency; (2) inclusion of startup, shutdown and malfunction emissions; and (3) inclusion of wastewater treatment emissions in potential to emit calculations.

- For plaintiffs, expert on BACT emission limits for gas-fired combined cycle power plant. Prepared declaration in support of CBE's Opposition to the United States' Motion for Entry of Proposed Amended Consent Decree. Assisted in settlement discussions. *U.S. EPA, Plaintiff, Communities for a Better Environment, Intervenor Plaintiff, v. Pacific Gas & Electric Company, et al.*, U.S. District Court, Northern District of California, San Francisco Division, Case No. C-09-4503 SI.
- Technical expert in confidential settlement discussions with large coal-fired utility on BACT control technology and emission limits for NOx, SO2, PM, PM2.5, and CO for new natural gas fired combined cycle and simple cycle turbines with oil backup. (July 2010). Case settled.
- For plaintiffs, expert witness in remedy phase of civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1998-99) at Gallagher Units 1 and 3. Reviewed produced documents, prepared expert and rebuttal reports on historic and current-day BACT for SO2, control costs, and excess emissions of SO2. Deposed 11/18/09. *United States et al. v. Cinergy, et al.*, In U.S. District Court for the Southern District of Indiana, Indianapolis Division, Civil Action No. IP99-1693 C-M/S. Settled 12/22/09.
- For plaintiffs, expert witness on MACT, BACT for NOx, and enforceability in an administrative appeal of draft state air permit issued for four 300-MW pet-coke-fired CFBs. Reviewed produced documents and prepared prefiled testimony. Deposed 10/8/09 and 11/9/09. Testified 11/10/09. *Application of Las Brisas Energy Center, LLC for State Air Quality Permit*; before the State Office of Administrative Hearings, Texas. Permit remanded 3/29/10 as LBEC failed to meet burden of proof on a number of issues including MACT. Texas Court of Appeals dismissed an appeal to reinstate the permit. The Texas Commission on Environmental Quality and Las Brisas Energy Center, LLC sought to overturn the Court of Appeals decision but moved to have their appeal dismissed in August 2013.
- For defense, expert witness in unlawful detainer case involving a gasoline station, minimart, and residential property with contamination from leaking underground storage tanks. Reviewed agency files and inspected site. Presented expert testimony on July 6, 2009, on causes of, nature and extent of subsurface contamination. *A. Singh v. S. Assaedi,* in Contra Costa County Superior Court, CA. Settled August 2009.
- For plaintiffs, expert witness on netting and enforceability for refinery being upgraded to process tar sands crude. Reviewed produced documents. Prepared expert and rebuttal

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reports addressing use of emission factors for baseline, omitted sources including coker, flares, tank landings and cleaning, and enforceability. Deposed. *In the Matter of Objection to the Issuance of Significant Source Modification Permit No. 089-25484-00453 to BP Products North America Inc., Whiting Business Unit, Save the Dunes Council, Inc., Sierra Club., Inc., Hoosier Environmental Council et al., Petitioners, B. P. Products North American, Respondents/Permittee,* before the Indiana Office of Environmental Adjudication. Case settled.

- For plaintiffs, expert witness on BACT, MACT, and enforceability in appeal of Title V permit issued to 600 MW coal-fired power plant burning Powder River Basin coal. Prepared technical comments on draft air permit. Reviewed record on appeal, drafted BACT, MACT, and enforceability pre-filed testimony. Drafted MACT and enforceability pre-filed rebuttal testimony. Deposed March 24, 2009. Testified June 10, 2009. *In Re: Southwestern Electric Power Company*, Arkansas Pollution Control and Ecology Commission, Consolidated Docket No. 08-006-P. Recommended Decision issued December 9, 2009 upholding issued permit. Commission adopted Recommended Decision January 22, 2010.
- For plaintiffs, expert witness in remedy phase of civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1989-1992) at Wabash Units 2, 3 and 5. Reviewed produced documents, prepared expert and rebuttal report on historic and current-day BACT for NOx and SO2, control costs, and excess emissions of NOx, SO2, and mercury. Deposed 10/21/08. *United States et al. v. Cinergy, et al.*, In U.S. District Court for the Southern District of Indiana, Indianapolis Division, Civil Action No. IP99-1693 C-M/S. Testified 2/3/09. Memorandum Opinion & Order 5-29-09 requiring shutdown of Wabash River Units 2, 3, 5 by September 30, 2009, run at baseline until shutdown, and permanently surrender SO2 emission allowances.
- For plaintiffs, expert witness in liability phase of civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for three historic modifications (1997-2001) at two portland cement plants involving three cement kilns. Reviewed produced documents, analyzed CEMS data covering subject period, prepared netting analysis for NOx, SO_2 and CO, and prepared expert and rebuttal reports. *United States v. Cemex California Cement,* In U.S. District Court for the Central District of California, Eastern Division, Case No. ED CV 07-00223-GW (JCRx). Settled 1/15/09.
- For intervenors Clean Wisconsin and Citizens Utility Board, prepared data requests, reviewed discovery and expert report. Prepared prefiled direct, rebuttal and surrebuttal testimony on cost to extend life of existing Oak Creek Units 5-8 and cost to address future regulatory requirements to determine whether to control or shutdown one or more of the units. Oral testimony 2/5/08. Application for a Certificate of Authority to Install Wet Flue Gas Desulfurization and Selective Catalytic Reduction Facilities and Associated Equipment for Control of Sulfur Dioxide and Nitrogen Oxide Emissions at Oak Creek Power Plant Units 5, 6, 7 and 8, WPSC Docket No. 6630-CE-299.

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- For plaintiffs, expert witness on alternatives analysis and BACT for NOx, SO2, total PM10, and sulfuric acid mist in appeal of PSD permit issued to 1200 MW coal fired power plant burning Powder River Basin and/or Central Appalachian coal (Longleaf). Assisted in drafting technical comments on NOx on draft permit. Prepared expert disclosure. Presented 8+ days of direct and rebuttal expert testimony. Attended all 21 days of evidentiary hearing from 9/5/07 – 10/30/07 assisting in all aspects of hearing. *Friends of the Chatahooche and Sierra Club v. Dr. Carol Couch, Director, Environmental Protection Division of Natural Resources Department, Respondent, and Longleaf Energy Associates, Intervener.* ALJ Final Decision 1/11/08 denying petition. ALJ Order vacated & remanded for further proceedings, Fulton County Superior Court, 6/30/08. Court of Appeals of GA remanded the case with directions that the ALJ's final decision be vacated to consider the evidence under the correct standard of review, July 9, 2009. The ALJ issued an opinion April 2, 2010 in favor of the applicant. Final permit issued April 2010.
- For plaintiffs, expert witness on diesel exhaust in inverse condemnation case in which Port expanded maritime operations into residential neighborhoods, subjecting plaintiffs to noise, light, and diesel fumes. Measured real-time diesel particulate concentrations from marine vessels and tug boats on plaintiffs' property. Reviewed documents, depositions, DVDs, and photographs provided by counsel. Deposed. Testified October 24, 2006. *Ann Chargin, Richard Hackett, Carolyn Hackett, et al. v. Stockton Port District*, Superior Court of California, County of San Joaquin, Stockton Branch, No. CV021015. Judge ruled for plaintiffs.
- For plaintiffs, expert witness on NOx emissions and BACT in case alleging failure to obtain necessary permits and install controls on gas-fired combined-cycle turbines. Prepared and reviewed (applicant analyses) of NOx emissions, BACT analyses (water injection, SCR, ultra low NOx burners), and cost-effectiveness analyses based on site visit, plant operating records, stack tests, CEMS data, and turbine and catalyst vendor design information. Participated in negotiations to scope out consent order. *United States v. Nevada Power.* Case settled June 2007, resulting in installation of dry low NOx burners (5 ppm NOx averaged over 1 hr) on four units and a separate solar array at a local business.
- For plaintiffs, expert witness in appeal of PSD permit issued to 850 MW coal fired boiler burning Powder River Basin coal (Iatan Unit 2) on BACT for particulate matter, sulfuric acid mist and opacity and emission calculations for alleged historic violations of PSD. Assisted in drafting technical comments, petition for review, discovery requests, and responses to discovery requests. Reviewed produced documents. Prepared expert report on BACT for particulate matter. Assisted with expert depositions. Deposed February 7, 8, 27, and 28, 2007. *In Re PSD Construction Permit Issued to Great Plains Energy, Kansas City Power & Light – Iatan Generating Station, Sierra Club v. Missouri Department of Natural Resources, Great Plains Energy, and Kansas City Power & Light.* Case settled March 27, 2007, providing offsets for over 6 million ton/yr of CO2 and lower NOx and SO_2 emission limits.

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- For plaintiffs, expert witness in remedy phase of civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications of coal-fired boilers and associated equipment. Reviewed produced documents, prepared expert report on cost to retrofit 24 coal-fired power plants with scrubbers designed to remove 99% of the sulfur dioxide from flue gases. Prepared supplemental and expert report on cost estimates and BACT for SO2 for these 24 complaint units. Deposed 1/30/07 and 3/14/07. *United States and State of New York et al. v. American Electric Power*, In U.S. District Court for the Southern District of Ohio, Eastern Division, Consolidated Civil Action Nos. C2-99-1182 and C2-99-1250. Settlement announced 10/9/07.
- For plaintiffs, expert witness on BACT, enforceability, and alternatives analysis in appeal of PSD permit issued for a 270-MW pulverized coal fired boiler burning Powder River Basin coal (City Utilities Springfield Unit 2). Reviewed permitting file and assisted counsel draft petition and prepare and respond to interrogatories and document requests. Reviewed interrogatory responses and produced documents. Assisted with expert depositions. Deposed August 2005. Evidentiary hearings October 2005. *In the Matter of Linda Chipperfield and Sierra Club v. Missouri Department of Natural Resources*. Missouri Supreme Court denied review of adverse lower court rulings August 2007.
- For plaintiffs, expert witness in civil action relating to plume touchdowns at AEP's Gavin coal-fired power plant. Assisted counsel draft interrogatories and document requests. Reviewed responses to interrogatories and produced documents. Prepared expert report "Releases of Sulfuric Acid Mist from the Gavin Power Station." The report evaluates sulfuric acid mist releases to determine if AEP complied with the requirements of CERCLA Section 103(a) and EPCRA Section 304. This report also discusses the formation, chemistry, release characteristics, and abatement of sulfuric acid mist in support of the claim that these releases present an imminent and substantial endangerment to public health under Section 7002(a)(1)(B) of the Resource Conservation and Recovery Act ("RCRA"). *Citizens Against Pollution v. Ohio Power Company*, In the U.S. District Court for the Southern District of Ohio, Eastern Division, Civil Action No. 2-04-cv-371. Case settled 12-8-06.
- For petitioners, expert witness in contested case hearing on BACT, enforceability, and emission estimates for an air permit issued to a 500-MW supercritical Power River Basin coal-fired boiler (Weston Unit 4). Assisted counsel prepare comments on draft air permit and respond to and draft discovery. Reviewed produced file, deposed (7/05), and prepared expert report on BACT and enforceability. Evidentiary hearings September 2005. *In the Matter of an Air Pollution Control Construction Permit Issued to Wisconsin Public Service Corporation for the Construction and Operation of a 500 MW Pulverized Coal-fired Power Plant Known as Weston Unit 4 in Marathon County, Wisconsin*, Case No. IH-04-21. The Final Order, issued 2/10/06, lowered the NOx BACT limit from 0.07 lb/MMBtu to 0.06 lb/MMBtu based on a 30-day average, added a BACT SO2 control efficiency, and required a

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0.0005% high efficiency drift eliminator as BACT for the cooling tower. The modified permit, including these provisions, was issued 3/28/07. Additional appeals in progress.

- For plaintiffs, adviser on technical issues related to Citizen Suit against U.S. EPA regarding failure to update New Source Performance Standards for petroleum refineries, 40 CFR 60, Subparts J, VV, and GGG. *Our Children's Earth Foundation and Sierra Club v. U.S. EPA et al.* Case settled July 2005. CD No. C 05-00094 CW, U.S. District Court, Northern District of California – Oakland Division. Proposed revisions to standards of performance for petroleum refineries published 72 FR 27178 (5/14/07).
- For interveners, reviewed proposed Consent Decree settling Clean Air Act violations due to historic modifications of boilers and associated equipment at two coal-fired power plants. In response to stay order, reviewed the record, selected one representative activity at each of seven generating units, and analyzed to identify CAA violations. Identified NSPS and NSR violations for NOx, SO_2, PM/PM10, and sulfuric acid mist. Summarized results in an expert report. *United States of America, and Michael A. Cox, Attorney General of the State of Michigan, ex rel. Michigan Department of Environmental Quality, Plaintiffs, and Clean Wisconsin, Sierra Club, and Citizens' Utility Board, Intervenors, v. Wisconsin Electric Power Company, Defendant*, U.S. District Court for the Eastern District of Wisconsin, Civil Action No. 2:03-CV-00371-CNC. Order issued 10-1-07 denying petition.
- For a coalition of Nevada labor organizations (ACE), reviewed preliminary determination to issue a Class I Air Quality Operating Permit to Construct and supporting files for a 250-MW pulverized coal-fired boiler (Newmont). Prepared about 100 pages of technical analyses and comments on BACT, MACT, emission calculations, and enforceability. Assisted counsel draft petition and reply brief appealing PSD permit to U.S. EPA Environmental Appeals Board (EAB). Order denying review issued 12/21/05. *In re Newmont Nevada Energy Investment, LLC, TS Power Plant*, PSD Appeal No. 05-04 (EAB 2005).
- For petitioners and plaintiffs, reviewed and prepared comments on air quality and hazardous waste based on negative declaration for refinery ultra low sulfur diesel project located in SCAQMD. Reviewed responses to comments and prepared responses. Prepared declaration and presented oral testimony before SCAQMD Hearing Board on exempt sources (cooling towers) and calculation of potential to emit under NSR. Petition for writ of mandate filed March 2005. Case remanded by Court of Appeals to trial court to direct SCAQMD to re-evaluate the potential environmental significance of NOx emissions resulting from the project in accordance with court's opinion. California Court of Appeals, Second Appellate Division, on December 18, 2007, affirmed in part (as to baseline) and denied in part. *Communities for a Better Environment v. South Coast Air Quality Management District and ConocoPhillips and Carlos Valdez et al v. South Coast Air Quality Management District and ConocoPhillips*. Certified for partial publication 1/16/08. Appellate Court opinion upheld by CA Supreme Court 3/15/10. *(2010) 48 Cal.4th 310.*

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- For amici seeking to amend a proposed Consent Decree to settle alleged NSR violations at Chevron refineries, reviewed proposed settlement, related files, subject modifications, and emission calculations. Prepared declaration on emission reductions, identification of NSR and NSPS violations, and BACT/LAER for FCCUs, heaters and boilers, flares, and sulfur recovery plants. *U.S. et al. v. Chevron U.S.A.*, Northern District of California, Case No. C 03-04650. Memorandum and Order Entering Consent Decree issued June 2005. Case No. C 03-4650 CRB.
- For petitioners, prepared declaration on enforceability of periodic monitoring requirements, in response to EPA's revised interpretation of 40 CFR 70.6(c)(1). This revision limited additional monitoring required in Title V permits. 69 FR 3203 (Jan. 22, 2004). *Environmental Integrity Project et al. v. EPA* (U.S. Court of Appeals for the District of Columbia). Court ruled the Act requires all Title V permits to contain monitoring requirements to assure compliance. *Sierra Club v. EPA*, 536 F.3d 673 (D.C. Cir. 2008).
- For interveners in application for authority to construct a 500 MW supercritical coal-fired generating unit before the Wisconsin Public Service Commission, prepared pre-filed written direct and rebuttal testimony with oral cross examination and rebuttal on BACT and MACT (Weston 4). Prepared written comments on BACT, MACT, and enforceability on draft air permit for same facility.
- For property owners in Nevada, evaluated the environmental impacts of a 1,450-MW coal-fired power plant proposed in a rural area adjacent to the Black Rock Desert and Granite Range, including emission calculations, air quality modeling, comments on proposed use permit to collect preconstruction monitoring data, and coordination with agencies and other interested parties. Project cancelled.
- For environmental organizations, reviewed draft PSD permit for a 600-MW coal-fired power plant in West Virginia (Longview). Prepared comments on permit enforceability; coal washing; BACT for SO_2 and PM10; Hg MACT; and MACT for HCl, HF, non-Hg metallic HAPs, and enforceability. Assist plaintiffs draft petition appealing air permit. Retained as expert to develop testimony on MACT, BACT, offsets, enforceability. Participate in settlement discussions. Case settled July 2004.
- For petitioners, reviewed record produced in discovery and prepared affidavit on emissions of carbon monoxide and volatile organic compounds during startup of GE 7FA combustion turbines to successfully establish plaintiff standing. *Sierra Club et al. v. Georgia Power Company* (Northern District of Georgia).
- For building trades, reviewed air quality permitting action for 1500-MW coal-fired power plant before the Kentucky Department for Environmental Protection (Thoroughbred).
- For petitioners, expert witness in administrative appeal of the PSD/Title V permit issued to a 1500-MW coal-fired power plant. Reviewed over 60,000 pages of produced documents, prepared discovery index, identified and assembled plaintiff exhibits. Deposed. Assisted

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counsel in drafting discovery requests, with over 30 depositions, witness cross examination, and brief drafting. Presented over 20 days of direct testimony, rebuttal and sur-rebuttal, with cross examination on BACT for NOx, SO_2, and PM/PM10; MACT for Hg and non-Hg metallic HAPs; emission estimates for purposes of Class I and II air modeling; risk assessment; and enforceability of permit limits. Evidentiary hearings from November 2003 to June 2004. *Sierra Club et al. v. Natural Resources & Environmental Protection Cabinet, Division of Air Quality and Thoroughbred Generating Company et al.* Hearing Officer Decision issued August 9, 2005 finding in favor of plaintiffs on counts as to risk, BACT (IGCC/CFB, NOx, SO_2, Hg, Be), single source, enforceability, and errors and omissions. Assist counsel draft exceptions. Cabinet Secretary issued Order April 11, 2006 denying Hearing Offer's report, except as to NOx BACT, Hg, 99% SO2 control and certain errors and omissions.

- For citizens group in Massachusetts, reviewed, commented on, and participated in permitting of pollution control retrofits of coal-fired power plant (Salem Harbor).
- Assisted citizens group and labor union challenge issuance of conditional use permit for a 317,000 ft^2 discount store in Honolulu without any environmental review. In support of a motion for preliminary injunction, prepared 7-page declaration addressing public health impacts of diesel exhaust from vehicles serving the Project. In preparation for trial, prepared 20-page preliminary expert report summarizing results of diesel exhaust and noise measurements at two big box retail stores in Honolulu, estimated diesel PM10 concentrations for Project using ISCST, prepared a cancer health risk assessment based on these analyses, and evaluated noise impacts.
- Assisted environmental organizations to challenge the DOE Finding of No Significant Impact (FONSI) for the Baja California Power and Sempra Energy Resources Cross-Border Transmissions Lines in the U.S. and four associated power plants located in Mexico (DOE EA-1391). Prepared 20-page declaration in support of motion for summary judgment addressing emissions, including CO_2 and NH_3, offsets, BACT, cumulative air quality impacts, alternative cooling systems, and water use and water quality impacts. Plaintiff's motion for summary judgment granted in part. U.S. District Court, Southern District decision concluded that the Environmental Assessment and FONSI violated NEPA and the APA due to their inadequate analysis of the potential controversy surrounding the project, water impacts, impacts from NH_3 and CO_2, alternatives, and cumulative impacts. *Border Power Plant Working Group v. Department of Energy and Bureau of Land Management*, Case No. 02-CV-513-IEG (POR) (May 2, 2003).
- For Sacramento school, reviewed draft air permit issued for diesel generator located across from playfield. Prepared comments on emission estimates, enforceability, BACT, and health impacts of diesel exhaust. Case settled. BUG trap installed on the diesel generator.
- Assisted unions in appeal of Title V permit issued by BAAQMD to carbon plant that manufactured coke. Reviewed District files, identified historic modifications that should have triggered PSD review, and prepared technical comments on Title V permit. Reviewed

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responses to comments and assisted counsel draft appeal to BAAQMD hearing board, opening brief, motion to strike, and rebuttal brief. Case settled.

- Assisted California Central Coast city obtain controls on a proposed new city that would straddle the Ventura-Los Angeles County boundary. Reviewed several environmental impact reports, prepared an air quality analysis, a diesel exhaust health risk assessment, and detailed review comments. Governor intervened and State dedicated the land for conservation purposes April 2004.
- Assisted Central California city to obtain controls on large alluvial sand quarry and asphalt plant proposing a modernization. Prepared comments on Negative Declaration on air quality, public health, noise, and traffic. Evaluated process flow diagrams and engineering reports to determine whether proposed changes increased plant capacity or substantially modified plant operations. Prepared comments on application for categorical exemption from CEQA. Presented testimony to County Board of Supervisors. Developed controls to mitigate impacts. Assisted counsel draft Petition for Writ. Case settled June 2002. Substantial improvements in plant operations were obtained including cap on throughput, dust control measures, asphalt plant loadout enclosure, and restrictions on truck routes.
- Assisted oil companies on the California Central Coast in defending class action citizen's lawsuit alleging health effects due to emissions from gas processing plant and leaking underground storage tanks. Reviewed regulatory and other files and advised counsel on merits of case. Case settled November 2001.
- Assisted oil company on the California Central Coast in defending property damage claims arising out of a historic oil spill. Reviewed site investigation reports, pump tests, leachability studies, and health risk assessments, participated in design of additional site characterization studies to assess health impacts, and advised counsel on merits of case. Prepare health risk assessment.
- Assisted unions in appeal of Initial Study/Negative Declaration ("IS/ND") for an MTBE phaseout project at a Bay Area refinery. Reviewed IS/ND and supporting agency permitting files and prepared technical comments on air quality, groundwater, and public health impacts. Reviewed responses to comments and final IS/ND and ATC permits and assisted counsel to draft petitions and briefs appealing decision to Air District Hearing Board. Presented sworn direct and rebuttal testimony with cross examination on groundwater impacts of ethanol spills on hydrocarbon contamination at refinery. Hearing Board ruled 5 to 0 in favor of appellants, remanding ATC to district to prepare an EIR.
- Assisted Florida cities in challenging the use of diesel and proposed BACT determinations in prevention of significant deterioration (PSD) permits issued to two 510-MW simple cycle peaking electric generating facilities and one 1,080-MW simple cycle/combined cycle facility. Reviewed permit applications, draft permits, and FDEP engineering evaluations, assisted counsel in drafting petitions and responding to discovery. Participated in settlement discussions. Cases settled or applications withdrawn.

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- Assisted large California city in federal lawsuit alleging peaker power plant was violating its federal permit. Reviewed permit file and applicant's engineering and cost feasibility study to reduce emissions through retrofit controls. Advised counsel on feasible and cost-effective NOx, SOx, and PM10 controls for several 1960s diesel-fired Pratt and Whitney peaker turbines. Case settled.
- Assisted coalition of Georgia environmental groups in evaluating BACT determinations and permit conditions in PSD permits issued to several large natural gas-fired simple cycle and combined-cycle power plants. Prepared technical comments on draft PSD permits on BACT, enforceability of limits, and toxic emissions. Reviewed responses to comments, advised counsel on merits of cases, participated in settlement discussions, presented oral and written testimony in adjudicatory hearings, and provided technical assistance as required. Cases settled or won at trial.
- Assisted construction unions in review of air quality permitting actions before the Indiana Department of Environmental Management ("IDEM") for several natural gas-fired simple cycle peaker and combined cycle power plants.
- Assisted coalition of towns and environmental groups in challenging air permits issued to 523 MW dual fuel (natural gas and distillate) combined-cycle power plant in Connecticut. Prepared technical comments on draft permits and 60 pages of written testimony addressing emission estimates, startup/shutdown issues, BACT/LAER analyses, and toxic air emissions. Presented testimony in adjudicatory administrative hearings before the Connecticut Department of Environmental Protection in June 2001 and December 2001.
- Assisted various coalitions of unions, citizens groups, cities, public agencies, and developers in licensing and permitting of over 110 coal, gas, oil, biomass, and pet coke-fired power plants generating over 75,000 MW of electricity. These included base-load, combined cycle, simple cycle, and peaker power plants in Alaska, Arizona, Arkansas, California, Colorado, Georgia, Florida, Illinois, Indiana, Kentucky, Michigan, Missouri, Ohio, Oklahoma, Oregon, Texas, West Virginia, Wisconsin, and elsewhere. Prepared analyses of and comments on applications for certification, preliminary and final staff assessments, and various air, water, wastewater, and solid waste permits issued by local agencies. Presented written and oral testimony before various administrative bodies on hazards of ammonia use and transportation, health effects of air emissions, contaminated property issues, BACT/LAER issues related to SCR and SCONOx, criteria and toxic pollutant emission estimates, MACT analyses, air quality modeling, water supply and water quality issues, and methods to reduce water use, including dry cooling, parallel dry-wet cooling, hybrid cooling, and zero liquid discharge systems.
- Assisted unions, cities, and neighborhood associations in challenging an EIR issued for the proposed expansion of the Oakland Airport. Reviewed two draft EIRs and prepared a health risk assessment and extensive technical comments on air quality and public health impacts. The California Court of Appeals, First Appellate District, ruled in favor of appellants and

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plaintiffs, concluding that the EIR "2) erred in using outdated information in assessing the emission of toxic air contaminants (TACs) from jet aircraft; 3) failed to support its decision not to evaluate the health risks associated with the emission of TACs with meaningful analysis," thus accepting my technical arguments and requiring the Port to prepare a new EIR. See *Berkeley Keep Jets Over the Bay Committee, City of San Leandro, and City of Alameda et al. v. Board of Port Commissioners* (August 30, 2001) 111 Cal.Rptr.2d 598.

- Assisted lessor of former gas station with leaking underground storage tanks and TCE contamination from adjacent property. Lessor held option to purchase, which was forfeited based on misrepresentation by remediation contractor as to nature and extent of contamination. Remediation contractor purchased property. Reviewed regulatory agency files and advised counsel on merits of case. Case not filed.
- Advised counsel on merits of several pending actions, including a Proposition 65 case involving groundwater contamination at an explosives manufacturing firm and two former gas stations with leaking underground storage tanks.
- Assisted defendant foundry in Oakland in a lawsuit brought by neighbors alleging property contamination, nuisance, trespass, smoke, and health effects from foundry operation. Inspected and sampled plaintiff's property. Advised counsel on merits of case. Case settled.
- Assisted business owner facing eminent domain eviction. Prepared technical comments on a negative declaration for soil contamination and public health risks from air emissions from a proposed redevelopment project in San Francisco in support of a CEQA lawsuit. Case settled.
- Assisted neighborhood association representing residents living downwind of a Berkeley asphalt plant in separate nuisance and CEQA lawsuits. Prepared technical comments on air quality, odor, and noise impacts, presented testimony at commission and council meetings, participated in community workshops, and participated in settlement discussions. Cases settled. Asphalt plant was upgraded to include air emission and noise controls, including vapor collection system at truck loading station, enclosures for noisy equipment, and improved housekeeping.
- Assisted a Fortune 500 residential home builder in claims alleging health effects from faulty installation of gas appliances. Conducted indoor air quality study, advised counsel on merits of case, and participated in discussions with plaintiffs. Case settled.
- Assisted property owners in Silicon Valley in lawsuit to recover remediation costs from insurer for large TCE plume originating from a manufacturing facility. Conducted investigations to demonstrate sudden and accidental release of TCE, including groundwater modeling, development of method to date spill, preparation of chemical inventory, investigation of historical waste disposal practices and standards, and on-site sewer and storm drainage inspections and sampling. Prepared declaration in opposition to motion for summary judgment. Case settled.

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- Assisted residents in east Oakland downwind of a former battery plant in class action lawsuit alleging property contamination from lead emissions. Conducted historical research and dry deposition modeling that substantiated claim. Participated in mediation at JAMS. Case settled.
- Assisted property owners in West Oakland who purchased a former gas station that had leaking underground storage tanks and groundwater contamination. Reviewed agency files and advised counsel on merits of case. Prepared declaration in opposition to summary judgment. Prepared cost estimate to remediate site. Participated in settlement discussions. Case settled.
- Consultant to counsel representing plaintiffs in two Clean Water Act lawsuits involving selenium discharges into San Francisco Bay from refineries. Reviewed files and advised counsel on merits of case. Prepared interrogatory and discovery questions, assisted in deposing opposing experts, and reviewed and interpreted treatability and other technical studies. Judge ruled in favor of plaintiffs.
- Assisted oil company in a complaint filed by a resident of a small California beach community alleging that discharges of tank farm rinse water into the sanitary sewer system caused hydrogen sulfide gas to infiltrate residence, sending occupants to hospital. Inspected accident site, interviewed parties to the event, and reviewed extensive agency files related to incident. Used chemical analysis, field simulations, mass balance calculations, sewer hydraulic simulations with SWMM44, atmospheric dispersion modeling with SCREEN3, odor analyses, and risk assessment calculations to demonstrate that the incident was caused by a faulty drain trap and inadequate slope of sewer lateral on resident's property. Prepared a detailed technical report summarizing these studies. Case settled.
- Assisted large West Coast city in suit alleging that leaking underground storage tanks on city property had damaged the waterproofing on downgradient building, causing leaks in an underground parking structure. Reviewed subsurface hydrogeologic investigations and evaluated studies conducted by others documenting leakage from underground diesel and gasoline tanks. Inspected, tested, and evaluated waterproofing on subsurface parking structure. Waterproofing was substandard. Case settled.
- Assisted residents downwind of gravel mine and asphalt plant in Siskiyou County, California, in suit to obtain CEQA review of air permitting action. Prepared two declarations analyzing air quality and public health impacts. Judge ruled in favor of plaintiffs, closing mine and asphalt plant.
- Assisted defendant oil company on the California Central Coast in class action lawsuit alleging property damage and health effects from subsurface petroleum contamination. Reviewed documents, prepared risk calculations, and advised counsel on merits of case. Participated in settlement discussions. Case settled.

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- Assisted defendant oil company in class action lawsuit alleging health impacts from remediation of petroleum contaminated site on California Central Coast. Reviewed documents, designed and conducted monitoring program, and participated in settlement discussions. Case settled.
- Consultant to attorneys representing irrigation districts and municipal water districts to evaluate a potential challenge of USFWS actions under CVPIA section 3406(b)(2). Reviewed agency files and collected and analyzed hydrology, water quality, and fishery data. Advised counsel on merits of case. Case not filed.
- Assisted residents downwind of a Carson refinery in class action lawsuit involving soil and groundwater contamination, nuisance, property damage, and health effects from air emissions. Reviewed files and provided advise on contaminated soil and groundwater, toxic emissions, and health risks. Prepared declaration on refinery fugitive emissions. Prepared deposition questions and reviewed deposition transcripts on air quality, soil contamination, odors, and health impacts. Case settled.
- Assisted residents downwind of a Contra Costa refinery who were affected by an accidental release of naphtha. Characterized spilled naphtha, estimated emissions, and modeled ambient concentrations of hydrocarbons and sulfur compounds. Deposed. Presented testimony in binding arbitration at JAMS. Judge found in favor of plaintiffs.
- Assisted residents downwind of Contra Costa County refinery in class action lawsuit alleging property damage, nuisance, and health effects from several large accidents as well as routine operations. Reviewed files and prepared analyses of environmental impacts. Prepared declarations, deposed, and presented testimony before jury in one trial and judge in second. Case settled.
- Assisted business owner claiming damages from dust, noise, and vibration during a sewer construction project in San Francisco. Reviewed agency files and PM10 monitoring data and advised counsel on merits of case. Case settled.
- Assisted residents downwind of Contra Costa County refinery in class action lawsuit alleging property damage, nuisance, and health effects. Prepared declaration in opposition to summary judgment, deposed, and presented expert testimony on accidental releases, odor, and nuisance before jury. Case thrown out by judge, but reversed on appeal and not retried.
- Presented testimony in small claims court on behalf of residents claiming health effects from hydrogen sulfide from flaring emissions triggered by a power outage at a Contra Costa County refinery. Analyzed meteorological and air quality data and evaluated potential health risks of exposure to low concentrations of hydrogen sulfide. Judge awarded damages to plaintiffs.
- Assisted construction unions in challenging PSD permit for an Indiana steel mill. Prepared technical comments on draft PSD permit, drafted 70-page appeal of agency permit action to

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the Environmental Appeals Board challenging permit based on faulty BACT analysis for electric arc furnace and reheat furnace and faulty permit conditions, among others, and drafted briefs responding to four parties. EPA Region V and the EPA General Counsel intervened as amici, supporting petitioners. EAB ruled in favor of petitioners, remanding permit to IDEM on three key issues, including BACT for the reheat furnace and lead emissions from the EAF. Drafted motion to reconsider three issues. Prepared 69 pages of technical comments on revised draft PSD permit. Drafted second EAB appeal addressing lead emissions from the EAF and BACT for reheat furnace based on European experience with SCR/SNCR. Case settled. Permit was substantially improved. See *In re: Steel Dynamics, Inc.*, PSD Appeal Nos. 99-4 & 99-5 (EAB June 22, 2000).

- Assisted defendant urea manufacturer in Alaska in negotiations with USEPA to seek relief from penalties for alleged violations of the Clean Air Act. Reviewed and evaluated regulatory files and monitoring data, prepared technical analysis demonstrating that permit limits were not violated, and participated in negotiations with EPA to dismiss action. Fines were substantially reduced and case closed.
- Assisted construction unions in challenging PSD permitting action for an Indiana grain mill. Prepared technical comments on draft PSD permit and assisted counsel draft appeal of agency permit action to the Environmental Appeals Board challenging permit based on faulty BACT analyses for heaters and boilers and faulty permit conditions, among others. Case settled.
- As part of a consent decree settling a CEQA lawsuit, assisted neighbors of a large west coast port in negotiations with port authority to secure mitigation for air quality impacts. Prepared technical comments on mobile source air quality impacts and mitigation and negotiated a $9 million CEQA mitigation package. Represented neighbors on technical advisory committee established by port to implement the air quality mitigation program. Program successfully implemented.
- Assisted construction unions in challenging permitting action for a California hazardous waste incinerator. Prepared technical comments on draft permit, assisted counsel prepare appeal of EPA permit to the Environmental Appeals Board. Participated in settlement discussions on technical issues with applicant and EPA Region 9. Case settled.
- Assisted environmental group in challenging DTSC Negative Declaration on a hazardous waste treatment facility. Prepared technical comments on risk of upset, water, and health risks. Writ of mandamus issued.
- Assisted several neighborhood associations and cities impacted by quarries, asphalt plants, and cement plants in Alameda, Shasta, Sonoma, and Mendocino counties in obtaining mitigations for dust, air quality, public health, traffic, and noise impacts from facility operations and proposed expansions.

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- For over 100 industrial facilities, commercial/campus, and redevelopment projects, developed the record in preparation for CEQA and NEPA lawsuits. Prepared technical comments on hazardous materials, solid wastes, public utilities, noise, worker safety, air quality, public health, water resources, water quality, traffic, and risk of upset sections of EIRs, EISs, FONSIs, initial studies, and negative declarations. Assisted counsel in drafting petitions and briefs and prepared declarations.
- For several large commercial development projects and airports, assisted applicant and counsel prepare defensible CEQA documents, respond to comments, and identify and evaluate "all feasible" mitigation to avoid CEQA challenges. This work included developing mitigation programs to reduce traffic-related air quality impacts based on energy conservation programs, solar, low-emission vehicles, alternative fuels, exhaust treatments, and transportation management associations.

SITE INVESTIGATION/REMEDIATION/CLOSURE

- Technical manager and principal engineer for characterization, remediation, and closure of waste management units at former Colorado oil shale plant. Constituents of concern included BTEX, As, 1,1,1-TCA, and TPH. Completed groundwater monitoring programs, site assessments, work plans, and closure plans for seven process water holding ponds, a refinery sewer system, and processed shale disposal area. Managed design and construction of groundwater treatment system and removal actions and obtained clean closure.
- Principal engineer for characterization, remediation, and closure of process water ponds at a former lanthanide processing plant in Colorado. Designed and implemented groundwater monitoring program and site assessments and prepared closure plan.
- Advised the city of Sacramento on redevelopment of two former railyards. Reviewed work plans, site investigations, risk assessment, RAPS, RI/FSs, and CEQA documents. Participated in the development of mitigation strategies to protect construction and utility workers and the public during remediation, redevelopment, and use of the site, including buffer zones, subslab venting, rail berm containment structure, and an environmental oversight plan.
- Provided technical support for the investigation of a former sanitary landfill that was redeveloped as single family homes. Reviewed and/or prepared portions of numerous documents, including health risk assessments, preliminary endangerment assessments, site investigation reports, work plans, and RI/FSs. Historical research to identify historic waste disposal practices to prepare a preliminary endangerment assessment. Acquired, reviewed, and analyzed the files of 18 federal, state, and local agencies, three sets of construction field notes, analyzed 21 aerial photographs and interviewed 14 individuals associated with operation of former landfill. Assisted counsel in defending lawsuit brought by residents

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alleging health impacts and diminution of property value due to residual contamination. Prepared summary reports.

- Technical oversight of characterization and remediation of a nitrate plume at an explosives manufacturing facility in Lincoln, CA. Provided interface between owners and consultants. Reviewed site assessments, work plans, closure plans, and RI/FSs.
- Consultant to owner of large western molybdenum mine proposed for NPL listing. Participated in negotiations to scope out consent order and develop scope of work. Participated in studies to determine premining groundwater background to evaluate applicability of water quality standards. Served on technical committees to develop alternatives to mitigate impacts and close the facility, including resloping and grading, various thickness and types of covers, and reclamation. This work included developing and evaluating methods to control surface runoff and erosion, mitigate impacts of acid rock drainage on surface and ground waters, and stabilize nine waste rock piles containing 328 million tons of pyrite-rich, mixed volcanic waste rock (andesites, rhyolite, tuff). Evaluated stability of waste rock piles. Represented client in hearings and meetings with state and federal oversight agencies.

REGULATORY (PARTIAL LIST)

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- In September and November 2017, prepared comments on revised Negative Declaration for Delicato Winery in San Joaquin County, California.
- In October and November 2017, prepared comments on North City Project Pure Water San Diego Program DEIR/DEIS to reclaim wastewater for municipal use.
- In August 2017, reviewed DEIR on a new residential community in eastern San Diego County and research and wrote 60 pages of comments on air quality, greenhouse gas emissions, and health impacts.
- In August 2017, reviewed responses to comments on Part 70 operating permit and researched and wrote comments on metallic HAP issues.
- In July 2017, reviewed the FEIS for an expansion of the Port of Gulfport and researched and wrote 10 pages of comments on air quality and public health.
- In June 2017, reviewed and prepared technical report on an Application for a synthetic minor source construction permit for a new Refinery in North Dakota.
- In June 2017, reviewed responses to NPCA and other comments on the BP Cherry Point Refinery modifications and assisted counsel in evaluating issues to appeal, including GHG BACT, coker heater SCR cost effectiveness analysis, and SO_2 BACT.

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- In June 2017, reviewed Part 70 Operating Permit Renewal/Modification for the Noranda Alumina LC/Gramercy Holdings I, LLC alumina processing plant, St. James, Louisiana, and prepared comments on HAP emissions from bauxite feedstock.
- In May and June 2017, reviewed FEIR on Tesoro Integration Project and prepared responses to comments on the DEIR.
- In May 2017, prepared comments on tank VOC and HAP emissions from Tesoro Integration Project, based on real time monitoring at the Tesoro and other refineries in the SCAQMD.
- In April 2017, prepared comments on Negative Declaration for Delicato Winery in San Joaquin County, California.
- In March 2017, reviewed Negative Declaration for Ellmore geothermal facility in Imperial County, California and prepared summary of issues.
- In March 2017, prepared response to Phillips 66 Company's Appeal of the San Luis Obispo County Planning Commission's Decision Denying the Rail Spur Extension Project Proposed for the Santa Maria Refinery.
- In February 2017, prepared comments on Kalama draft Title V permit for 10,000 MT/day methanol production and marine export facility in Kalama, Washington.
- In January 2017, researched and wrote 51 pages of comments on proposed Title V and PSD permits for the St. James Methanol Plant, St. James Louisiana, on BACT and enforceability of permit conditions.
- In December 2016, prepared comments on draft Title V Permit for Yuhuang Chemical Inc. Methanol Plant, St. James, Louisiana, responding to EPA Order addressing enforceability issues.
- In November 2016, prepared comments on Initial Study/Mitigated Negative Declaration for the AES Battery Energy Storage Facility, Long Beach, CA.
- In November 2016, prepared comments on Campo Verde Battery Energy Storage System Draft Environmental Impact Report.
- In October 2016, prepared comments on Title V Permit for NuStar Terminal Operations Partnership L.P, Stockton, CA.
- In October 2016, prepared expert report, Technical Assessment of Achieving the 40 CFR Part 423 Zero Discharge Standard for Bottom Ash Transport Water at the Belle River Power Plant, East China, Michigan. Reported resulted in a 2 year reduction in compliance date for elimination of bottom ash transport water. 1/30/17 DEQ Letter.
- In September 2016, prepared comments on Proposed Title V Permit and Environmental Assessment Statement, Yuhuang Chemical Inc. Methanol Plant, St. James, Louisiana.

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- In September 2016, prepared response to "Further Rebuttal in Support of Appeal of Planning Commission Resolution No. 16-1, Denying Use Permit Application 12PLN-00063 and Declining to Certify Final Environmental Impact Report for the Valero Benicia Crude-by-Rail Project.
- In August 2016, reviewed and prepared comments on manuscript: Hutton et al., Freshwater Flows to the San Francisco Bay-Delta Estuary over Nine Decades: Trends Evaluation.
- In August/September 2016, prepared comments on Mitigated Negative Declaration for the Chevron Long Wharf Maintenance and Efficiency Project.
- In July 2016, prepared comments on the Ventura County APCD Preliminary Determination of Compliance and the California Energy Commission Revised Preliminary Staff Assessment for the Puente Power Project.
- In June 2016, prepared comments on an Ordinance (1) Amending the Oakland Municipal Code to Prohibit the Storage and Handling of Coal and Coke at Bulk Material Facilities or Terminals Throughout the City of Oakland and (2) Adopting CEQA Exemption Findings and supporting technical reports. Council approved Ordinance on an 8 to 0 vote on June 27, 2016.
- In May 2016, prepared comments on Draft Title V Permit and Draft Environmental Impact Report for the Tesoro Los Angeles Refinery Integration and Compliance Project.
- In March 2016, prepared comments on Valero's Appeal of Planning Commission's Denial of Valero Crude-by-Rail Project
- In February 2016, prepared comments on Final Environmental Impact Report, Santa Maria Rail Spur Project.
- In February 2016, prepared comments on Final Environmental Impact Report, Valero Benicia Crude by Rail Project.
- In January 2016, prepared comments on Draft Programmatic Environmental Impact Report for the Southern California Association of Government's (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy.
- In November 2015, prepared comments on Final Environmental Impact Report for Revisions to the Kern County Zoning Ordinance – 2015(C) (Focused on Oil and Gas Local Permitting), November 2015.
- In October 2015, prepared comments on Revised Draft Environmental Report, Valero Benicia Crude by Rail Project.
- In September 2015, prepared report, "Environmental, Health and Safety Impacts of the Proposed Oakland Bulk and Oversized Terminal, and presented oral testimony on September 21, 2015 before Oakland City Council on behalf of the Sierra Club.

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- In September 2015, prepared comments on revisions to two chapters of EPA's Air Pollution Control Cost Manual: Docket ID No. EPA-HQ-OAR-2015-0341.
- In June 2015, prepared comments on DEIR for the CalAm Monterey Peninsula Water Supply Project.
- In April 2015, prepared comments on proposed Title V Operating Permit Revision and Prevention of Significant Deterioration Permit for Arizona Public Service's Ocotillo Power Plant Modernization Project (5 GE LMS100 105-MW simple cycle turbines operated as peakers), in Tempe, Arizona; Final permit appealed to EAB.
- In March 2015, prepared "Comments on Proposed Title V Air Permit, Yuhuang Chemical Inc. Methanol Plant, St. James, Louisiana". Client filed petition objecting to the permit. EPA granted majority of issues. In the Matter of Yuhuang Chemical Inc. Methanol Plant, St. James Parish, Louisiana, Permit No. 2560-00295-V0, Issued by the Louisiana Department of Environmental Quality, Petition No. VI-2015-03, Order Responding to the Petitioners' Request for Objection to the Issuance of a Title V Operating Permit, September 1, 2016.
- In February 2015, prepared compilation of BACT cost effectiveness values in support of comments on draft PSD Permit for Bonanza Power Project.
- In January 2015, prepared cost effectiveness analysis for SCR for a 500-MW coal fire power plant, to address unpermitted upgrades in 2000.
- In January 2015, prepared comments on Revised Final Environmental Impact Report for the Phillips 66 Propane Recovery Project. *Communities for a Better Environment et al. v. Contra Costa County et al. Contra Costa County (Superior Court, Contra Costa County, Case No. MSN15-0301, December 1, 2016).*
- In December 2014, prepared "Report on Bakersfield Crude Terminal Permits to Operate." In response, the U.S. EPA cited the Terminal for 10 violations of the Clean Air Act. The Fifth Appellate District Court upheld the finding in this report in CBE et al v. San Joaquin Valley Unified Air Pollution Control District and Bakersfield Crude Terminal LLC et al, Super. Ct. No. 284013, June 23, 2017.
- In December 2014, prepared comments on Revised Draft Environmental Impact Report for the Phillips 66 Propane Recovery Project.
- In November 2014, prepared comments on Revised Draft Environmental Impact Report for Phillips 66 Rail Spur Extension Project and Crude Unloading Project, Santa Maria, CA to allow the import of tar sands crudes.
- In November 2014, prepared comments on Draft Environmental Impact Report for Phillips 66 Ultra Low Sulfur Diesel Project, responding to the California Supreme Court Decision, *Communities for a Better Environment v. South Coast Air Quality Management Dist. (2010) 48 Cal.4th 310.*

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- In November 2014, prepared comments on Draft Environmental Impact Report for the Tesoro Avon Marine Oil Terminal Lease Consideration.
- In October 2014, prepared: "Report on Hydrogen Cyanide Emissions from Fluid Catalytic Cracking Units", pursuant to the Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, 79 FR 36880.
- In October 2014, prepared technical comments on Final Environmental Impact Reports for Alon Bakersfield Crude Flexibility Project to build a rail terminal to allow the import/export of tar sands and Bakken crude oils and to upgrade an existing refinery to allow it to process a wide range of crudes.
- In October 2014, prepared technical comments on the Title V Permit Renewal and three De Minimus Significant Revisions for the Tesoro Logistics Marine Terminal in the SCAQMD.
- In September 2014, prepared technical comments on the Draft Environmental Impact Report for the Valero Crude by Rail Project.
- In August 2014, for EPA Region 6, prepared technical report on costing methods for upgrades to existing scrubbers at coal-fired power plants.
- In July 2014, prepared technical comments on Draft Final Environmental Impact Reports for Alon Bakersfield Crude Flexibility Project to build a rail terminal to allow the import/export of tar sands and Bakken crude oils and to upgrade an existing refinery to allow it to process a wide range of crudes.
- In June 2014, prepared technical report on Initial Study and Draft Negative Declaration for the Tesoro Logistics Storage Tank Replacement and Modification Project.
- In May 2014, prepared technical comments on Intent to Approve a new refinery and petroleum transloading operation in Utah.
- In March and April 2014, prepared declarations on air permits issued for two crude-by-rail terminals in California, modified to switch from importing ethanol to importing Bakken crude oils by rail and transferring to tanker cars. Permits were issued without undergoing CEQA review. One permit was upheld by the San Francisco Superior Court as statute of limitations had run. The Sacramento Air Quality Management District withdrew the second one due to failure to require BACT and conduct CEQA review.
- In March 2014, prepared technical report on Negative Declaration for a proposed modification of the air permit for a bulk petroleum and storage terminal to the allow the import of tar sands and Bakken crude oil by rail and its export by barge, under the New York State Environmental Quality Review Act (SEQRA).
- In February 2014, prepared technical report on proposed modification of air permit for midwest refinery upgrade/expansion to process tar sands crudes.

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- In January 2014, prepared cost estimates to capture, transport, and use CO2 in enhanced oil recovery, from the Freeport LNG project based on both Selexol and Amine systems.
- In January 2014, prepared technical report on Draft Environmental Impact Report for Phillips 66 Rail Spur Extension Project, Santa Maria, CA. Comments addressed project description (piecemealing, crude slate), risk of upset analyses, mitigation measures, alternative analyses and cumulative impacts.
- In November 2013, prepared technical report on the Phillips 66 Propane Recovery Project, Rodeo, CA. Comments addressed project description (piecemealing, crude slate) and air quality impacts.
- In September 2013, prepared technical report on the Draft Authority to Construct Permit for the Casa Diablo IV Geothermal Development Project Environmental Impact Report and Declaration in Support of Appeal and Petition for Stay, U.S. Department of the Interior, Board of Land Appeals, Appeal of Decision Record for the Casa Diablo IV Geothermal Development Project.
- In September 2013, prepared technical report on Effluent Limitation Guidelines for Best Available Technology Economically Available (BAT) for Bottom Ash Transport Waters from Coal-Fired Power Plants in the Steam Electric Power Generating Point Source Category.
- In July 2013, prepared technical report on Initial Study/Mitigated Negative Declaration for the Valero Crude by Rail Project, Benicia, California, Use Permit Application 12PLN-00063.
- In July 2013, prepared technical report on fugitive particulate matter emissions from coal train staging at the proposed Coyote Island Terminal, Oregon, for draft Permit No. 25-0015-ST-01.
- In July 2013, prepared technical comments on air quality impacts of the Finger Lakes LPG Storage Facility as reported in various Environmental Impact Statements.
- In July 2013, prepared technical comments on proposed Greenhouse Gas PSD Permit for the Celanese Clear Lake Plant, including cost analysis of CO2 capture, transport, and sequestration.
- In June/July 2013, prepared technical comments on proposed Draft PSD Preconstruction Permit for Greenhouse Gas Emission for the ExxonMobil Chemical Company Baytown Olefins Plant, including cost analysis of CO2 capture, transport, and sequestration.
- In June 2013, prepared technical report on a Mitigated Negative Declaration for a new rail terminal at the Valero Benicia Refinery to import increased amounts of "North American" crudes. Comments addressed air quality impacts of refining increased amounts of tar sands crudes.

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- In June 2013, prepared technical report on Draft Environmental Impact Report for the California Ethanol and Power Imperial Valley 1 Project.
- In May 2013, prepared comments on draft PSD permit for major expansion of midwest refinery to process 100% tar sands crudes, including a complex netting analysis involving debottlenecking, piecemealing, and BACT analyses.
- In April 2013, prepared technical report on the Draft Supplemental Environmental Impact Statement (DSEIS) for the Keystone XL Pipeline on air quality impacts from refining increased amount of tar sands crudes at Refineries in PADD 3.
- In October 2012, prepared technical report on the Environmental Review for the Coyote Island Terminal Dock at the Port of Morrow on fugitive particulate matter emissions.
- In October 2012-October 2014, review and evaluate Flint Hills West Application for an expansion/modification for increased (Texas, Eagle Ford Shale) crude processing and related modification, including netting and BACT analysis. Assist in settlement discussions.
- In February 2012, prepared comments on BART analysis in PA Regional Haze SIP, 77 FR 3984 (Jan. 26, 2012). On Sept. 29, 2015, a federal appeals court overturned the U.S. EPA's approval of this plan, based in part on my comments, concluding "..we will vacate the 2014 Final Rule to the extent it approved Pennsylvania's source-specific BART analysis and remand to the EPA for further proceedings consistent with this Opinion." Nat'l Parks Conservation Assoc. v. EPA, 3d Cir., No. 14-3147, 9/19/15.
- Prepared cost analyses and comments on New York's proposed BART determinations for NOx, SO2, and PM and EPA's proposed approval of BART determinations for Danskammer Generating Station under New York Regional Haze State Implementation Plan and Federal Implementation Plan, 77 FR 51915 (August 28, 2012).
- Prepared cost analyses and comments on NOx BART determinations for Regional Haze State Implementation Plan for State of Nevada, 77 FR 23191 (April 18, 2012) and 77 FR 25660 (May 1, 2012).
- Prepared analyses of and comments on New Source Performance Standards for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, 77 FR 22392 (April 13, 2012).
- Prepared comments on CASPR-BART emission equivalency and NOx and PM BART determinations in EPA proposed approval of State Implementation Plan for Pennsylvania Regional Haze Implementation Plan, 77 FR 3984 (January 26, 2012).
- Prepared comments and statistical analyses on hazardous air pollutants (HAPs) emission controls, monitoring, compliance methods, and the use of surrogates for acid gases, organic HAPs, and metallic HAPs for proposed National Emission Standards for Hazardous Air

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Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, 76 FR 24976 (May 3, 2011).

- Prepared cost analyses and comments on NOx BART determinations and emission reductions for proposed Federal Implementation Plan for Four Corners Power Plant, 75 FR 64221 (October 19, 2010).
- Prepared cost analyses and comments on NOx BART determinations for Colstrip Units 1- 4 for Montana State Implementation Plan and Regional Haze Federal Implementation Plan, 77 FR 23988 (April 20, 2010).
- For EPA Region 8, prepared report: Revised BART Cost Effectiveness Analysis for Tail-End Selective Catalytic Reduction at the Basin Electric Power Cooperative Leland Olds Station Unit 2 Final Report, March 2011, in support of 76 FR 58570 (Sept. 21, 2011).
- For EPA Region 6, prepared report: Revised BART Cost-Effectiveness Analysis for Selective Catalytic Reduction at the Public Service Company of New Mexico San Juan Generating Station, November 2010, in support of 76 FR 52388 (Aug. 22, 2011).
- For EPA Region 6, prepared report: Revised BART Cost-Effectiveness Analysis for Flue Gas Desulfurization at Coal-Fired Electric Generating Units in Oklahoma: Sooner Units 1 & 2, Muskogee Units 4 & 5, Northeastern Units 3 &4, October 2010, in support of 76 FR 16168 (March 26, 2011). My work was upheld in: *State of Oklahoma v. EPA*, App. Case 12-9526 (10th Cri. July 19, 2013).
- Identified errors in N_2O emission factors in the Mandatory Greenhouse Gas Reporting Rule, 40 CFR 98, and prepared technical analysis to support Petition for Rulemaking to Correct Emissions Factors in the Mandatory Greenhouse Gas Reporting Rule, filed with EPA on 10/28/10.
- Assisted interested parties develop input for and prepare comments on the Information Collection Request for Petroleum Refinery Sector NSPS and NESHAP Residual Risk and Technology Review, 75 FR 60107 (9/29/10).
- Technical reviewer of EPA's "Emission Estimation Protocol for Petroleum Refineries," posted for public comments on CHIEF on 12/23/09, prepared in response to the City of Houston's petition under the Data Quality Act (March 2010).
- Prepared comments on SCR cost effectiveness for EPA's Advanced Notice of Proposed Rulemaking, Assessment of Anticipated Visibility Improvements at Surrounding Class I Areas and Cost Effectiveness of Best Available Retrofit Technology for Four Corners Power Plant and Navajo Generating Station, 74 FR 44313 (August 28, 2009).
- Prepared comments on Proposed Rule for Standards of Performance for Coal Preparation and Processing Plants, 74 FR 25304 (May 27, 2009).

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- Prepared comments on draft PSD permit for major expansion of midwest refinery to process up to 100% tar sands crudes. Participated in development of monitoring and controls to mitigate impacts and in negotiating a Consent Decree to settle claims in 2008.
- Reviewed and assisted interested parties prepare comments on proposed Kentucky air toxic regulations at 401 KAR 64:005, 64:010, 64:020, and 64:030 (June 2007).
- Prepared comments on proposed Standards of Performance for Electric Utility Steam Generating Units and Small Industrial-Commercial-Industrial Steam Generating Units, 70 FR 9706 (February 28, 2005).
- Prepared comments on Louisville Air Pollution Control District proposed Strategic Toxic Air Reduction regulations.
- Prepared comments and analysis of BAAQMD Regulation, Rule 11, Flare Monitoring at Petroleum Refineries.
- Prepared comments on Proposed National Emission Standards for Hazardous Air Pollutants; and, in the Alternative, Proposed Standards of Performance for New and Existing Stationary Sources: Electricity Utility Steam Generating Units (MACT standards for coal-fired power plants).
- Prepared Authority to Construct Permit for remediation of a large petroleum-contaminated site on the California Central Coast. Negotiated conditions with agencies and secured permits.
- Prepared Authority to Construct Permit for remediation of a former oil field on the California Central Coast. Participated in negotiations with agencies and secured permits.
- Prepared and/or reviewed hundreds of environmental permits, including NPDES, UIC, Stormwater, Authority to Construct, Prevention of Significant Deterioration, Nonattainment New Source Review, Title V, and RCRA, among others.
- Participated in the development of the CARB document, *Guidance for Power Plant Siting and Best Available Control Technology*, including attending public workshops and filing technical comments.
- Performed data analyses in support of adoption of emergency power restoration standards by the California Public Utilities Commission for "major" power outages, where major is an outage that simultaneously affects 10% of the customer base.
- Drafted portions of the Good Neighbor Ordinance to grant Contra Costa County greater authority over safety of local industry, particularly chemical plants and refineries.
- Participated in drafting BAAQMD Regulation 8, Rule 28, Pressure Relief Devices, including participation in public workshops, review of staff reports, draft rules and other technical materials, preparation of technical comments on staff proposals, research on availability and costs of methods to control PRV releases, and negotiations with staff.

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- Participated in amending BAAQMD Regulation 8, Rule 18, Valves and Connectors, including participation in public workshops, review of staff reports, proposed rules and other supporting technical material, preparation of technical comments on staff proposals, research on availability and cost of low-leak technology, and negotiations with staff.
- Participated in amending BAAQMD Regulation 8, Rule 25, Pumps and Compressors, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of low-leak and seal-less technology, and negotiations with staff.
- Participated in amending BAAQMD Regulation 8, Rule 5, Storage of Organic Liquids, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of controlling tank emissions, and presentation of testimony before the Board.
- Participated in amending BAAQMD Regulation 8, Rule 18, Valves and Connectors at Petroleum Refinery Complexes, including participation in public workshops, review of staff reports, proposed rules and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of low-leak technology, and presentation of testimony before the Board.
- Participated in amending BAAQMD Regulation 8, Rule 22, Valves and Flanges at Chemical Plants, etc, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of low-leak technology, and presentation of testimony before the Board.
- Participated in amending BAAQMD Regulation 8, Rule 25, Pump and Compressor Seals, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability of low-leak technology, and presentation of testimony before the Board.
- Participated in the development of the BAAQMD Regulation 2, Rule 5, Toxics, including participation in public workshops, review of staff proposals, and preparation of technical comments.
- Participated in the development of SCAQMD Rule 1402, Control of Toxic Air Contaminants from Existing Sources, and proposed amendments to Rule 1401, New Source Review of Toxic Air Contaminants, in 1993, including review of staff proposals and preparation of technical comments on same.
- Participated in the development of the Sunnyvale Ordinance to Regulate the Storage, Use and Handling of Toxic Gas, which was designed to provide engineering controls for gases that are not otherwise regulated by the Uniform Fire Code.

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- Participated in the drafting of the Statewide Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries, including participation in workshops, review of draft plans, preparation of technical comments on draft plans, and presentation of testimony before the SWRCB.
- Participated in developing Se permit effluent limitations for the five Bay Area refineries, including review of staff proposals, statistical analyses of Se effluent data, review of literature on aquatic toxicity of Se, preparation of technical comments on several staff proposals, and presentation of testimony before the Bay Area RWQCB.
- Represented the California Department of Water Resources in the 1991 Bay-Delta Hearings before the State Water Resources Control Board, presenting sworn expert testimony with cross examination and rebuttal on a striped bass model developed by the California Department of Fish and Game.
- Represented the State Water Contractors in the 1987 Bay-Delta Hearings before the State Water Resources Control Board, presenting sworn expert testimony with cross examination and rebuttal on natural flows, historical salinity trends in San Francisco Bay, Delta outflow, and hydrodynamics of the South Bay.
- Represented interveners in the licensing of over 20 natural-gas-fired power plants and one coal gasification plant at the California Energy Commission and elsewhere. Reviewed and prepared technical comments on applications for certification, preliminary staff assessments, final staff assessments, preliminary determinations of compliance, final determinations of compliance, and prevention of significant deterioration permits in the areas of air quality, water supply, water quality, biology, public health, worker safety, transportation, site contamination, cooling systems, and hazardous materials. Presented written and oral testimony in evidentiary hearings with cross examination and rebuttal. Participated in technical workshops.
- Represented several parties in the proposed merger of San Diego Gas & Electric and Southern California Edison. Prepared independent technical analyses on health risks, air quality, and water quality. Presented written and oral testimony before the Public Utilities Commission administrative law judge with cross examination and rebuttal.
- Represented a PRP in negotiations with local health and other agencies to establish impact of subsurface contamination on overlying residential properties. Reviewed health studies prepared by agency consultants and worked with agencies and their consultants to evaluate health risks.

WATER QUALITY/RESOURCES

- Directed and participated in research on environmental impacts of energy development in the Colorado River Basin, including contamination of surface and subsurface waters and modeling of flow and chemical transport through fractured aquifers.

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- Played a major role in Northern California water resource planning studies since the early 1970s. Prepared portions of the Basin Plans for the Sacramento, San Joaquin, and Delta basins including sections on water supply, water quality, beneficial uses, waste load allocation, and agricultural drainage. Developed water quality models for the Sacramento and San Joaquin Rivers.
- Conducted hundreds of studies over the past 40 years on Delta water supplies and the impacts of exports from the Delta on water quality and biological resources of the Central Valley, Sacramento-San Joaquin Delta, and San Francisco Bay. Typical examples include:
    1. Evaluate historical trends in salinity, temperature, and flow in San Francisco Bay and upstream rivers to determine impacts of water exports on the estuary;
    2. Evaluate the role of exports and natural factors on the food web by exploring the relationship between salinity and primary productivity in San Francisco Bay, upstream rivers, and ocean;
    3. Evaluate the effects of exports, other in-Delta, and upstream factors on the abundance of salmon and striped bass;
    4. Review and critique agency fishery models that link water exports with the abundance of striped bass and salmon;
    5. Develop a model based on GLMs to estimate the relative impact of exports, water facility operating variables, tidal phase, salinity, temperature, and other variables on the survival of salmon smolts as they migrate through the Delta;
    6. Reconstruct the natural hydrology of the Central Valley using water balances, vegetation mapping, reservoir operation models to simulate flood basins, precipitation records, tree ring research, and historical research;
    7. Evaluate the relationship between biological indicators of estuary health and down-estuary position of a salinity surrogate (X2);
    8. Use real-time fisheries monitoring data to quantify impact of exports on fish migration;
    9. Refine/develop statistical theory of autocorrelation and use to assess strength of relationships between biological and flow variables;
    10. Collect, compile, and analyze water quality and toxicity data for surface waters in the Central Valley to assess the role of water quality in fishery declines;
    11. Assess mitigation measures, including habitat restoration and changes in water project operation, to minimize fishery impacts;
    12. Evaluate the impact of unscreened agricultural water diversions on abundance of larval fish;

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13. Prepare and present testimony on the impacts of water resources development on Bay hydrodynamics, salinity, and temperature in water rights hearings;
14. Evaluate the impact of boat wakes on shallow water habitat, including interpretation of historical aerial photographs;
15. Evaluate the hydrodynamic and water quality impacts of converting Delta islands into reservoirs;
16. Use a hydrodynamic model to simulate the distribution of larval fish in a tidally influenced estuary;
17. Identify and evaluate non-export factors that may have contributed to fishery declines, including predation, shifts in oceanic conditions, aquatic toxicity from pesticides and mining wastes, salinity intrusion from channel dredging, loss of riparian and marsh habitat, sedimentation from upstream land alternations, and changes in dissolved oxygen, flow, and temperature below dams.

- Developed, directed, and participated in a broad-based research program on environmental issues and control technology for energy industries including petroleum, oil shale, coal mining, and coal slurry transport. Research included evaluation of air and water pollution, development of novel, low-cost technology to treat and dispose of wastes, and development and application of geohydrologic models to evaluate subsurface contamination from in-situ retorting. The program consisted of government and industry contracts and employed 45 technical and administrative personnel.
- Coordinated an industry task force established to investigate the occurrence, causes, and solutions for corrosion/erosion and mechanical/engineering failures in the waterside systems (e.g., condensers, steam generation equipment) of power plants. Corrosion/erosion failures caused by water and steam contamination that were investigated included waterside corrosion caused by poor microbiological treatment of cooling water, steam-side corrosion caused by ammonia-oxygen attack of copper alloys, stress-corrosion cracking of copper alloys in the air cooling sections of condensers, tube sheet leaks, oxygen in-leakage through condensers, volatilization of silica in boilers and carry over and deposition on turbine blades, and iron corrosion on boiler tube walls. Mechanical/engineering failures investigated included: steam impingement attack on the steam side of condenser tubes, tube-to-tube-sheet joint leakage, flow-induced vibration, structural design problems, and mechanical failures due to stresses induced by shutdown, startup and cycling duty, among others. Worked with electric utility plant owners/operators, condenser and boiler vendors, and architect/engineers to collect data to document the occurrence of and causes for these problems, prepared reports summarizing the investigations, and presented the results and participated on a committee of industry experts tasked with identifying solutions to prevent condenser failures.

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- Evaluated the cost effectiveness and technical feasibility of using dry cooling and parallel dry-wet cooling to reduce water demands of several large natural-gas fired power plants in California and Arizona.
- Designed and prepared cost estimates for several dry cooling systems (e.g., fin fan heat exchangers) used in chemical plants and refineries.
- Designed, evaluated, and costed several zero liquid discharge systems for power plants.
- Evaluated the impact of agricultural and mining practices on surface water quality of Central Valley steams. Represented municipal water agencies on several federal and state advisory committees tasked with gathering and assessing relevant technical information, developing work plans, and providing oversight of technical work to investigate toxicity issues in the watershed.

AIR QUALITY/PUBLIC HEALTH

- Prepared or reviewed the air quality and public health sections of hundreds of EIRs and EISs on a wide range of industrial, commercial and residential projects.
- Prepared or reviewed hundreds of NSR and PSD permits for a wide range of industrial facilities.
- Designed, implemented, and directed a 2-year-long community air quality monitoring program to assure that residents downwind of a petroleum-contaminated site were not impacted during remediation of petroleum-contaminated soils. The program included real-time monitoring of particulates, diesel exhaust, and BTEX and time integrated monitoring for over 100 chemicals.
- Designed, implemented, and directed a 5-year long source, industrial hygiene, and ambient monitoring program to characterize air emissions, employee exposure, and downwind environmental impacts of a first-generation shale oil plant. The program included stack monitoring of heaters, boilers, incinerators, sulfur recovery units, rock crushers, API separator vents, and wastewater pond fugitives for arsenic, cadmium, chlorine, chromium, mercury, 15 organic indicators (e.g., quinoline, pyrrole, benzo(a)pyrene, thiophene, benzene), sulfur gases, hydrogen cyanide, and ammonia. In many cases, new methods had to be developed or existing methods modified to accommodate the complex matrices of shale plant gases.
- Conducted investigations on the impact of diesel exhaust from truck traffic from a wide range of facilities including mines, large retail centers, light industrial uses, and sports facilities. Conducted traffic surveys, continuously monitored diesel exhaust using an aethalometer, and prepared health risk assessments using resulting data.
- Conducted indoor air quality investigations to assess exposure to natural gas leaks, pesticides, molds and fungi, soil gas from subsurface contamination, and outgasing of

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carpets, drapes, furniture and construction materials. Prepared health risk assessments using collected data.

- Prepared health risk assessments, emission inventories, air quality analyses, and assisted in the permitting of over 70 1 to 2 MW emergency diesel generators.
- Prepare over 100 health risk assessments, endangerment assessments, and other health-based studies for a wide range of industrial facilities.
- Developed methods to monitor trace elements in gas streams, including a continuous real-time monitor based on the Zeeman atomic absorption spectrometer, to continuously measure mercury and other elements.
- Performed nuisance investigations (odor, noise, dust, smoke, indoor air quality, soil contamination) for businesses, industrial facilities, and residences located proximate to and downwind of pollution sources.

PUBLICATIONS AND PRESENTATIONS (Partial List - Representative Publications)

J.P. Fox, P.H. Hutton, D.J. Howes, A.J. Draper, and L. Sears, Reconstructing the Natural Hydrology of the San Francisco Bay-Delta Watershed, Hydrology and Earth System Sciences, Special Issue: Predictions under Change: Water, Earth, and Biota in the Anthropocene, v. 19, pp. 4257-4274, 2015. http://www.hydrol-earth-syst-sci.net/19/4257/2015/hess-19-4257-2015.pdf. See also: Estimates of Natural and Unimpaired Flows for the Central Valley of California: Water Years 1922-2014 at: https://msb.water.ca.gov/documents/86728/a702a57f-ae7a-41a3-8bff-722e144059d6.

D. Howes, P. Fox, and P. Hutton, Evapotranspiration from Natural Vegetation in the Central Valley of California: Monthly Grass Reference Based Vegetation Coefficients and the Dual Crop Coefficient Approach, *Journal of Hydrologic Engineering*, v.20, no. 10, October 2015.

Phyllis Fox and Lindsey Sears, *Natural Vegetation in the Central Valley of California*, June 2014, Prepared for State Water Contractors and San Luis & Delta-Mendota Water Authority, 311 pg.

J.P. Fox, T.P. Rose, and T.L. Sawyer, Isotope Hydrology of a Spring-fed Waterfall in Fractured Volcanic Rock, 2007.

C.E. Lambert, E.D. Winegar, and Phyllis Fox, Ambient and Human Sources of Hydrogen Sulfide: An Explosive Topic, Air & Waste Management Association, June 2000, Salt Lake City, UT.

San Luis Obispo County Air Pollution Control District and San Luis Obispo County Public Health Department, *Community Monitoring Program,* February 8, 1999.

EIS-C-A-69 Cont.

PHYLLIS FOX, PH.D., PAGE 33

The Bay Institute, *From the Sierra to the Sea. The Ecological History of the San Francisco Bay-Delta Watershed*, 1998.

J. Phyllis Fox, *Well Interference Effects of HDPP's Proposed Wellfield in the Victor Valley Water District*, Prepared for the California Unions for Reliable Energy (CURE), October 12, 1998.

J. Phyllis Fox, *Air Quality Impacts of Using CPVC Pipe in Indoor Residential Potable Water Systems*, Report Prepared for California Pipe Trades Council, California Firefighters Association, and other trade associations, August 29, 1998.

J. Phyllis Fox and others, *Authority to Construct Avila Beach Remediation Project*, Prepared for Unocal Corporation and submitted to San Luis Obispo Air Pollution Control District, June 1998.

J. Phyllis Fox and others, *Authority to Construct Former Guadalupe Oil Field Remediation Project*, Prepared for Unocal Corporation and submitted to San Luis Obispo Air Pollution Control District, May 1998.

J. Phyllis Fox and Robert Sears, *Health Risk Assessment for the Metropolitan Oakland International Airport Proposed Airport Development Program*, Prepared for Plumbers & Steamfitters U.A. Local 342, December 15, 1997.

Levine-Fricke-Recon (Phyllis Fox and others), *Preliminary Endangerment Assessment Work Plan for the Study Area Operable Unit, Former Solano County Sanitary Landfill, Benicia, California*, Prepared for Granite Management Co. for submittal to DTSC, September 26, 1997.

Phyllis Fox and Jeff Miller, "Fathead Minnow Mortality in the Sacramento River," *IEP Newsletter*, v. 9, n. 3, 1996.

Jud Monroe, Phyllis Fox, Karen Levy, Robert Nuzum, Randy Bailey, Rod Fujita, and Charles Hanson, *Habitat Restoration in Aquatic Ecosystems. A Review of the Scientific Literature Related to the Principles of Habitat Restoration*, Part Two, Metropolitan Water District of Southern California (MWD) Report, 1996.

Phyllis Fox and Elaine Archibald, *Aquatic Toxicity and Pesticides in Surface Waters of the Central Valley*, California Urban Water Agencies (CUWA) Report, September 1997.

Phyllis Fox and Alison Britton, *Evaluation of the Relationship Between Biological Indicators and the Position of X2*, CUWA Report, 1994.

Phyllis Fox and Alison Britton, *Predictive Ability of the Striped Bass Model*, WRINT DWR-206, 1992.

J. Phyllis Fox, *An Historical Overview of Environmental Conditions at the North Canyon Area of the Former Solano County Sanitary Landfill*, Report Prepared for Solano County Department of Environmental Management, 1991.

EIS-C-A-69
Cont.

PHYLLIS FOX, PH.D., PAGE 34

J. Phyllis Fox, *An Historical Overview of Environmental Conditions at the East Canyon Area of the Former Solano County Sanitary Landfill*, Report Prepared for Solano County Department of Environmental Management, 1991.

Phyllis Fox, *Trip 2 Report, Environmental Monitoring Plan, Parachute Creek Shale Oil Program*, Unocal Report, 1991.

J. P. Fox and others, "Long-Term Annual and Seasonal Trends in Surface Salinity of San Francisco Bay," *Journal of Hydrology*, v. 122, p. 93-117, 1991.

J. P. Fox and others, "Reply to Discussion by D.R. Helsel and E.D. Andrews on Trends in Freshwater Inflow to San Francisco Bay from the Sacramento-San Joaquin Delta," *Water Resources Bulletin*, v. 27, no. 2, 1991.

J. P. Fox and others, "Reply to Discussion by Philip B. Williams on Trends in Freshwater Inflow to San Francisco Bay from the Sacramento-San Joaquin Delta," *Water Resources Bulletin*, v. 27, no. 2, 1991.

J. P. Fox and others, "Trends in Freshwater Inflow to San Francisco Bay from the Sacramento-San Joaquin Delta," *Water Resources Bulletin*, v. 26, no. 1, 1990.

J. P. Fox, "Water Development Increases Freshwater Flow to San Francisco Bay," *SCWC Update*, v. 4, no. 2, 1988.

J. P. Fox, *Freshwater Inflow to San Francisco Bay Under Natural Conditions*, State Water Contracts, Exhibit 262, 58 pp., 1987.

J. P. Fox, "The Distribution of Mercury During Simulated In-Situ Oil Shale Retorting," *Environmental Science and Technology*, v. 19, no. 4, pp. 316-322, 1985.

J. P. Fox, "El Mercurio en el Medio Ambiente: Aspectos Referentes al Peru," (Mercury in the Environment: Factors Relevant to Peru) Proceedings of Simposio Los Pesticidas y el Medio Ambiente," ONERN-CONCYTEC, Lima, Peru, April 25-27, 1984. (Also presented at Instituto Tecnologico Pesquero and Instituto del Mar del Peru.)

J. P. Fox, "Mercury, Fish, and the Peruvian Diet," *Boletin de Investigacion*, Instituto Tecnologico Pesquero, Lima, Peru, v. 2, no. 1, pp. 97-116, 1984.

J. P. Fox, P. Persoff, A. Newton, and R. N. Heistand, "The Mobility of Organic Compounds in a Codisposal System," *Proceedings of the Seventeenth Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1984.

P. Persoff and J. P. Fox, "Evaluation of Control Technology for Modified In-Situ Oil Shale Retorts," *Proceedings of the Sixteenth Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1983.

J. P. Fox, *Leaching of Oil Shale Solid Wastes: A Critical Review*, University of Colorado Report, 245 pp., July 1983.

EIS-C-A-69
Cont.

J. P. Fox, *Source Monitoring for Unregulated Pollutants from the White River Oil Shale Project*, VTN Consolidated Report, June 1983.

A. S. Newton, J. P. Fox, H. Villarreal, R. Raval, and W. Walker II, *Organic Compounds in Coal Slurry Pipeline Waters*, Lawrence Berkeley Laboratory Report LBL-15121, 46 pp., Sept. 1982.

M. Goldstein et al., *High Level Nuclear Waste Standards Analysis, Regulatory Framework Comparison*, Battelle Memorial Institute Report No. BPMD/82/E515-06600/3, Sept. 1982.

J. P. Fox et al., *Literature and Data Search of Water Resource Information of the Colorado, Utah, and Wyoming Oil Shale Basins*, Vols. 1-12, Bureau of Land Management, 1982.

A. T. Hodgson, M. J. Pollard, G. J. Harris, D. C. Girvin, J. P. Fox, and N. J. Brown, *Mercury Mass Distribution During Laboratory and Simulated In-Situ Retorting*, Lawrence Berkeley Laboratory Report LBL-12908, 39 pp., Feb. 1982.

E. J. Peterson, A. V. Henicksman, J. P. Fox, J. A. O'Rourke, and P. Wagner, *Assessment and Control of Water Contamination Associated with Shale Oil Extraction and Processing*, Los Alamos National Laboratory Report LA-9084-PR, 54 pp., April 1982.

P. Persoff and J. P. Fox, *Control Technology for In-Situ Oil Shale Retorts*, Lawrence Berkeley Laboratory Report LBL-14468, 118 pp., Dec. 1982.

J. P. Fox, *Codisposal Evaluation: Environmental Significance of Organic Compounds*, Development Engineering Report, 104 pp., April 1982.

J. P. Fox, *A Proposed Strategy for Developing an Environmental Water Monitoring Plan for the Paraho-Ute Project*, VTN Consolidated Report, Sept. 1982.

J. P. Fox, D. C. Girvin, and A. T. Hodgson, "Trace Elements in Oil Shale Materials," *Energy and Environmental Chemistry, Fossil Fuels*, v.1, pp. 69-101, 1982.

M. Mehran, T. N. Narasimhan, and J. P. Fox, "Hydrogeologic Consequences of Modified In-situ Retorting Process, Piceance Creek Basin, Colorado," *Proceedings of the Fourteenth Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1981 (LBL-12063).

U. S. DOE (J. P. Fox and others), *Western Oil Shale Development: A Technology Assessment*, v. 1-9, Pacific Northwest Laboratory Report PNL-3830, 1981.

J. P. Fox (ed), "Oil Shale Research," Chapter from the *Energy and Environment Division Annual Report 1980*, Lawrence Berkeley Laboratory Report LBL-11989, 82 pp., 1981 (author or co-author of four articles in report).

D.C. Girvin and J.P. Fox, On-Line Zeeman Atomic Absorption Spectroscopy for Mercury Analysis in Oil Shale Gases, U.S. EPA Report EPA-600/7-80-130, June 1980.

J. P. Fox, *The Partitioning of Major, Minor, and Trace Elements during In-Situ Oil Shale Retorting*, Ph.D. Dissertation, U. of Ca., Berkeley, also Report LBL-9062, 441 pp., 1980 (*Diss. Abst. Internat.*, v. 41, no. 7, 1981).

EIS-C-A-69
Cont.

PHYLLIS FOX, PH.D., PAGE 36

J.P. Fox, "Elemental Composition of Simulated *In Situ* Oil Shale Retort Water," *Analysis of Waters Associated with Alternative Fuel Production, ASTM STP 720*, L.P. Jackson and C.C. Wright, Eds., American Society for Testing and Materials, pp. 101-128, 1981.

J. P. Fox, P. Persoff, P. Wagner, and E. J. Peterson, "Retort Abandonment -- Issues and Research Needs," in *Oil Shale: the Environmental Challenges*, K. K. Petersen (ed.), p. 133, 1980 (Lawrence Berkeley Laboratory Report LBL-11197).

J. P. Fox and T. E. Phillips, "Wastewater Treatment in the Oil Shale Industry," in *Oil Shale: the Environmental Challenges*, K. K. Petersen (ed.), p. 253, 1980 (Lawrence Berkeley Laboratory Report LBL-11214).

R. D. Giauque, J. P. Fox, J. W. Smith, and W. A. Robb, "Geochemical Studies of Two Cores from the Green River Oil Shale Formation," *Transactions*, American Geophysical Union, v. 61, no. 17, 1980.

J. P. Fox, "The Elemental Composition of Shale Oils," Abstracts of Papers, 179th National Meeting, ISBN 0-8412-0542-6, Abstract No. FUEL 17, 1980.

J. P. Fox and P. Persoff, "Spent Shale Grouting of Abandoned In-Situ Oil Shale Retorts," *Proceedings of Second U.S. DOE Environmental Control Symposium*, CONF-800334/1, 1980 (Lawrence Berkeley Laboratory Report LBL-10744).

P. K. Mehta, P. Persoff, and J. P. Fox, "Hydraulic Cement Preparation from Lurgi Spent Shale," *Proceedings of the Thirteenth Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1980 (Lawrence Berkeley Laboratory Report LBL-11071).

F. E. Brinckman, K. L. Jewett, R. H. Fish, and J. P. Fox, "Speciation of Inorganic and Organoarsenic Compounds in Oil Shale Process Waters by HPLC Coupled with Graphite Furnace Atomic Absorption (GFAA) Detectors," Abstracts of Papers, Div. of Geochemistry, Paper No. 20, Second Chemical Congress of the North American Continent, August 25-28, 1980, Las Vegas (1980).

J. P. Fox, D. E. Jackson, and R. H. Sakaji, "Potential Uses of Spent Shale in the Treatment of Oil Shale Retort Waters," *Proceedings of the Thirteenth Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1980 (Lawrence Berkeley Laboratory Report LBL-11072).

J. P. Fox, *The Elemental Composition of Shale Oils*, Lawrence Berkeley Laboratory Report LBL-10745, 1980.

R. H. Fish, J. P. Fox, F. E. Brinckman, and K. L. Jewett, *Fingerprinting Inorganic and Organoarsenic Compounds in Oil Shale Process Waters Using a Liquid Chromatograph Coupled with an Atomic Absorption Detector*, Lawrence Berkeley Laboratory Report LBL-11476, 1980.

National Academy of Sciences (J. P. Fox and others), *Surface Mining of Non-Coal Minerals, Appendix II: Mining and Processing of Oil Shale and Tar Sands*, 222 pp., 1980.

EIS-C-A-69
Cont.

PHYLLIS FOX, PH.D., PAGE 37

J. P. Fox, "Elemental Composition of Simulated In-Situ Oil Shale Retort Water," in *Analysis of Waters Associated with Alternative Fuel Production*, ASTM STP 720, L. P. Jackson and C. C. Wright (eds.), American Society for Testing and Materials, pp. 101-128, 1980.

R. D. Giauque, J. P. Fox, and J. W. Smith, *Characterization of Two Core Holes from the Naval Oil Shale Reserve Number 1*, Lawrence Berkeley Laboratory Report LBL-10809, 176 pp., December 1980.

B. M. Jones, R. H. Sakaji, J. P. Fox, and C. G. Daughton, "Removal of Contaminative Constituents from Retort Water: Difficulties with Biotreatment and Potential Applicability of Raw and Processed Shales," *EPA/DOE Oil Shale Wastewater Treatability Workshop*, December 1980 (Lawrence Berkeley Laboratory Report LBL-12124).

J. P. Fox, *Water-Related Impacts of In-Situ Oil Shale Processing*, Lawrence Berkeley Laboratory Report LBL-6300, 327 p., December 1980.

M. Mehran, T. N. Narasimhan, and J. P. Fox, *An Investigation of Dewatering for the Modified In-Situ Retorting Process, Piceance Creek Basin, Colorado*, Lawrence Berkeley Laboratory Report LBL-11819, 105 p., October 1980.

J. P. Fox (ed.) "Oil Shale Research," Chapter from the *Energy and Environment Division Annual Report 1979*, Lawrence Berkeley Laboratory Report LBL-10486, 1980 (author or coauthor of eight articles).

E. Ossio and J. P. Fox, *Anaerobic Biological Treatment of In-Situ Oil Shale Retort Water*, Lawrence Berkeley Laboratory Report LBL-10481, March 1980.

J. P. Fox, F. H. Pearson, M. J. Kland, and P. Persoff, *Hydrologic and Water Quality Effects and Controls for Surface and Underground Coal Mining -- State of Knowledge, Issues, and Research Needs*, Lawrence Berkeley Laboratory Report LBL-11775, 1980.

D. C. Girvin, T. Hadeishi, and J. P. Fox, "Use of Zeeman Atomic Absorption Spectroscopy for the Measurement of Mercury in Oil Shale Offgas," *Proceedings of the Oil Shale Symposium: Sampling, Analysis and Quality Assurance*, U.S. EPA Report EPA-600/9-80-022, March 1979 (Lawrence Berkeley Laboratory Report LBL-8888).

D. S. Farrier, J. P. Fox, and R. E. Poulson, "Interlaboratory, Multimethod Study of an In-Situ Produced Oil Shale Process Water," *Proceedings of the Oil Shale Symposium: Sampling, Analysis and Quality Assurance*, U.S. EPA Report EPA-600/9-80-022, March 1979 (Lawrence Berkeley Laboratory Report LBL-9002).

J. P. Fox, J. C. Evans, J. S. Fruchter, and T. R. Wildeman, "Interlaboratory Study of Elemental Abundances in Raw and Spent Oil Shales," *Proceedings of the Oil Shale Symposium: Sampling, Analysis and Quality Assurance*, U.S. EPA Report EPA-600/9-80-022, March 1979 (Lawrence Berkeley Laboratory Report LBL-8901).

EIS-C-A-69
Cont.

J. P. Fox, "Retort Water Particulates," *Proceedings of the Oil Shale Symposium: Sampling, Analysis and Quality Assurance*, U.S. EPA Report EPA-600/9-80-022, March 1979 (Lawrence Berkeley Laboratory Report LBL-8829).

P. Persoff and J. P. Fox, "Control Strategies for In-Situ Oil Shale Retorts," *Proceedings of the Twelfth Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1979 (Lawrence Berkeley Laboratory Report LBL-9040).

J. P. Fox and D. L. Jackson, "Potential Uses of Spent Shale in the Treatment of Oil Shale Retort Waters," *Proceedings of the DOE Wastewater Workshop*, Washington, D. C., June 14-15, 1979 (Lawrence Berkeley Laboratory Report LBL-9716).

J. P. Fox, K. K. Mason, and J. J. Duvall, "Partitioning of Major, Minor, and Trace Elements during Simulated In-Situ Oil Shale Retorting," *Proceedings of the Twelfth Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1979 (Lawrence Berkeley Laboratory Report LBL-9030).

P. Persoff and J. P. Fox, *Control Strategies for Abandoned In-Situ Oil Shale Retorts*, Lawrence Berkeley Laboratory Report LBL-8780, 106 pp., October 1979.

D. C. Girvin and J. P. Fox, *On-Line Zeeman Atomic Absorption Spectroscopy for Mercury Analysis in Oil Shale Gases*, Environmental Protection Agency Report EPA-600/7-80-130, 95 p., August 1979 (Lawrence Berkeley Laboratory Report LBL-9702).

J. P. Fox, *Water Quality Effects of Leachates from an In-Situ Oil Shale Industry*, Lawrence Berkeley Laboratory Report LBL-8997, 37 pp., April 1979.

J. P. Fox (ed.), "Oil Shale Research," Chapter from the *Energy and Environment Division Annual Report 1978*, Lawrence Berkeley Laboratory Report LBL-9857 August 1979 (author or coauthor of seven articles).

J. P. Fox, P. Persoff, M. M. Moody, and C. J. Sisemore, "A Strategy for the Abandonment of Modified In-Situ Oil Shale Retorts," *Proceedings of the First U.S. DOE Environmental Control Symposium*, CONF-781109, 1978 (Lawrence Berkeley Laboratory Report LBL-6855).

E. Ossio, J. P. Fox, J. F. Thomas, and R. E. Poulson, "Anaerobic Fermentation of Simulated In-Situ Oil Shale Retort Water," *Division of Fuel Chemistry Preprints*, v. 23, no. 2, p. 202-213, 1978 (Lawrence Berkeley Laboratory Report LBL-6855).

J. P. Fox, J. J. Duvall, R. D. McLaughlin, and R. E. Poulson, "Mercury Emissions from a Simulated In-Situ Oil Shale Retort," *Proceedings of the Eleventh Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1978 (Lawrence Berkeley Laboratory Report LBL-7823).

J. P. Fox, R. D. McLaughlin, J. F. Thomas, and R. E. Poulson, "The Partitioning of As, Cd, Cu, Hg, Pb, and Zn during Simulated In-Situ Oil Shale Retorting," *Proceedings of the Tenth Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1977.

EIS-C-A-69
Cont.

PHYLLIS FOX, PH.D., PAGE 39

Bechtel, Inc., *Treatment and Disposal of Toxic Wastes*, Report Prepared for Santa Ana Watershed Planning Agency, 1975.

Bay Valley Consultants, *Water Quality Control Plan for Sacramento, Sacramento-San Joaquin and San Joaquin Basins*, Parts I and II and Appendices A-E, 750 pp., 1974.

EIS-C-A-69
Cont.

PHYLLIS FOX, PH.D., PAGE 40

POST GRADUATE COURSES
(Partial)

S-Plus Data Analysis, MathSoft, 6/94.
Air Pollutant Emission Calculations, UC Berkeley Extension, 6-7/94
Assessment, Control and Remediation of LNAPL Contaminated Sites, API and USEPA, 9/94
Pesticides in the TIE Process, SETAC, 6/96
Sulfate Minerals: Geochemistry, Crystallography, and Environmental Significance, Mineralogical Society of America/Geochemical Society, 11/00.
Design of Gas Turbine Combined Cycle and Cogeneration Systems, Thermoflow, 12/00
Air-Cooled Steam Condensers and Dry- and Hybrid-Cooling Towers, Power-Gen, 12/01
Combustion Turbine Power Augmentation with Inlet Cooling and Wet Compression, Power-Gen, 12/01
CEQA Update, UC Berkeley Extension, 3/02
The Health Effects of Chemicals, Drugs, and Pollutants, UC Berkeley Extension, 4-5/02
Noise Exposure Assessment: Sampling Strategy and Data Acquisition, AIHA PDC 205, 6/02
Noise Exposure Measurement Instruments and Techniques, AIHA PDC 302, 6/02
Noise Control Engineering, AIHA PDC 432, 6/02
Optimizing Generation and Air Emissions, Power-Gen, 12/02
Utility Industry Issues, Power-Gen, 12/02
Multipollutant Emission Control, Coal-Gen, 8/03
Community Noise, AIHA PDC 104, 5/04
Cutting-Edge Topics in Noise and Hearing Conservation, AIHA 5/04
Selective Catalytic Reduction: From Planning to Operation, Power-Gen, 12/05
Improving the FGD Decision Process, Power-Gen, 12/05
E-Discovery, CEB, 6/06
McIlvaine Hot Topic Hour, FGD Project Delay Factors, 8/10/06
McIlvaine Hot Topic Hour, What Mercury Technologies Are Available, 9/14/06
McIlvaine Hot Topic Hour, SCR Catalyst Choices, 10/12/06
McIlvaine Hot Topic Hour, Particulate Choices for Low Sulfur Coal, 10/19/06
McIlvaine Hot Topic Hour, Impact of PM2.5 on Power Plant Choices, 11/2/06
McIlvaine Hot Topic Hour, Dry Scrubbers, 11/9/06
Cost Estimating and Tricks of the Trade – A Practical Approach, PDH P159, 11/19/06
Process Equipment Cost Estimating by Ratio & Proportion, PDH G127 11/19/06
Power Plant Air Quality Decisions, Power-Gen 11/06
McIlvaine Hot Topic Hour, WE Energies Hg Control Update, 1/12/07
Negotiating Permit Conditions, EEUC, 1/21/07
BACT for Utilities, EEUC, 1/21/07
McIlvaine Hot Topic Hour, Chinese FGD/SCR Program & Impact on World, 2/1/07
McIlvaine Hot Topic Hour, Mercury Control Cost & Performance, 2/15/07
McIlvaine Hot Topic Hour, Mercury CEMS, 4/12/07

EIS-C-A-69
Cont.

PHYLLIS FOX, PH.D., PAGE 41

Coal-to-Liquids – A Timely Revival, 9th Electric Power, 4/30/07
Advances in Multi-Pollutant and CO_2 Control Technologies, 9th Electric Power, 4/30/07
McIlvaine Hot Topic Hour, Measurement & Control of PM2.5, 5/17/07
McIlvaine Hot Topic Hour, Co-firing and Gasifying Biomass, 5/31/07
McIlvaine Hot Topic Hour, Mercury Cost and Performance, 6/14/07
Ethanol 101: Points to Consider When Building an Ethanol Plant, BBI International, 6/26/07
Low Cost Optimization of Flue Gas Desulfurization Equipment, Fluent, Inc., 7/6/07.
McIlvaine Hot Topic Hour, CEMS for Measurement of NH3, SO3, Low NOx, 7/12/07
McIlvaine Hot Topic Hour, Mercury Removal Status & Cost, 8/9/07
McIlvaine Hot Topic Hour, Filter Media Selection for Coal-Fired Boilers, 9/13/07
McIlvaine Hot Topic Hour, Catalyst Performance on NOx, SO3, Mercury, 10/11/07
PRB Coal Users Group, PRB 101, 12/4/07
McIlvaine Hot Topic Hour, Mercury Control Update, 10/25/07
Circulating Fluidized Bed Boilers, Their Operation, Control and Optimization, Power-Gen, 12/8/07
Renewable Energy Credits & Greenhouse Gas Offsets, Power-Gen, 12/9/07
Petroleum Engineering & Petroleum Downstream Marketing, PDH K117, 1/5/08
Estimating Greenhouse Gas Emissions from Manufacturing, PDH C191, 1/6/08
McIlvaine Hot Topic Hour, NOx Reagents, 1/17/08
McIlvaine Hot Topic Hour, Mercury Control, 1/31/08
McIlvaine Hot Topic Hour, Mercury Monitoring, 3/6/08
McIlvaine Hot Topic Hour, SCR Catalysts, 3/13/08
Argus 2008 Climate Policy Outlook, 3/26/08
Argus Pet Coke Supply and Demand 2008, 3/27/08
McIlvaine Hot Topic Hour, SO3 Issues and Answers, 3/27/08
McIlvaine Hot Topic Hour, Mercury Control, 4/24/08
McIlvaine Hot Topic Hour, Co-Firing Biomass, 5/1/08
McIlvaine Hot Topic Hour, Coal Gasification, 6/5/08
McIlvaine Hot Topic Hour, Spray Driers vs. CFBs, 7/3/08
McIlvaine Hot Topic Hour, Air Pollution Control Cost Escalation, 9/25/08
McIlvaine Hot Topic Hour, Greenhouse Gas Strategies for Coal Fired Power Plant Operators, 10/2/08
McIlvaine Hot Topic Hour, Mercury and Toxics Monitoring, 2/5/09
McIlvaine Hot Topic Hour, Dry Precipitator Efficiency Improvements, 2/12/09
McIlvaine Hot Topic Hour, Coal Selection & Impact on Emissions, 2/26/09
McIlvaine Hot Topic Hour, 98% Limestone Scrubber Efficiency, 7/9/09
McIlvaine Hot Topic Hour, Carbon Management Strategies and Technologies, 6/24/10
McIlvaine Hot Topic Hour, Gas Turbine O&M, 7/22/10
McIlvaine Hot Topic Hour, Industrial Boiler MACT – Impact and Control Options, March 10, 2011
McIlvaine Hot Topic Hour, Fuel Impacts on SCR Catalysts, June 30, 2011.

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PHYLLIS FOX, PH.D., PAGE 42

Interest Rates, PDH P204, 3/9/12
Mechanics Liens, PDHOnline, 2/24/13.
Understanding Concerns with Dry Sorbent Injection as a Coal Plant Pollution Control, Webinar #874-567-839 by Cleanenergy.Org, March 4, 2013
Webinar: Coal-to-Gas Switching: What You Need to Know to Make the Investment, sponsored by PennWell Power Engineering Magazine, March 14, 2013. Available at: https://event.webcasts.com/viewer/event.jsp?ei=1013472.

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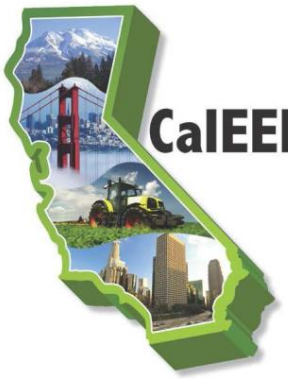
EIS-C-A-70 The CallEEMod User's Guide is noted.



California Emissions Estimator Model®

User's Guide

Version 2016.3.1

Prepared for:
California Air Pollution Control Officers Association (CAPCOA)

Prepared by:
BREEZE Software, A Division of Trinity Consultants
in collaboration with South Coast Air Quality Management District and the California Air Districts

Date:
September 2016

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1 Introduction

This User's Guide (Guide) to the California Emission Estimator Model (CalEEMod)® is meant to give the user an introduction on how to use the program as well as to document the detailed calculations and default assumptions made in associated appendices. The purpose of CalEEMod is to provide a uniform platform for government agencies, land use planners, and environmental professionals to estimate potential emissions associated with both construction and operational use of land use projects. It is intended that these emission estimates are suitable for quantifying air quality and climate change impacts as part of the preparation of California Environmental Quality Act (CEQA) documents. In addition, individual districts may rely on the model's emission estimates to show compliance with local agency rules.

CalEEMod utilizes widely accepted methodologies for estimating emissions combined with default data that can be used when site-specific information is not available. Sources of these methodologies and default data include but are not limited to the United States Environmental Protection Agency (USEPA) AP-42 emission factors, California Air Resources Board (CARB) vehicle emission models, studies commissioned by California agencies such as the California Energy Commission (CEC) and CalRecycle. In addition, some local air districts provided customized values for their default data and existing regulation methodologies for use for projects located in their jurisdictions. When no customized information was provided and no regional differences were defined for local air districts, then state-wide default values were utilized. Since resource data and regulations are constantly changing, local agencies should be consulted to determine whether there are any circumstances when updated values should be used in place of the defaults currently incorporated into CalEEMod. A majority of CalEEMod's default data associated with locations and land use is derived from surveys of existing land uses. For any project that substantially deviates from the types and features included in the surveys, site-specific data that are supported by substantial evidence should be used, if available.

The model provides a number of opportunities for the user to change the defaults in the model; however, users are required to provide justification for all changes made to the default settings (e.g., reference more appropriate data sources) in the Remarks box provided at the bottom of the screen before the user will be able to proceed to the next screen. Further, the user should make every effort to ensure that correct data is entered, including the choice and percent reduction of mitigation most applicable to the land use project being evaluated.

1.1 Purpose of Model

CalEEMod provides a simple platform to calculate both construction emissions and operational emissions from a land use project. It can calculate both the daily maximum and annual average for criteria pollutants as well as annual greenhouse gas (GHG) emissions. The output from these calculations can be used in the preparation of quality and GHG analyses in CEQA documents such as Environmental Impact Reports (EIRs) and Negative Declarations. For projects located in the jurisdiction of San Luis Obispo APCD, the model can also calculate the sum of reactive organic gas (ROG) and nitrogen oxide (NO_x) emissions on a rolling quarterly basis. In addition, CalEEMod contains default values for estimating water and energy use

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which may be useful for preparing hydrology and energy analyses in other sections of a CEQA document. Specifically, the model can aid the user by conducting the following calculations:

- Short-term construction emissions associated with the demolition, site preparation, grading, building, coating, and paving from the following sources:
  - Off-road construction equipment;
  - On-road mobile equipment associated with workers, vendors, and hauling;
  - Fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads. (Fugitive dust from wind blown sources such as storage piles and inactive disturbed areas, as well as fugitive dust from off-road vehicle travel, are not quantified in CalEEMod, which is consistent with approaches taken in other comprehensive models.)
  - Architectural coating activities *(including the painting/striping of parking lots)* and paving (ROG).
- Operational emissions for fully built-out land use development from the following sources:
  - On-road mobile vehicle traffic generated by the land uses;
  - Fugitive dust associated with roads;
  - Architectural coating activities (ROG);
  - Off-road equipment (e.g., forklifts, cranes) used during operation;
  - Landscaping equipment;
  - Emergency generators, fire pumps, and process boilers;
  - Use of consumer products, parking lot degreasers, fertilizers/pesticides, and cleaning supplies (ROG);
  - Wood stoves and hearth usage;
  - Natural gas usage in the buildings;
  - Electricity usage in the buildings (GHG only);
  - Electricity usage from lighting in parking lots and lighting, ventilation and elevators in parking structures;
  - Water usage per land use (GHG only); and,
  - Solid waste disposal per land use (GHG only).
- One-time vegetation sequestration changes
  - Permanent vegetation land use changes
  - New tree plantings

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- Mitigation adjustments to both short-term construction and operational emissions. Several of the mitigation measures described in CAPCOA's Quantifying Greenhouse Gas Mitigation Measures[1] have been incorporated into CalEEMod.

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[1] Available at: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

2 Program Installation

The program is distributed and maintained by the California Air Pollution Control Officers Association[2]. The most recent version can be downloaded from www.caleemod.com.

2.1 Operating System Requirements

CalEEMod was programmed by Trinity using Microsoft SQL Compact Edition in conjunction with a Visual Basic Graphical User Interface (GUI). CalEEMod requires the following system requirements:

- Microsoft Windows 8 or 10 Operating System with Microsoft .NET Framework 3.5 (includes .NET 2.0 and 3.0)
- Microsoft Windows XP, Vista, or 7 Operating System with Microsoft .Net Framework 4 or higher
- Microsoft SQL Server Compact 3.5 SP2
- 300 Mb hard drive space available

2.2 Installation Procedures

To install

1. Be sure to uninstall any previous versions of CalEEMod before installing a new version as some file names will be the same potentially confusing the computer. To uninstall for most computers, under Settings, Control Panel, Programs and Features, highlight CalEEMod and then click 'uninstall.'

2. Ensure you have the required Microsoft .Net framework installed on your machine. Microsoft .NET Framework 3.5 is available free from Microsoft at https://www.microsoft.com/en-us/download/details.aspx?id=21, and Microsoft .NET Framework 4.0 or higher is available free from Microsoft at https://www.microsoft.com/en-us/download/details.aspx?id=17851. Once this file is downloaded, unzip the file anywhere on your computer and run the installation file (setup.exe) and follow the instructions on Microsoft's website to locate the appropriate .msi file. To install Microsoft SQL Server Compact 3.5 SP2, go to https://www.microsoft.com/en-us/download/details.aspx?id=5783. For 32-bit computers, you will need to install SSCERuntime_x86-ENU.msi. For a 64-bit computer, you will need to install both the 32-bit and the 64-bit version of the SQL Server Compact 3.5 SP2 MSI files because the existing SQL Server Compact 3.5 applications may fail if only the 32-bit version of the .msi file is installed on the 64-bit computer.

3. From www.CalEEMod.com, download the installation file (CalEEMod2016.3.1.exe), click on file and follow the instructions. Pages 5 through 7 show screen shots of the CalEEMod InstallShield Wizard.

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4. The default directory for CalEEMod is C:\CalEEMod\. To select an alternative directory location, choose Custom Installation[3].
5. Click Next until the installation has completed, then click Finish to exit the installer.
6. If you have any further trouble installing CalEEMod, verify that you have appropriate user privileges and that your computer meets the operating system requirements.

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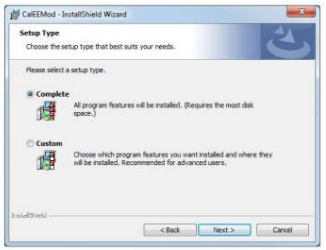
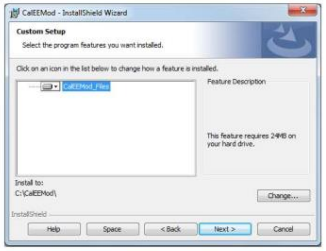
3 If you use Windows Vista, 7, 8 or 10, file privileges may not allow access rights to some folders during program operations such as C:\Program Files\.





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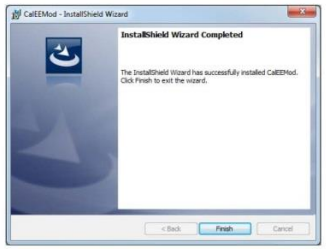
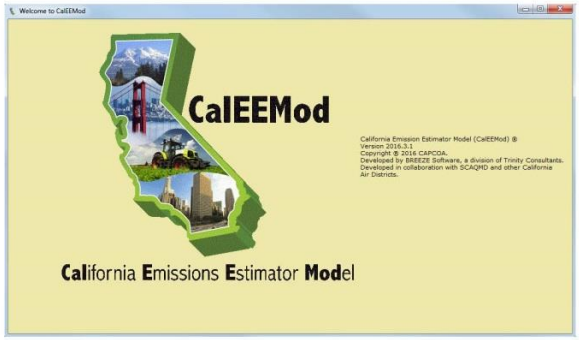


2.3 Starting CalEEMod

After the installation is complete, a CalEEMod short cut icon will be appear on the desktop and CalEEMod will appear in the list of Programs available from the Start Button. To start the model, select CalEEMod from the program files or double click on the CalEEMod short cut icon.



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3 Using CalEEMod

3.1 Key Features

CalEEMod is comprised of a linear series of screens with each screen designed with an individual purpose to define features of the project such as project characteristics, construction schedule and equipment, operational activity, mitigation measures, etc. The user will need to input basic information about the project such as location, land use type (e.g., residential, commercial, retail, etc.) and project size and the model will populate later screens with pre-determined defaults. The user may override the defaults to input more accurate, project-specific information as appropriate.

The figure on page 10 identifies some key features of CalEEMod which are described below.

1. Menu Bar: A drop down menu bar is found on all screens. For example, the Home menu controls file features such as New Project, Open Project, Save Project, and Save As Project. The Help menu will link to appropriate information for the relevant screen from this User's Guide. All of the other menus will allow navigation between the screens in any order.

2. Screen Name: Identifies the name of the current screen.

3. Default Button: This button allows the user to restore the program defaults after the user has changed any default values on the screen. User-entered values will be highlighted in yellow to clearly indicate the defaults that have been changed. The user will be prompted to specify whether the default should be restored for the current or last cell on the screen or for the entire screen. The Import csv option will allow the user to load in a .csv file for a specific data grid. Clicking on the Undo button will allow the user to cancel or undo the previous action.

4. Remarks: This section is located at the bottom of each screen and it requires the user to enter comments regarding any defaults that have been replaced with user-defined values. The Remarks section is meant to assist project reviewers to determine or assess the justification for user-defined values entered.

5. Next Button: When the user clicks on this button, the next sequential screen will appear. As the user progresses through the model, later screens will also show a Previous button that will take the user to the previous screen.

6. Data Grid: This is a common box where values for the variables defined across the top are to be filled in with data. The number of rows will automatically be adjusted based on the number of rows of information required to define the information. On some data grids, the last row may have an asterisk (*) and once the user begins adding information to this row, a new row will be added at the end. To delete a row, select the desired row to delete, and hit the delete button on your keyboard. (Deleting information is generally allowed unless the data grid contains a fixed list such as the Pollutant selection list.)

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Scroll bars (both horizontal and vertical) may also occur on some data grids, as appropriate.

7. Cascade Defaults: CalEEMod has a feature that freezes the automatic downloading of the programmed defaults. Each input screen displays a box called Cascade Default which will be automatically checked to populate defaults in future screens. However, if user unchecks the Cascade Default box, no defaults will be populated in subsequent screens and the user will need to input project-specific data. Unless all the necessary input parameters required for a proper analysis are known, the user should run the model at least once with "Cascade Default" button checked to allow the defaults to be populated. Then, if the user would like to change the project's parameters (e.g., number of dwelling units, building square footage, etc.) without cascading new defaults in later screens, then the user should uncheck the Cascade Default box when in the Land Use screen. This feature may be helpful when the defaults are replaced with project-specific information (e.g., construction schedule, construction equipment, water use, energy use, etc.) and the user would like to evaluate different project scenarios with the same basic project information (e.g., land use type, location, etc.). In addition, by unchecking the Cascade Default box, the following will occur:
   - The defaults in *ALL* subsequent screens will be frozen.
   - Any changes that are made to screens that follow the Land Use screen (e.g., adding a new construction phase) will not cascade defaults relating to that change or add new tabs (e.g., trips and VMT, dust material movement). Thus, the user will need to manually input project-specific information in order for the impacts to be calculated.
   - If any changes to land use type (e.g., from single family housing to a hospital) are made, the subsequent screens will not reflect the new land use type causing some incorrect calculations (e.g., impacts from energy and water use) to be performed.

   When changing or adding a land use type, the user should click on the Cascade Default button so the future screens will be populated with appropriate defaults and the correct calculations specific to the changed or added land use type will occur.

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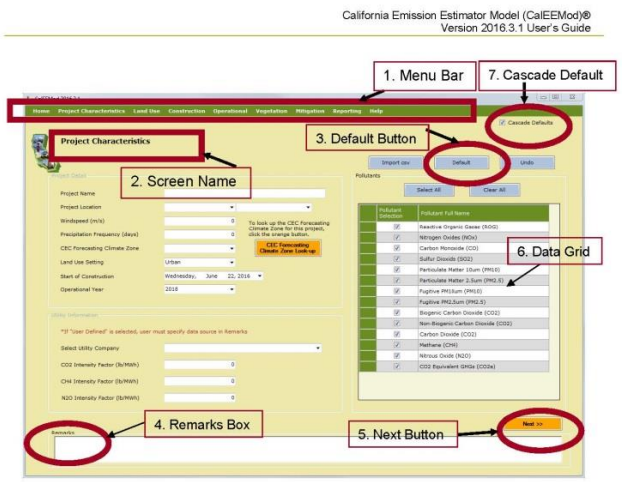

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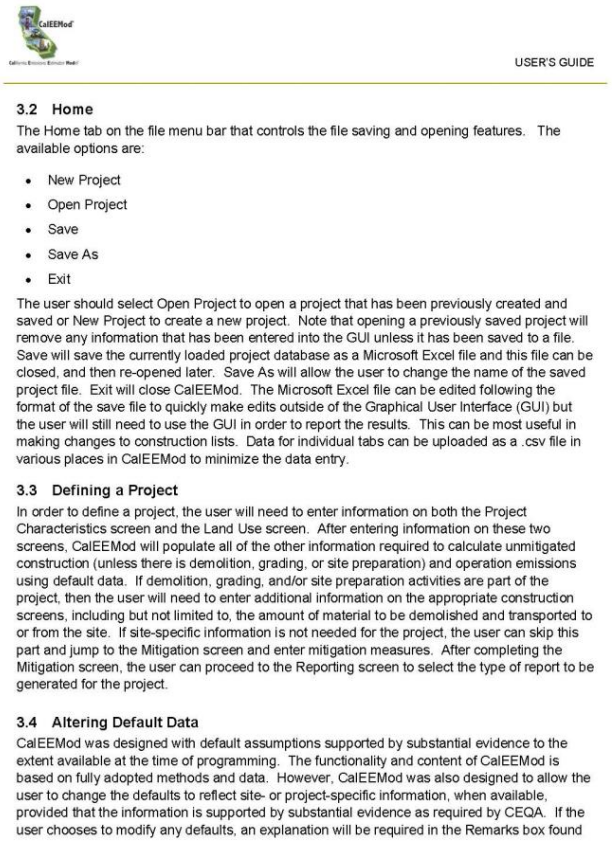

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3.2 Home

The Home tab on the file menu bar that controls the file saving and opening features. The available options are:

- New Project
- Open Project
- Save
- Save As
- Exit

The user should select Open Project to open a project that has been previously created and saved or New Project to create a new project. Note that opening a previously saved project will remove any information that has been entered into the GUI unless it has been saved to a file. Save will save the currently loaded project database as a Microsoft Excel file and this file can be closed, and then re-opened later. Save As will allow the user to change the name of the saved project file. Exit will close CalEEMod. The Microsoft Excel file can be edited following the format of the save file to quickly make edits outside of the Graphical User Interface (GUI) but the user will still need to use the GUI in order to report the results. This can be most useful in making changes to construction lists. Data for individual tabs can be uploaded as a .csv file in various places in CalEEMod to minimize the data entry.

3.3 Defining a Project

In order to define a project, the user will need to enter information on both the Project Characteristics screen and the Land Use screen. After entering information on these two screens, CalEEMod will populate all of the other information required to calculate unmitigated construction (unless there is demolition, grading, or site preparation) and operation emissions using default data. If demolition, grading, and/or site preparation activities are part of the project, then the user will need to enter additional information on the appropriate construction screens, including but not limited to, the amount of material to be demolished and transported to or from the site. If site-specific information is not needed for the project, the user can skip this part and jump to the Mitigation screen and enter mitigation measures. After completing the Mitigation screen, the user can proceed to the Reporting screen to select the type of report to be generated for the project.

3.4 Altering Default Data

CalEEMod was designed with default assumptions supported by substantial evidence to the extent available at the time of programming. The functionality and content of CalEEMod is based on fully adopted methods and data. However, CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA. If the user chooses to modify any defaults, an explanation will be required in the Remarks box found

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at the bottom of the screen to justify and support the modification before the user will be able to proceed to the next screen. Modifications to defaults and the explanations are noted in the output report. Comments in the Remarks box are also included in the report and alert reviewers of modifications to the defaults. Comments are important because they show the user's justification for the modifications, which allows the reviewers the ability to determine whether or not the modifications are appropriate and sufficiently justified.

3.5 Mitigation

Common construction mitigation measures that impact the calculations in CalEEMod have been incorporated as options for the user to select. It is important to note that compliance with fugitive dust rules vary widely by district and include requirements to reduce dust. Even though the fugitive dust rules contain requirements that when implemented, have the effect of mitigating dust emissions, these requirements are not considered to be mitigation per se. For these reasons, requirements such as percentage adjustments to fugitive dust rules have not been incorporated into the unmitigated fugitive dust calculations.

Several mitigation measures from CAPCOA's Quantifying Greenhouse Mitigation Measures have been incorporated including combinations and caps when using multiple mitigation measures. . CalEEMod was designed to include typical mitigation measures that are some of the more effective measures available to development projects. If mitigation measures are not available as options in CalEEMod, the user can alter the inputs in the program to adjust to account for mitigation measures that may be less common. This will require separate runs of CalEEMod files in order to properly account for unmitigated and mitigated scenarios. For more details regarding mitigation, see Subchapter 4.11.

3.6 Reporting

The Reporting tab allows the user to select the type of report (e.g., annual, winter or summer) to present the results of the calculations. The reports can be viewed on screen and then saved as either a Microsoft Excel file or a .pdf file. For more details regarding reporting, see Subchapter 4.11.

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4 Detailed Program Screens

4.1 Project Characteristics

The Project Characteristics screen is starting point where the user enters the project name, project location, and selects utility provider, climate zone, and pollutants to be analyzed. The information entered on this screen will trigger project appropriate default data to populate subsequent screens. Any changes entered on this screen will override any previously entered user-defined data and the corresponding default data. The project name will appear in the reports. Each of the information categories on this screen are described in more detail below.

Project Location

To define the region where the project is located, the user is given the option to select Air District, Air Basin, County, or Statewide. The second drop down box will reveal a list of specific locations to the region selected. If the user selects County, It is important to note that there may be some counties that are shared by multiple Air Districts, Air Basins or District-specific sub-regions and the default values (e.g., on-road vehicle emissions, trip lengths, water supply and treatment electricity use, solid waste disposal rates, amount of paved roads, days of landscaping equipment use, architectural coating emissions, and hearth usage) may vary accordingly. Thus, if the user selects County, the user may also be prompted to select the sub-county area. If you are uncertain about what region to choose for your project location, consult your lead agency.

Wind Speed and Precipitation Frequency

Selection of project location will automatically fill in the default wind speed and precipitation frequency. The user can also choose to override this information and enter a different value. The wind speed, in meters per second (m/s), is used in the fugitive dust calculations. Precipitation frequency, e.g. the number of days per year with a precipitation amount measuring greater than 0.01 inches in one day, is used in the fugitive dust calculations.

Climate Zone

Selection of project location will restrict the climate zones available for the user to choose from based on the climate zones in the project location. The climate zones that have been programmed into CalEEMod are based on the California Energy Commission's (CEC) Forecasting Climate Zones, which are different from the Title 24 Building Climate Zones. The user should determine the correct climate zone by either referring to the figure below or by clicking on the orange button that says "CEC Climate Zone Forecasting Look-up" on the Project Characteristics screen. In addition, the user may also determine the climate zone by city or zip code from the look up tables in Appendix F.

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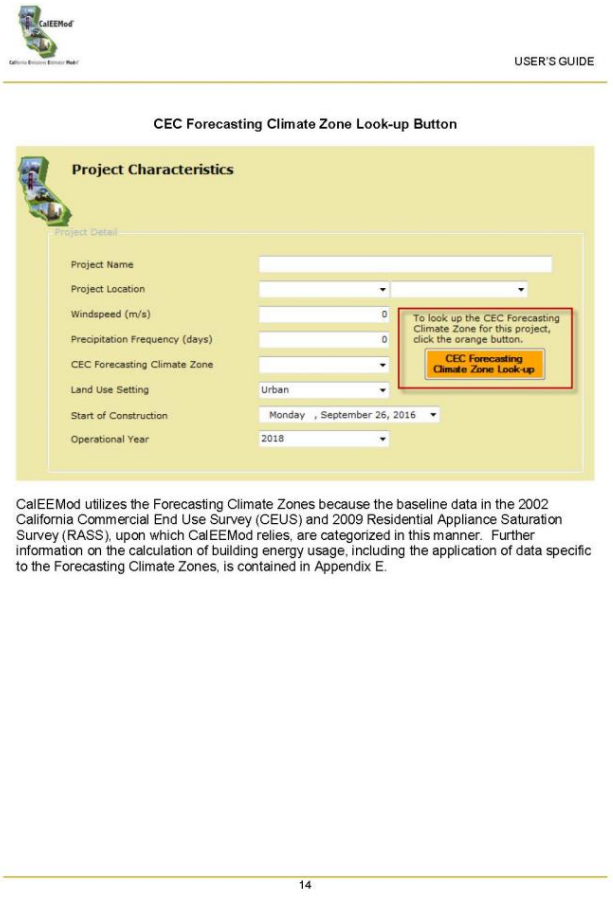

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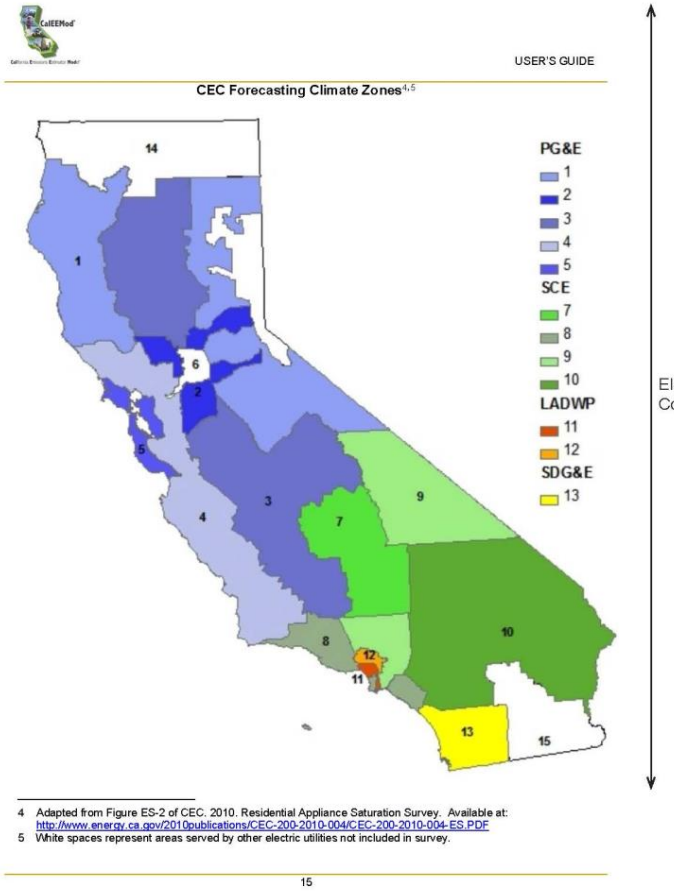

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Land Use Setting

The Land Use Setting tab is where the user indicates whether the project is located in a rural or urban setting. The user should contact the local air district for the region where the project is located for guidance on the appropriate Land Use Setting to select.

Start of Construction

To indicate when construction of the project will begin, the user will need to insert a date in the Start of Construction field. The date when construction will start triggers a rolling calendar that starts with the construction start date and follows by various construction phases that will be populated with default date ranges in the Construction screen.

Operational Year

CalEEMod is currently designed to key off of one year to initiate the beginning of the full operation of the project. Thus, to indicate when the project will begin operation activities, the user will need to insert a year. CalEEMod will use this year to determine the appropriate emission factors to be used in all operational module calculations. CalEEMod can accommodate the following years for the initial operational year: 2000, 2005, 2010-2035, 2040, 2045, and 2050. To conduct a backcasting analysis by inserting an operational year that occurs in the past, the selection of years is limited to minimize the file size associated with vehicle emission factors. For a project that consists of multiple phases with operation activities occurring over multiple years, the user should run the model multiple times for the various input parameters for each operational year.

Utility Company

From the drop down list, the user will need to select the appropriate utility company that will serve the project location. . When a specific utility is selected, the intensity factors for CO_2, CH_4 and N_2O will be automatically populated with defaults applicable to the specified utility. However, if the utility for the project is not in the drop down list, the user may select User Defined and the user will need to manually enter the various intensity factors. In addition, the user will need to identify the utility in the Remarks section.

The intensity factors are used in various modules to calculate the GHG emissions associated with electricity use. The default values are based on CARB's Local Government Operations Protocol (LGO)[6] for CO_2, updated public utility protocols for CO_2, and E-Grid values for CH_4 and N_2O. Each default CO_2 intensity factor is based on the latest reporting year available for each utility. Appendix D, Table 1.2 provides the default CO_2 intensity factor and reporting year from which the factor was identified for each utility identified in the drop down list. As with other defaults in the model, if a new intensity factor is identified before the defaults in CalEEMod are updated, the user may override the default and provide justification for the change in the Remarks section at the bottom of the Project Characteristics screen.

6 Available at: http://www.arb.ca.gov/cc/protocols/localgov/localgov.htm

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Pollutants

CalEEMod provides a list of pollutants with adjacent check boxes for the user to select. Upon starting a new project, all of the boxes are automatically checked and if the boxes remain checked, all pollutants will be quantified and identified in the reports. If user unchecks any of the boxes, the unchecked pollutants will be excluded from the calculations and the reports. Some of the pollutants may overlap other identified pollutants. For example, carbon dioxide (CO_2) is identified on its own, and it is separated into biogenic and non-biogenic categories. In addition, CO_2 Equivalent GHGs represents, all CO_2 emissions plus methane (CH_4) and nitrous oxide (N_2O) as adjusted by their corresponding Global Warming Potential (GWP) weighted value. The GWPs are based on the 2007 IPCC's Fourth Assessment Report (AR4)[7], and are consistent with 2014 CARB's Scoping Plan Update[8].

Remarks

As previously explained in Subchapter 3.4, if the user chooses to modify any defaults, the user will be required to provide an explanation or justification in the Remarks section for incorporating user defined (e.g., non-default) values before the user will be able to proceed to the next screen. Any remarks that are entered will be included in the reports and will assist a reviewer in understanding the reasons for a change in the default value (e.g., new trip rate based on a project-specific traffic study conducted by traffic engineers).

4.2 Land Use

The Land Use screen is where the user identifies the land use(s) that will occur at the project site. The data in the land use types and subtypes, unit amounts, size metric, lot acreage, square feet and population fields determine the default variables that are used in the calculations. It is important to note that for any project that includes a city park, golf course, or recreational swimming pool land use, the user will be prompted to enter the square footage of the buildings associated with these land uses (e.g., restrooms/changing rooms, pro-shop, etc.). By excluding the entire lot size for these three land use types, and instead only using the square footage of the buildings, the calculations for consumer product use will provide a more accurate representation of where these materials are actually used and avoid incorrectly attributing consumer products use to greenspaces and pool water. For more information on the calculations for consumer product use, see Subchapter 4.5, Section 4.5.2.0

7 Available at: https://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_full_report.pdf
8 Available at: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm

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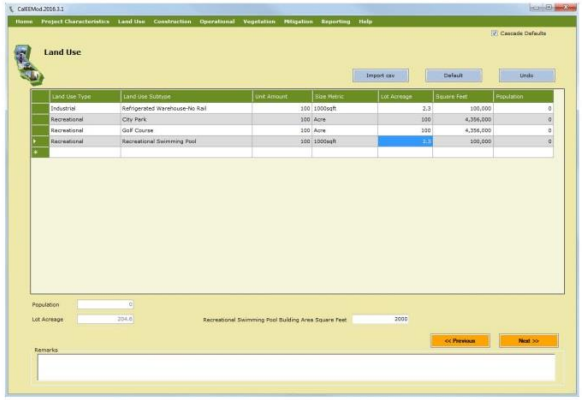

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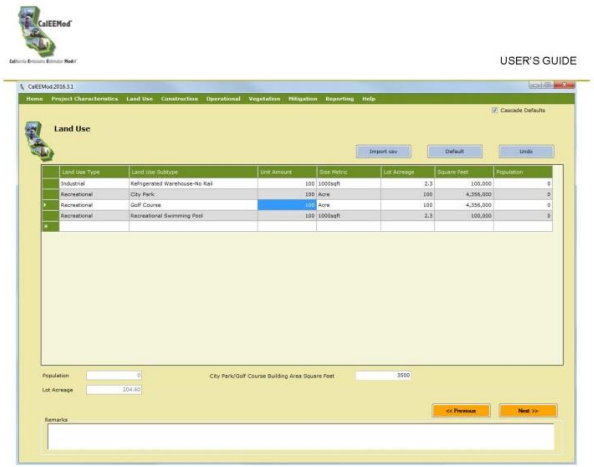

Land Use Type

The Land Use Type tab allows the user to select any of the following primary land use types from a drop down list: Commercial, Educational, Industrial, Parking, Recreational, Residential, and Retail. The 63 different land use types were chosen for inclusion in CalEEMod because each has an established trip rate critical for mobile source calculations.

CalEEMod specifically designates parking areas as a separate land use rather than as a part of an associated non-residential land use (e.g., commercial buildings, retail facilities, etc.). However, no separate parking land use for a driveway or garage needs to be identified for residential land uses because parking is already included in the calculation For more information on how CalEEMod treats parking based on the footprint and lot acreage of residential and non-residential land uses, please refer to the following figure. As depicted, the lot acreage of a residential land use includes the parking and building footprint. For non-residential land uses, the lot acreage is the same as the building footprint, so parking needs to be entered as a separate land use.

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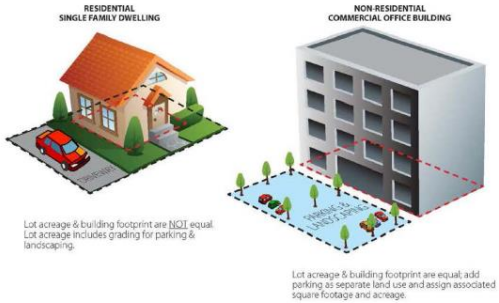
CalEEMod Default Lot Acreage for Res and Non Res Land Uses



For the parking land use subtype, two primary options are available: parking lot or parking structure (e.g., garage). There are four types of parking structures: 1) enclosed; 2) enclosed with an elevator; 3) unenclosed; and, 4) unenclosed with an elevator. The reason for these specific descriptions is so that the model properly accounts for energy impacts associated with ventilation and elevator operations.

For land use subtypes that are not listed (e.g., roads, underground parking, pipelines, etc.) or that do not accurately represent the project being analyzed, each land use subtype has a User Defined option that the user can select. If a User Defined land use subtype is selected, there is no default data (including size metric) that will automatically populate the data fields. Instead, the user will need to manually enter the unit amount, size metric, lot acreage, etc.. If these fields are left blank, no emissions will be calculated for the User Defined land use subtype. Also, whatever size metric (e.g., per acre, per 1000 square foot, etc.) the user chooses for the User Defined land use subtype needs to be consistently applied to all subsequent default values (e.g., gallons of water used *per acre* or *per 1000 square foot*). An alternative approach to entering a User Defined land use subtype would be to choose a land use subtype that most closely fits the project and allow the model to populate the data fields with the defaults. Then,

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the user can go back through the model and modify the defaults with any known specific project information and enter the required Remarks to explain why the defaults are modified.

Land Use Subtype

63 land use subtypes have been included in CalEEMod and each has an established trip rate that is used for calculating mobile source emissions. By tabbing over to the next column in a row, the user can select a variety of land use subtypes. The user also has the option to select a User Defined land use subtype; however, as explained previously, there is no default data (including size metric) that will automatically populate the data fields. Instead, the user will need to manually enter the unit amount, size metric, lot acreage, etc. Land use subtypes are based primarily on the land use definitions used for (mobile source) trip generation rate information from the Institute of Transportation Engineers (ITE) 9th edition of the Trip Generation Manual. In some cases similar generalized land uses or surrogate data was mapped to some land use subtypes in order to generate the default data needed for various modules.

Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description[1]	ITE Number
RESIDENTIAL		
Apartments High Rise	High-rise apartments are units located in rental buildings that have more than 10 levels and most likely have one or more elevators.	222
Apartments Low Rise	Low-rise apartments are units located in rental buildings that have 1-2 levels.	221
Apartments Mid Rise	Mid-rise apartments in rental buildings that have between 3 and 10 levels.	223
Condo/Townhouse	These are ownership units that have at least one other owned unit within the same building structure.	230
Condo/Townhouse High Rise	These are ownership units that have three or more levels.	232
Congregate Care (Assisted Living)	These facilities are independent living developments that provide centralized amenities such as dining, housekeeping, transportation and organized social/recreational activities. Limited medical services may or may not be provided.	253
Mobile Home Park	Mobile home parks consist of manufactured homes that are sited and installed on permanent foundations and typically have community facilities such as recreation rooms, swimming pools and laundry facilities.	240
Retirement Community	These communities provide multiple elements of senior adult living. Housing options may include various combinations of senior adult housing, congregate care, assisted living, and skilled nursing care aimed at allowing the residents to live in one community as their medical needs change.	255
Single Family Housing	All single-family detached homes on individual lots typical of a suburban subdivision	210

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Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description[1]	ITE Number
EDUCATIONAL		
Day-Care Center	A day care center is a facility where care for pre-school age children is provided, normally during the daytime hours. Day care facilities generally include classrooms, offices, eating areas and playgrounds.	565
Elementary School	Elementary schools typically serve students attending kindergarten through the fifth or sixth grade. They are usually centrally located in residential communities in order to facilitate student access and have no student drivers.	520
High School	High schools serve students who have completed middle or junior high school.	530
Junior College (2Yr)	This land use includes two-year junior, community, or technical colleges.	540
Junior High School	Junior High schools serve students who have completed elementary school and have not yet entered high school.	522
Library	A library is a facility that consists of shelved books; reading rooms or areas; and sometimes meeting rooms.	590
Place Of Worship	A church is a building in which public worship services are held. A church houses an assembly hall or sanctuary; it may also house meeting rooms, classrooms and occasionally dining catering or party facilities.	560
University/College (4Yr)	This land use includes four-year universities or colleges that may or may not offer graduate programs.	550
RECREATIONAL		
Arena	Arenas are large indoor structures in which spectator events are held. These events vary from professional ice hockey and basketball to non-sporting events such as concerts, shows, or religious services. Arenas generally have large parking facilities, except when located in or around the downtown of a large city.	460
City Park	City parks are owned and operated by a city.	411
Fast Food Restaurant W/O Drive Thru	This land use includes fast-food restaurants without drive-through windows. Patrons generally order at a cash register and pay before they eat.	933
Fast Food Restaurant With Drive Thru	This category includes fast-food restaurants with drive-through windows.	934
Golf Course	Golf courses include 9, 18, 27 and 36 hole courses. Some sites may also have driving ranges and clubhouses with a pro shop, restaurant, lounge and banquet facilities.	430
Health Club	These are privately-owned facilities that primarily focus on individual fitness or training. Typically they provide exercise classes; weightlifting, fitness and gymnastics equipment; spas; locker rooms; and small restaurants or snack bars.	492

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Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description[1]	ITE Number
High Turnover (Sit Down Restaurant)	This land use consists of sit-down, full-service eating establishments with turnover rates of approximately one hour or less. This type of restaurant is usually moderately priced and frequently belongs to a restaurant chain.	932
Hotel	Hotels are places of lodging that provide sleeping accommodations and supporting facilities such as restaurants; cocktail lounges; meeting and banquet rooms or convention facilities; limited recreational facilities and other retail and service shops.	310
Motel	Motels are places of lodging that provide sleeping accommodations and often a restaurant. Motels generally offer free on-site parking and provide little or no meeting space and few supporting facilities.	320
Movie Theater (No Matinee)	Movie theaters consist of audience seating, single or multiple screens and auditoriums, a lobby and a refreshment stand. Movie theaters without matinees show movies on weekday evenings and weekends only; there are no weekday daytime showings.	443
Quality Restaurant	This land use consists of high quality, full-service eating establishments with typical turnover rates of at least one hour or longer. Quality restaurants generally do not serve breakfast, some do not serve lunch; all serve dinner. This type of restaurant usually requires reservations and is generally not part of a chain. Patrons commonly wait to be seated, are served by a waiter, order from menus and pay for meals after they eat.	931
Racquet Club	These are privately-owned facilities that primarily cater to racquet sports.	491
Recreational Swimming Pool	This is a typical recreational swimming pool that may be associated with community centers, parks, swim clubs, etc.	495
PARKING		
Enclosed Parking Structure	This is an enclosed parking structure that may be above or below ground. It is not covered in asphalt. This land use will require lighting and ventilation, and will be more than one floor with no elevator.	
Enclosed Parking with Elevator	This is an enclosed parking structure that may be above or below ground. It is not covered in asphalt. This land use will require lighting and ventilation, and will be more than one floor with an elevator.	
Other Asphalt Surfaces	This is an asphalt area not used as a parking lot (e.g., long driveway, basketball court, etc.)	
Other Non-Asphalt Surfaces	This is a non-asphalt area (e.g., equipment foundation, loading dock area, etc.).	
Parking Lot	This is a typical single surface parking lot typically covered with asphalt. This land use will require lighting.	
Unenclosed Parking Structure	This is an unenclosed parking structure that may be above or below ground. It is not covered in asphalt. This land use will require lighting but not ventilation. It will be more than one floor with no elevator.	
Unenclosed Parking with Elevator	This is a unenclosed parking structure that may be above or below ground. It is not covered in asphalt. This land use will require lighting but not ventilation. It will be more than one floor with an elevator.	

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Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description[1]	ITE Number
RETAIL		
Automobile Care Center	An automobile care center houses numerous businesses that provide automobile-related services, such as repair and servicing; stereo installation; and seat cover upholstering.	942
Convenience Market (24 Hour)	These markets sell convenience foods, newspapers, magazines and often beer and wine. They do not sell or dispense motor vehicle fuels (e.g., gasoline and diesel).	851
Convenience Market With Gas Pumps	These markets sell or dispense motor vehicle fuels (e.g., gasoline and diesel), convenience foods, newspapers, magazines and often beer and wine. This includes convenience markets with motor vehicle fueling dispensers where the primary business is the selling of convenience items, not the fueling of motor vehicles.	853
Discount Club	A discount club is a discount store or warehouse where shoppers pay a membership fee in order to take advantage of discounted prices on a wide variety of items such as food, clothing, tires and appliances. Many items are sold in large quantities or in bulk.	857
Electronic Superstore	These are free-standing facilities that specialize in the sale of electronic merchandise.	863
Free-Standing Discount Store	Discount stores offer centralized cashiering and sell products that are advertised at discount prices. These stores offer a variety of customer services and maintain long store hours seven days a week.	815
Free-Standing Discount Superstore	The discount superstore is similar to the free-standing discount stores with the addition that they also contain a full-service grocery department under the same roof that shares entrances and exits with the discount store area.	813
Gasoline/Service Station	This land use includes service stations where the primary business is the fueling of motor vehicles. They may also have ancillary facilities for servicing and repairing motor vehicles.	944
Hardware/Paint Store	These stores sell hardware and paint supplies and are generally free-standing buildings.	816
Home Improvement Superstore	These are free-standing facilities that specialize in the sale of home improvement merchandise.	862
Regional Shopping Center	A shopping center is an integrated group of commercial establishments that is planned, developed, owned and managed as a unit. A shopping center's composition is related to its market area in terms of size, location and type of store.	820
Strip Mall	Small strip shopping centers contain a variety of retail shops and specialize in quality apparel, hard goods and services such as real estate offices, dance studios, florists and small restaurants.	826

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Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description[1]	ITE Number
Supermarket	Supermarkets are free-standing retail stores selling a complete assortment of food: food preparation and wrapping materials; and household, cleaning items. Supermarkets may also contain the following products and services: ATMs, automobile supplies, bakeries, books and magazines, dry cleaning, floral arrangements, greeting cards, limited-service banks, photo centers, pharmacies and video rental areas.	850
COMMERCIAL		
Bank (With Drive-Through)	Drive-in banks provide banking facilities for motorists who conduct financial transactions from their vehicles; many also serve patrons who walk into the building.	912
General Office Building	A general office building houses multiple tenants where affairs of businesses commercial or industrial organizations or professional persons or firms are conducted. If information is known about individual buildings, it is suggested that this land use be used instead of the more generic office park.	710
Government (Civic Center)	A group of government buildings that are interconnected by pedestrian walkways.	733
Government Office Building	This is an individual building containing either the entire function or simply one agency of a city, county, state, federal, or other governmental unit.	730
Hospital	A hospital is any institution where medical or surgical care and overnight accommodations are provided to non-ambulatory and ambulatory patients. However, it does not refer to medical clinics or nursing homes.	610
Medical Office Building	This is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility.	720
Office Park	Office parks are usually suburban subdivisions or planned unit developments containing general office buildings and support services, such as banks, restaurants and service stations, arranged in a park-or campus-like atmosphere. This should be used if details on individual buildings are not available.	750
Pharmacy/Drugstore W/O Drive Thru	These are retail facilities that primarily sell prescription and non-prescription drugs. These facilities may also sell cosmetics, toiletries, medications, stationery, personal care products, limited food products and general merchandise. The drug stores in this category do not contain drive-through windows.	880

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Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description[1]	ITE Number
Pharmacy/Drugstore With Drive Thru	These are retail facilities that primarily sell prescription and non-prescription drugs. These facilities may also sell cosmetics, toiletries, medications, stationery, personal care products, limited food products and general merchandise. The drug stores in this category contain drive-through windows.	881
Research & Development	R&D centers are facilities devoted almost exclusively to R&D activities. The range of specific types of businesses contained in this land use category varies significantly. R&D centers may contain offices and light fabrication areas.	760
INDUSTRIAL		
General Heavy Industry	Heavy industrial facilities usually have a high number of employees per industrial plant and are generally limited to the manufacturing of large items.	120
General Light Industry	Light industrial facilities are free-standing facilities devoted to a single use. The facilities have an emphasis on activities other than manufacturing and typically have minimal office space. Typical light industrial activities include printing, material testing and assembly of data processing equipment.	110
Industrial Park	Industrial parks contain a number of industrial or related facilities. They are characterized by a mix of manufacturing, service and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Many industrial parks contain highly diversified facilities.	130
Manufacturing	Manufacturing facilities are areas where the primary activity is the conversion of raw materials or parts into finished products. It generally also has office, warehouse, and R&D functions at the site.	140
Refrigerated Warehouse-No Rail	This is a warehouse that has refrigeration but no rail spur.	152
Refrigerated Warehouse-Rail	This is a warehouse that has refrigeration and a rail spur.	152
Unrefrigerated Warehouse-No Rail	This is a warehouse that does not have refrigeration and no rail spur.	152
Unrefrigerated Warehouse-Rail	This is a warehouse that does not have refrigeration but has a rail spur.	152

1. Based on land use descriptions in Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition.

Unit Amount and Size Metric

By tabbing over to the Unit Amount and Size Metric columns, respectively, the user can enter the number of units (e.g., houses, apartments, etc.) and the corresponding size metric (e.g., per

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1000 sq ft, employees, students, etc.). This data combination will be used to populate the lot acreage, square feet and population columns on this screen. For example, a school land use allows the user to define its size by the number of students, building square footage, or number of employees. It is important to note that the square footage, which is used for calculating such impacts as architectural coatings and energy use, relates to the total building square footage and not the building footprint or lot acreage which is used for housing density as well as grading and site preparation calculations.

Lot Acreage

If actual lot acreage data is available, the user should override the default value. However, for a mixed use, multi-story building, the user should not override the square footage default value for each individual land use or the acreage default value assigned to the residential portion or the split between the non-residential land uses if there is no residential portion. The figure below provides an example of a mixed use project and instructions for applying the appropriate square footage and acreage.

Acreage is used to estimate housing density and assign construction default data (e.g., grading, site preparation, etc.). Table 2 contains housing density default data per land use in terms of dwelling units (DU) per acre. By using this data, CalEEMod can estimate the number of acres per dwelling unit (DU) for residential land use. For example, if the user enters 10 apartments in a low rise building, then the lot acreage will be 0.625 acre (10 DU divided by 16 acres/DU). According to the California Energy Commission's Residential Appliance Saturation Survey (RASS), the metric for low rise apartments is 1,000 square feet per DU (see Table 2.1). Similarly, using the same example, the building footprint will be 0.23 acre (10 DU x 1000 sq ft/DU x 1 acre/43,560 sq ft). Thus, the total lot acreage includes the residential footprint plus driveway and landscaping/open space.

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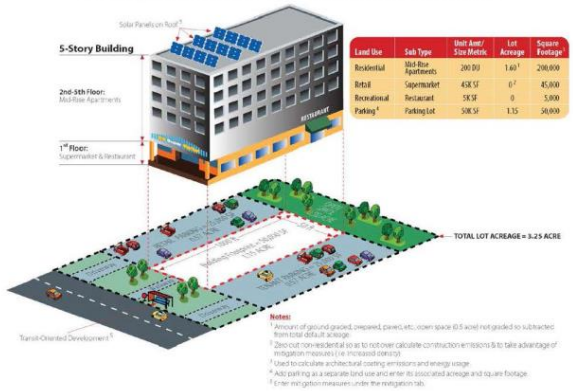
Example of Mixed Use Project in CalEEMod



Land Use	Sub Type	Unit Amt/ Size Metric	Lot Acreage	Square Footage
Residential	Mid-Rise Apartments	200 DU	1.60 [1]	200,000
Retail	Supermarket	45K SF	0 [2]	45,000
Recreational	Restaurant	5K SF	0	5,000
Parking [4]	Parking Lot	50K SF	1.15	50,000

Table 2: Default Housing Density

Land Use Subtype	Density (Dwelling Units/Acre)
Single Family Housing	3
Apartments low rise	16
Apartments mid rise	38
Apartments high rise	62
Condo/townhouse	16
Condo/townhouse high rise	64
Mobile Home Park	8
Retirement Community	5
Congregate care (Assisted Living)	16

1. Based on the density assumed in ITE Trip Generation 8th Edition

After the user has completed entering all of land uses for the project, CalEEMod will add the lot

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acreage values for each land use and the total will be reflected in the lot acreage text box located at the bottom of the screen. The value in the total lot acreage box cannot be modified by the user.

Square Footage

If actual square footage of the total building or building footprint is known, the user should override the default value.

Population

After the completing the tabs for unit amount, size metric, lot acreage, and square footage, the population field will contain a default which represents an estimate of the population for each land use type and subtype selected by the user. If the actual population data is known, the user should override the default value.

After the user has completed entering all of land uses for the project, CalEEMod will add the population values for each land use and the total will be reflected in the population text box located at the bottom of the screen. The value in the total population box cannot be modified by the user.

City Park/Golf Course Building Area Square Feet (text box)

If the user selects a City Park and/or Golf Course land use, a text box will appear at the bottom of the screen that will prompt the user to enter the building square footage of all the buildings that will be located on the City Park and/or Golf Course property (e.g., restrooms/changing rooms, pro-shop, etc.). The user must input site-specific building square footage data because there are no default values for building footprints on these types of land uses. If the building square footage is left blank (e.g., zero square feet), a warning message will appear to remind the user to enter a value in this field.

Recreational Swimming Pool Building Area Square Feet (text box)

If the user selects a Recreational Swimming Pool land use, a text box will appear at the bottom of the screen that will prompt the user to enter the building square footage of all the buildings that will be located on the property (e.g., restrooms/changing rooms, pro-shop, etc.). The user must input site-specific building square footage data because there is no default value for the building footprint on this type of land use. If the building square footage is left blank (e.g., zero square feet), a warning message appear to remind the user to enter a value in this field.

4.3 Construction

After completing the Land Use screen and clicking on the Next button, the Construction screen will appear along with seven tabs/sub-screens that cover the following construction topic areas: Construction Phase; Off-Road Equipment; Dust from Material Movement; Demolition; Trips and VMT, On-Road Fugitive Dust, and Architectural Coatings. To move from one tab/subscreen to another, the user can use the Next and Previous buttons, or click on any of grey tabs. The

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construction tabs/sub-screens contain default information that was obtained from a survey of construction sites conducted by South Coast Air Quality Management District (SCAQMD). The construction survey data is grouped by construction phase and lot acreage and can be found in Appendix E1. The default construction equipment list and phase length data were determined to be the most appropriate for the size and types surveyed. In addition, some data in the survey was extrapolated to create default values for project sizes that were not in the survey. However, if the user has more detailed site-specific equipment and phase information, the user should override the default values.

4.3.1 Construction Phase

The Construction Phase tab is where the user can enter the type of each construction phase and the date range for each phase. . Default phases are based on the total lot acreage of the project. Depending on the project being modeled, not all phases may be necessary so the user may need to delete phases that are not applicable to the project. For example, not all projects require demolition. In addition, the user may need to add multiple phases of similar types for large projects with staged build out scenarios. It is important to note that if a project has demolition, grading, and site preparation phases, the user will need to provide additional project-specific data on the Demolition and Dust from Material Movement sub-screens.

Phase Name and Phase Type

The Phase Name and Phase Type fields will be automatically populated with the following default construction phases: Site Preparation; Demolition; Grading; Building Construction; Paving; and, Architectural Coating. The inclusion of any of these phases will define the types of calculations and default assumptions for on-road vehicle trips and fugitive emissions that occur in subsequent construction sub-screens. The definitions of the default phase types are as follows:

- *Demolition* involves removing buildings or structures.
- *Site Preparation* involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
- *Grading* involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.
- *Building Construction* involves the construction of the foundation, structures and buildings.
- *Architectural Coating* involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.
- *Paving* involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

Start Date and End Date

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The user can enter with the aid of a calendar, the Start Date and End Dates for each construction phase. The default Start Date is the Start of Construction date defined on the Project Characteristics screen. The cells will be automatically populated with a default construction schedule starting with the Demolition phase, with subsequent phases starting the following day after the previous phase's end date. The user may change the defaults to alter the total days estimated for each phase. Because CARB's emission factors vary from year to year, when the user inserts the start and end dates for each construction phase, the model will select the correct emission factors for the year when each piece of off-road equipment will be utilized.

Days per Week

The user can select from a drop down box the number of days per week (either 5, 6, or 7 days) that construction will occur. Five days per week assumes that construction will occur from Monday through Friday, and six days per week assumes that construction will occur Monday through Saturday.

Total Days

The Total Days field is intended to indicate the number of days that it will take to complete a particular construction phase and this field is initially populated with default values. If the End Date or the Days per Week fields are changed, clicking the Total Days field will trigger a recalculation of the Total Days. If the Total Days field for any phase is changed, then once leaving this field, the program will automatically adjust the End Date based on the Start Date for that phase.

4.3.2 Off-Road Equipment

The Off-Road Equipment tab is for the user to select the type and quantity of off-road equipment needed for each construction phase and to define the daily usage schedule. Since equipment lists can be lengthy and vary widely for each construction phase, the user will need to first select the phase from Phase Name drop down list or by clicking on the Previous or Next buttons located next to the phase name, and then select the off-road equipment that will be used for each construction phase. The Off-Road Equipment screen calculates emissions based on the expected off-road equipment engine use for each piece of equipment listed over the duration of the phase length. It is important to note that fugitive emissions from off-road equipment are calculated elsewhere on other construction screens.

After the user enters the Equipment Type, Number of Units, and Hours per Day for each piece of equipment that will be used in any phase, The Horsepower and Load Factor fields will be automatically populated with the default average values from CARB's OFFROAD2011., If equipment-specific information is available, the user can override these default values. In some cases, CARB's OFFROAD2011 emission factors are not available for all years. Thus, if the user selects a construction year that does not have corresponding emission factors, CalEEMod has been programmed to substitute the emissions factors from nearest, lower end (e.g., oldest) year. For example, if construction will occur in year 2037 (a year which does not have emission factors), CalEEMod will substitute the emission factors from year 2035 instead. Since newer

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equipment tends to have less emissions than older equipment, by selecting emission factors from year 2035 (an older year), the calculations may result in a conservative, slight overestimate of emissions.

If the project requires the use of off-road equipment that is not specifically listed in the drop down list, the user can select from three generalized equipment categories to add customized equipment to the analysis: 1) Other Construction Equipment; 2) Other General Industrial Equipment; and, 3) Other Material Handling Equipment. In addition, the user may choose to select a surrogate equipment type which has a similar horsepower rating and load factor. To include water trucks and cement trucks in the analysis, the user needs to first determine if these trucks are off-road or on-road vehicles. If they are only driven off-road, then the user can select the Off-Highway Trucks category in the Off-Road Equipment screen. If the trucks are driven on-road, the user can account for the on-road emissions by entering this information as Additional Vendor Trips on the Trips and VMT screen (see Subchapter 4.3.5).

4.3.3 Dust from Material Movement

The Dust from Material Movement sub-screen is intended for calculating fugitive dust emissions associated with the Site Preparation and Grading phases (defaults) during construction. This sub-screen calculates the following three types of fugitive dust: 1) fugitive dust from dozers moving dirt; 2) fugitive dust from graders or scrapers leveling the land; and; 3) fugitive dust from loading or unloading dirt into haul trucks. These methods have been adapted from USEPA's AP-42 method for Western Coal Mining. Once the enters the amount of material imported and exported to the site, CalEEMod will estimate the number of hauling trips associated with from material transport activities. The user may define the units in terms of Ton of Debris or Cubic Yards. The user may also select whether the import/export of material is phased (e.g., a the same truck that arrives with material departs with another load of material to export in one round trip or two-one way trips. The calculations for non-phased material import/export trips assume that one truck arrives empty and departs full and a different truck arrives full for a total of two round trips (or four one-way trips). Thus, phasing material import and export trips reduces the number of haul trips.

The Total Acres Graded field represents the cumulative distance traversed on the property by the grading equipment, assuming a blade width of 12 feet. In order to properly grade a piece of land, multiple passes with grading equipment may be required. So even though the lot size is a fixed number of acres, the Total Acres Graded could be an order of magnitude higher than the footprint of the lot and is calculated based on the equipment list (including number of equipment), the number of days need to complete the grading and/or site preparation phase, and the maximum number of acres a given piece of equipment can traverse in an 8-hour workday. For more information regarding how Dust from Material Movement is calculated, including grading rates, see Appendix A, Subchapter 4.3.

4.3.4 Demolition

The Demolition sub-screen is intended for the user to enter the amount of material that is demolished, if a demolition phase is selected by the user as part of the construction project.

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The user can select the Size Metric to define the amount of demolished material that is expected to be generated during the demolition phase in terms of Ton of Debris or Building Square Footage. With this data, fugitive dust emissions generated during demolition are calculated. The calculation of fugitive dust emissions during demolition is derived from the methodology described in the report prepared for the USEPA by Midwest Research Institute, Gap Filling PM_{10} Emission Factors for Selected Open Area Dust Sources.

4.3.5 Trip and VMT

The Trip and VMT sub-screen is used to provide the number and length (in terms of vehicle miles traveled or VMT) of on-road vehicle trips for workers, vendors, and hauling for each construction phase. Depending on the land use type and subtype combined with the various construction phases, CalEEMod will populate the fields for Number of Trips, Trip Length, and Vehicle Class for worker, vendor and haul trips, respectively, with default values. The vehicle class descriptor HHDT, MHDT means that there is a 50/50 percent mix of heavy-heavy duty trucks and medium-heavy duty trucks. Similarly, the vehicle class descriptor LDA, LDT1, LDT2 means that there is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively. The user may override the defaults and enter different weightings of vehicle fleet mixes. It is important to note that if the user selects a construction year that does not have corresponding EMFAC2014 emission factors for on-road vehicles, CalEEMod has been programmed to substitute the emissions factors from nearest, lower end (e.g., oldest) year. For example, if construction will occur in year 2037 (a year which does not have emission factors), CalEEMod will substitute the emission factors from year 2035 instead. Since newer equipment tends to have less emissions than older equipment, by selecting emission factors from year 2035 (an older year), the calculations may result in a conservative, slight overestimate of emissions.

CalEEMod quantifies the number of construction workers by multiplying 1.25 times the number of pieces of equipment for all phases (except Building Construction and Architectural Coating). For the Building Construction, the number of workers is derived from a study conducted by the Sacramento Metropolitan Air Quality Management District (SMAQMD) which determined the number of workers needed for various types of land uses and corresponding project size. This study and its analysis are included in Appendix E2. For the Architectural Coating phase, the number of workers is approximately 20% of the number of workers needed during the Building Construction phase.

The number of vendor trips during the Building Construction phase is also derived from a study conducted by the SMAQMD. The SMAQMD trip survey during construction counted cement and water trucks as vendor trips (instead of counting them as off-road vehicle trips) and these trip rates were incorporated into the calculations for the Building Construction phase. If the user deletes the Building Construction phase from the analysis, but the project will require water and/or cement trucks, then the user will need to account for these either as vendor trips under another construction phase or under the Off-Road equipment screen.

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The default values for hauling trips are based on the assumption that a truck can haul 20 tons (or 16 cubic yards) of material per load. If one load of material is delivered, CalEEMod assumes that one haul truck importing material will also have a return trip with an empty truck (e.g., 2 one-way trips). Similarly, a haul truck needed to export material is assumed to have an arrival trip in an empty truck and a loaded departure truck (e.g., 2 one-way trips). Thus, each trip to import and export material is considered as two separate round trips (or 4 one-way trips). However, if the Phase box is checked, the same haul truck that imported the material will be assumed to be the same haul truck that export material resulting in one round trip (or 2 one-way trips).

4.3.6 On-Road Fugitive Dust

The On-Road Fugitive Dust sub-screen defines the variables that will be used to determine the fugitive dust emissions from on-road vehicles driving over paved and unpaved roads during construction. CalEEMod automatically populates the data fields based on the construction phase. The calculations use emission factors from USEPA's AP-42 for paved roads (January 2011 edition) and unpaved roads (November 2006 edition). Each data field is the same as those defined in the aforementioned AP-42 sections.

4.3.7 Architectural Coatings

The Architectural Coatings sub-screen is intended to calculate ROG emissions associated with painting the interior/exterior of residential and non-residential buildings as well as calculate emissions from parking lot painting or striping. The user may override any of the default interior and exterior surface areas estimated for residential and non-residential buildings. In addition, each of these surface types has a different emission factor indicating the ROG content of the paint in grams per liter (g/L). It is important to note that the parking area square footage is not included in the non-residential interior/exterior square footage when calculating emissions attributable to parking lot striping. See Appendix A, Subchapter 4.7 for the methodology of estimating surface areas to be coated from building square footage.

4.4 Operational Mobile

The operational mobile screen is made up of four sub-screens: Vehicle Trips, Vehicle Emissions, Fleet Mix and Road Dust. These screens are used in defining the information necessary to calculate the emissions associated with operational on-road vehicles.

4.4.1 Vehicle Trips

This sub-screen includes the trip rates, trip lengths, trip purpose, and trip type percentages for each land use subtype in the project. The user can edit any of this information by entering a new value in the appropriate cell. Trip rates are in terms of the size metric (thousand square footage or dwelling unit) defined on the land use screen and are listed for weekday, Saturday and Sunday if available. Trip lengths are for primary trips. Trip purposes are primary, diverted, and pass-by trips. Diverted trips are assumed to take a slightly different path than a primary trip and are assumed to be 25% of the primary trip lengths. Pass-by trips are assumed to be 0.1 miles in length and are a result of no diversion from the primary route. Residential trip types are

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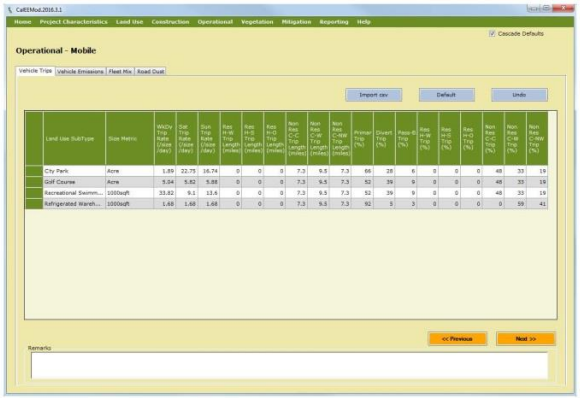
defined as home-work (H-W), home-shop (H-S), and home-other (H-O). Non-residential trip types are defined as commercial –customer (C-C), commercial-work (C-W), and commercial-nonwork (C-NW) such as delivery trips. Appendix A includes the equations and methodology used to calculate motor vehicle emissions from the operation of a project.

The trip rates are based on ITE 9th edition average trip rates for the respective land use categories.



4.4.2 Vehicle Emissions

This sub-screen contains the detailed vehicle emission factors based on EMFAC2014. Appendix A includes the description of how these emission factors were derived from EMFAC2014. It is anticipated that most users will not edit data in this sub-screen. There are separate tabs for annual, summer, and winter emissions values. If the user wants to alter the breakdown of fuel types (catalytic, non-catalytic, and other) within a vehicle class, they will have to provide their own data. This will likely be an infrequent change due to CEQA enforceability requirements.

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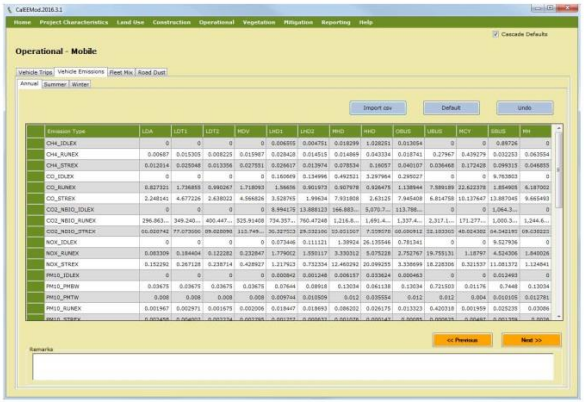
This screen along with the previous screen (Vehicle Trips) and next screen (Fleet Mix) will provide the data for the model to calculate the emissions associated with on-road motor vehicle use. The calculation does not include the fugitive dust emissions from travel over roads as these are associated with the next screen (Road Dust).



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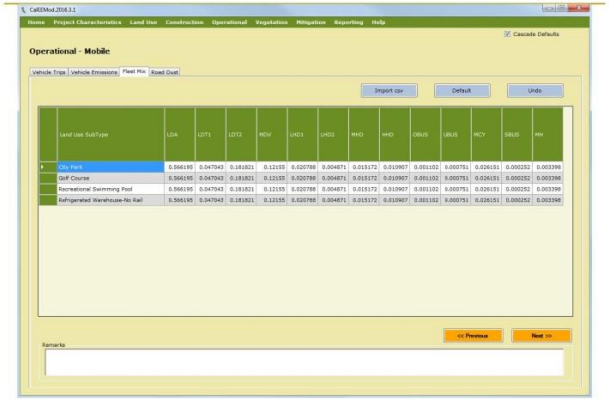
4.4.3 Fleet Mix

CalEEMod Version 2016.3.1 separates the fleet mix from the Vehicle Emissions screen and creates a Fleet Mix screen so that users are able to change default fleet mix associated with different land use subtypes.



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4.4.4 Road Dust

This sub-screen is used to change any of the default values that are used in the USEPA's AP-42 methods for calculating fugitive emissions from paved and unpaved roads. The defaults for the road dust (e.g., material silt content, material moisture content, and mean vehicle speed) are statewide averages, but the user has the ability to override the defaults if data specific to the project is known. Local jurisdictions can also provide guidance to users as to what default properly reflects known regional road dust parameters.

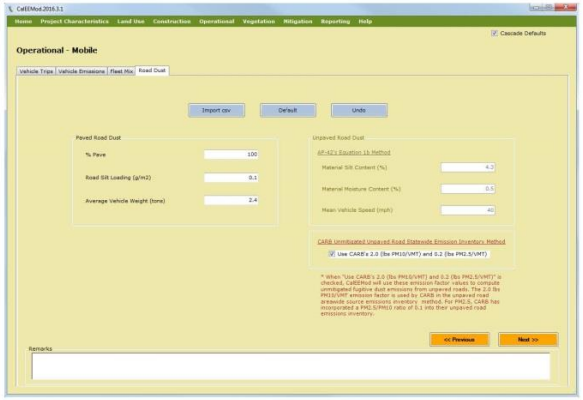
For the San Luis Obispo region, the user is recommended to provide the following unpaved road dust parameters overriding the statewide defaults if users choose to use USEPA's AP-42 methods:

9.3 for Material Silt Content (%) *(instead of 4.3 statewide default)*

0.1 for Material Moisture Content (%) *(instead of 0.5 statewide default)*

32.4 for Mean Vehicle Speed (mph) *(instead of 40 statewide default)*

For San Luis Obispo County APCD and Sacramento Metropolitan AQMD, the user has a new default option in CalEEMod Version 2016.3.1 to use CARB's 2.0 lbs PM_{10}/VMT[9] as the unmitigated fugitive dust emission factor for unpaved roads during the operational phase. An emission factor of 0.2 lbs $PM_{2.5}$/VMT is applied based on a 10% $PM_{2.5}$/ PM_{10} ratio[10, 11]. By checking the box, the program will use CARB's emission factor to override the calculated emission factor based on USEPA AP-42. Note: For project locations other than San Luis Obispo County APCD and Sacramento Metropolitan AQMD, CARB's 2.0 lbs PM_{10}/VMT is not a selection option.



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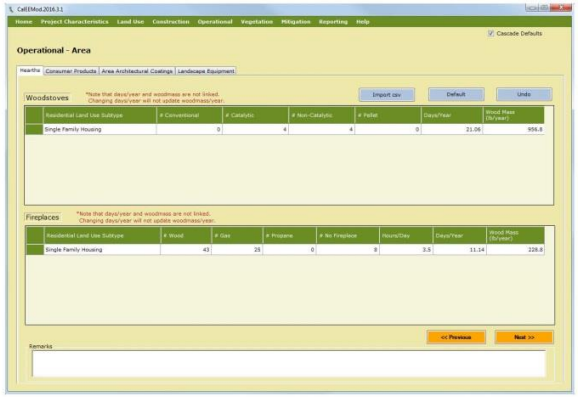
4.5 Area

The area source screen consists of four sub-screens: Hearths, Consumer Products, Area Architectural Coatings, and Landscaping Equipment. Natural gas emission variables from all uses except hearths are included in the energy use screen (described in Section 4.6).

9 Available at: http://www.arb.ca.gov/ei/areasrc/fullpdf/full7-10.pdf
10 Available at: http://www3.epa.gov/ttnchie1/ap42/ch13/related/mri_final_fine_fraction_dust_report.pdf
11 Available at: http://www.arb.ca.gov/app/emsinv/emssumcat_query.php?F_YR=2015&F_DIV=-4&F_SEASON=A&SP=2009&F_AREA=CA#0

4.5.1 Hearths and Woodstoves

This sub-screen allows the user to enter the number of woodstoves and hearths of various types as well as the usage of these devices. Woodstoves are separate from fireplaces since a home may have both and these devices may have different use patterns. The number of devices that is entered for each device type represents the total number of devices installed in the dwelling units for a particular land use. Appendix A contains the emissions calculation methodology and details of variables that the user cannot override. Some of these emissions may be classified as biogenic and are therefore reported as CO_2-Biogenic. For most locations a default percent of hearths and stoves was provided by air districts and is multiplied through. The number of devices was chosen to include in CalEEMod instead of a percentage to allow for incorporation of various air district rules regarding hearths and woodstoves in new residences without having specialized data entry screens. Commercial land uses by default do not have hearths or woodstoves in CalEEMod. These are included for those cases where they may occur such as in restaurants or hotels.



The San Joaquin Valley jurisdiction has a regulatory limit on the number of hearths depending upon the type and number of residential development. The regulatory limit is generated by CalEEMod but all the input parameters (e.g., unit density, etc.) are necessary to determine the value. Thus, the regulatory limit is disclosed during the reporting stage under the Default Value

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box in the report. The model, however, calculates emission impacts from the number of hearths inputted on the Area source screen (listed under the New Value column in the report). Therefore, if the user wants to calculate emissions from regulatory limit, the report needs to be run to determine the regulatory limit and the user needs to go back to the Area Source screen to input that value and re-run the report. If the user chooses to calculate emissions from a different number of hearths (e.g., a number of hearths less than the regulatory limit), then that number needs to be inputted on the Area Source screen to properly calculate emissions. Again, the report will provide the regulatory limit under the Default Value column and the user input value under New Value column.

4.5.2 Consumer Products

Consumer products are various solvents used in non-industrial applications which emit ROGs during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics and toiletries. SCAQMD has developed an emission factor based on the total of all building square footage for both residential and non-residential buildings. Details of how this emission factor was developed can be found in Appendix E. The user can change this emission factor if they have more relevant data. CalEEMod Version 2016.3.1 separates ROG emissions from pesticides/fertilizers for City Parks and Golf Courses and ROG emissions from parking surface degreasers from the general category consumer products. CalEEMod Version 2016.3.1 also assumes that there would be no ROG emissions from the actual pool surface area for Recreational Swimming Pools because the chemicals used for maintaining pools are not considered to be ROGs. Details of how the ROG emission factors for pesticides/fertilizers and parking surface degreasers were determined can be found in Appendix E.

4.5.3 Area Architectural Coatings

This sub-screen has text boxes for the reapplication rate and coating ROG content for each building surface type and parking surface. The reapplication rate is the percentage of the total surface area that is repainted each year. A default of 10% is used, meaning that 10% of the surface area is repainted each year (i.e., all surface areas are repainted once every 10 years). Daily emissions divide the annual rate by 365 days per year. This is based on assumptions used by SCAQMD in their district rules regarding architectural coatings. Some districts provided details on their coating regulations that phase-in over time, which have been incorporated to the extent feasible, given the general classifications of paint (interior or exterior for residential and non-residential). Coating ROG content from state regulations are used for air districts that did not provide specific architectural coating information. Consult your local air district for suggested values that may be lower than the state regulations.

The ROG contents under the Operational Area Architectural Coatings screen (either CalEEMod defaults or site-specific values defined by users) become the default ROG contents for the Area Mitigation screen. The user may check the box under the Area Mitigation screen and specify a lower ROG content limit.

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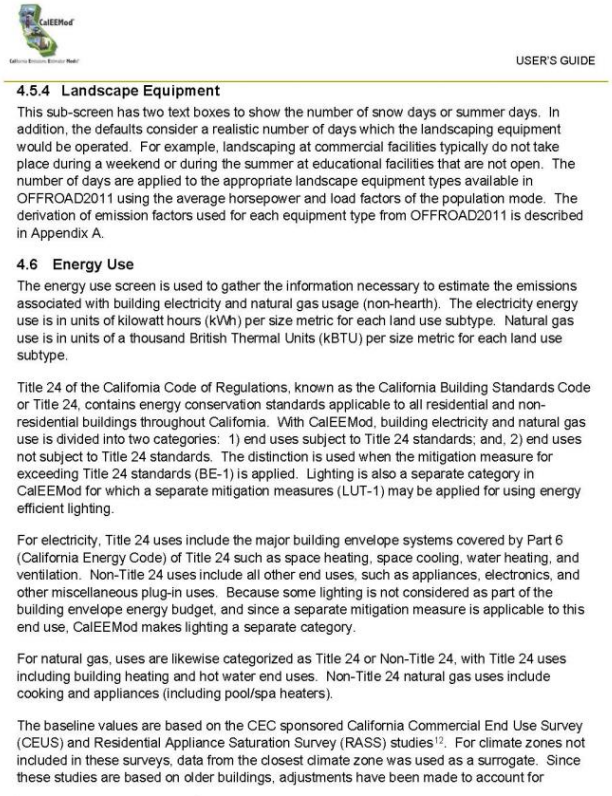

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4.5.4 Landscape Equipment

This sub-screen has two text boxes to show the number of snow days or summer days. In addition, the defaults consider a realistic number of days which the landscaping equipment would be operated. For example, landscaping at commercial facilities typically do not take place during a weekend or during the summer at educational facilities that are not open. The number of days are applied to the appropriate landscape equipment types available in OFFROAD2011 using the average horsepower and load factors of the population mode. The derivation of emission factors used for each equipment type from OFFROAD2011 is described in Appendix A.

4.6 Energy Use

The energy use screen is used to gather the information necessary to estimate the emissions associated with building electricity and natural gas usage (non-hearth). The electricity energy use is in units of kilowatt hours (kWh) per size metric for each land use subtype. Natural gas use is in units of a thousand British Thermal Units (kBTU) per size metric for each land use subtype.

Title 24 of the California Code of Regulations, known as the California Building Standards Code or Title 24, contains energy conservation standards applicable to all residential and non-residential buildings throughout California. With CalEEMod, building electricity and natural gas use is divided into two categories: 1) end uses subject to Title 24 standards; and, 2) end uses not subject to Title 24 standards. The distinction is used when the mitigation measure for exceeding Title 24 standards (BE-1) is applied. Lighting is also a separate category in CalEEMod for which a separate mitigation measures (LUT-1) may be applied for using energy efficient lighting.

For electricity, Title 24 uses include the major building envelope systems covered by Part 6 (California Energy Code) of Title 24 such as space heating, space cooling, water heating, and ventilation. Non-Title 24 uses include all other end uses, such as appliances, electronics, and other miscellaneous plug-in uses. Because some lighting is not considered as part of the building envelope energy budget, and since a separate mitigation measure is applicable to this end use, CalEEMod makes lighting a separate category.

For natural gas, uses are likewise categorized as Title 24 or Non-Title 24, with Title 24 uses including building heating and hot water end uses. Non-Title 24 natural gas uses include cooking and appliances (including pool/spa heaters).

The baseline values are based on the CEC sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies[12]. For climate zones not included in these surveys, data from the closest climate zone was used as a surrogate. Since these studies are based on older buildings, adjustments have been made to account for

12 CEC. October 2010. Residential Appliance Saturation Survey. Available at: http://www.energy.ca.gov/appliances/rass
CEC. March 2006. Commercial End-Use Survey. Available at: http://www.energy.ca.gov/ceus/

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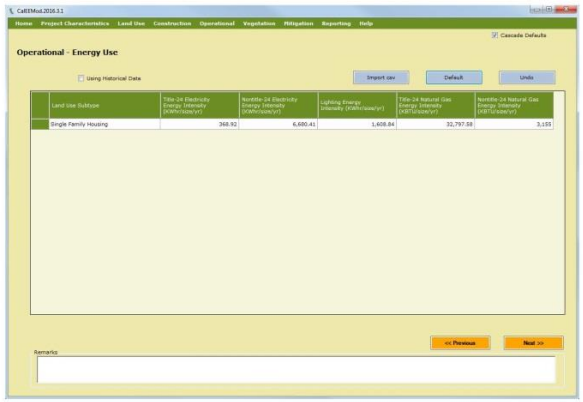
changes due to Title 24 building codes as described in Appendix E. The user should select the use historical box if they only want an adjustment to the 2005 standards which were in effect when CARB developed its Scoping Plan 2020 No Action Taken predictions. After selecting the historical button, the user must also click the default button to load the historical default values.



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4.7 Water and Wastewater Use

This screen estimates the land uses contribution of GHG emissions associated with supplying and treating water and wastewater. This screen is used to enter the amount of water in gallons used indoors and outdoors for each land use subtype[13]. The indoor water is also used to

13 Gleick, P.H.; Haasz, D.; Henges-Jeck, C.; Srinivasan, V.; Cushing, K.K.; Mann, A. 2003. Waste Not, Want Not: The Potential for Urban Water Conservation in California. Published by the Pacific Institute for Studies in Development, Environment, and Security. Full report available at: http://www.pacinst.org/reports/urban_usage/waste_not_want_not_full_report.pdf. Appendices available at: http://pacinst.org/publication/waste-not-want-not/

Dziegielewski; B.; Kiefer, J.C.; Optiz, E.M.; Porter, G.A.; Lantz, G.L.; DeOreo, W.B.; Mayer, P.W.; Nelson, J.O. 2000. Commercial and Institutional End Uses of Water. Published by the American Water Works Association Research Foundation.

Northern California Golf Association. Improving California Golf Course Water Efficiency. Available at: http://www.water.ca.gov/wateruseefficiency/docs/2004Apps/2004-079.pdf

estimate the amount of wastewater. The electricity intensity factor for various phases of providing water is provided. Depending on the specific water supply used or treatment method used these numbers can vary over a wide range. Supplying water is bringing the water from its primary source such as the ground, river, or snowpack to the treatment plant. Distributing the water is bringing the water from the treatment plant to the end users. The electricity intensity factors are multiplied by the utility GHG emissions intensity factors for the GHGs and are classified as indirect emissions. The default electricity intensity is from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California[14]. The location will automatically select the appropriate values if using these defaults. Since the electricity can vary greatly based on locations, the user should override these values if they have more specific information regarding their specific water supply and treatment.

Wastewater may also have direct emissions of GHGs. These depend on the type of wastewater treatment system (e.g., septic, aerobic or lagoons) used and therefore the wastewater treatment type percentages are variables. In addition, the model calculates impacts if the solids are digested either through an anaerobic digester or with co-generation from combustion of digester gas. Each type has associated GHG emission factors. Some of these may be classified as biogenic. Not all of the biogenic emissions are accounted for since there are not adequate emissions factors at this time. Refer to Appendix A on how to properly change the defaults, if necessary, and the methodology used to calculate impacts from wastewater treatment.

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Cont.

[14] CEC-500-2006-118. Available at http://www.energy.ca.gov/2006publications/CEC-500-2006-118/CEC-500-2006-118.PDF.

4.8 Solid Waste

The solid waste screen determines the GHG emissions associated with disposal of solid waste into landfills. In order to estimate the eventual contribution of GHG emissions from solid waste disposed by a land use annually, the total amount of carbon dioxide and methane that would be evolved over the span of many years is calculated. This is based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste[15]. Waste disposal rates by land use and overall composition of municipal solid waste in California is primarily based on CalRecycle data. The amount of methane emitted depends on characteristics of the landfill, and therefore the default percentage is based on the types of landfills assumed by CARB in their GHG emissions inventories. Portions of these emissions are biogenic. The defaults for the gas capture (e.g., no capture, flaring, energy recovery) are statewide averages except for Santa Barbara APCD which has a 100% landfill capture gas flare. The user has the ability to override the defaults if the gas capture at the landfill to be used by the project is known. Local jurisdictions can also provide guidance to users as to what default properly reflects known regional solid waste gas capture.

15 IPCC. 2006. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 5 Waste. Available at http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html.

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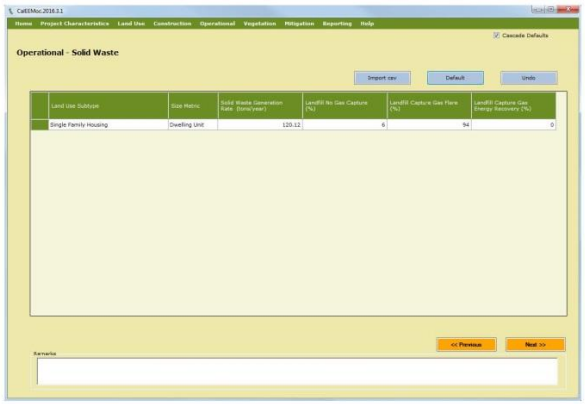

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4.9 Off-Road Equipment

The Operational - Off-Road Equipment sub-screen allows the user to identify any off-road equipment used during operational activities (e.g., forklifts, cranes, loaders, generator sets, pumps, pressure washers, etc.) at the project site. Because such equipment cannot be assumed to be needed for a particular land use project, a user must provide the data in order for CalEEMod to calculate the resulting emissions from off-road equipment operation. A dropdown list of off-road equipment is provided for the user to identify each piece of equipment. The model requires the following specific information per equipment type. The user would need to provide the number of pieces for each equipment type. The model assumes an operation activity of 8 hours per day and 260 days per year, as well as the horsepower and load factor of the equipment type, but the user has the ability to override the default assumptions with project specific information. Finally, the model assumes diesel fuel, but a dropdown menu is provided to allow the user to choose bio-diesel, compressed natural gas (CNG) or electrical if known, to power the equipment.

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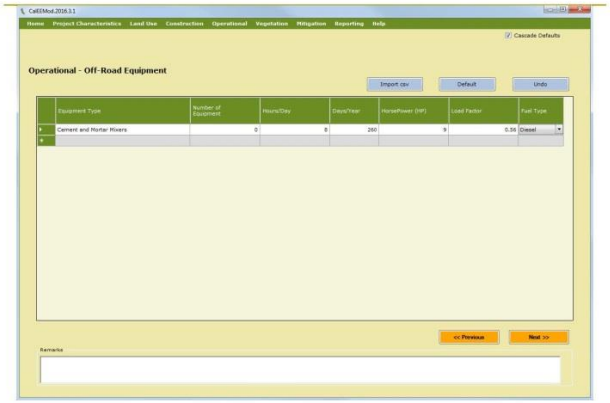

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4.10 Stationary Sources

The Stationary Sources screen consists of five sub-screens: Emergency Generators and Fire Pumps and their default emission factors, Process Boilers and their default emission factors, and User Defined Sources. Consult with the local air district to determine if permitted stationary sources should be included in the project analysis using CalEEMod.

4.10.1 Emergency Generator and Fire Pumps and Default Emission Factors

Two sub-screens allow the user to enter emergency power generators and diesel fueled fire pumps and to estimate emissions. This type of equipment operates only for maintenance and testing, or during emergency situations, such as power failures. To calculate emissions, the user must enter the engine rating (in horsepower), the anticipated maximum daily usage, and the anticipated maximum annual usage into the Emergency Generators and Fire Pumps sub-screen. The user may change the default load factor. The default emission factors for the equipment are shown on the separate Generators/Fire Pumps EF (emission factor) sub-screen. The user can replace the default emission factors, but needs to provide custom emission factors in the predefined units. See Appendix A for the sources of default emission factors and emission calculation methodology.

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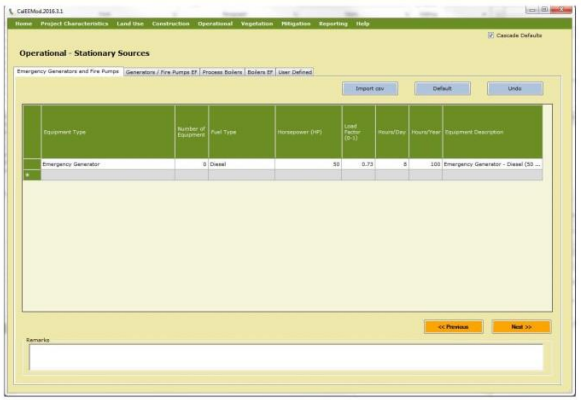

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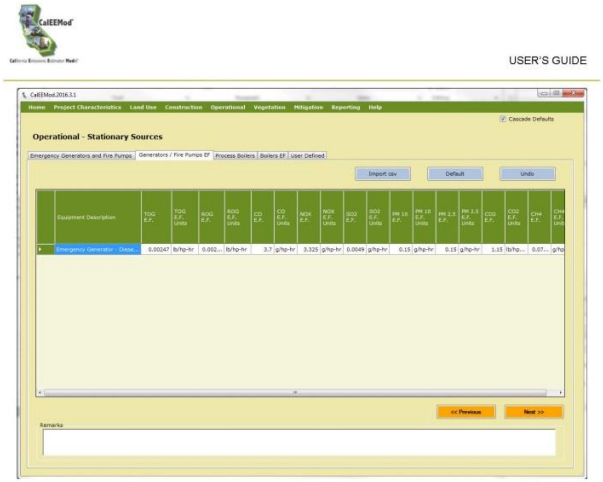

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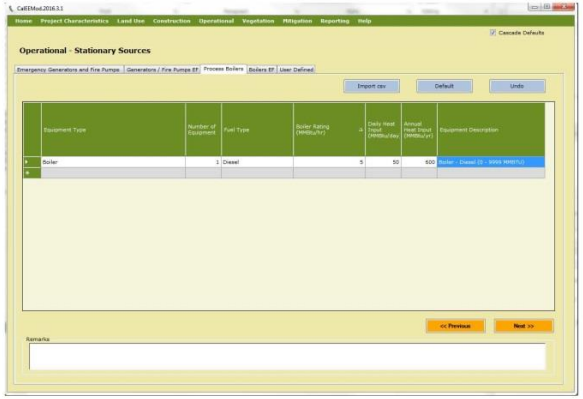
USER'S GUIDE

4.10.2 Process Boilers and Default Emission Factors

Two sub-screens allow the user to enter process boilers and to estimate emissions. Do not use this option for boilers providing space heating or building hot water, as these uses are included building energy use (See Subchapter 4.6). To calculate process boiler emissions, the user must enter the boiler rating (in million BTU/hr) and maximum anticipated daily and annual heat input in the Process Boilers sub-screen. The default emission factors for boilers are shown on the separate Boiler EF (emission factor) sub-screen. The user can replace the default emission factors, but needs to provide custom emission factors in the predefined units. See Appendix A for the sources of default emission factors and emission calculation methodology.



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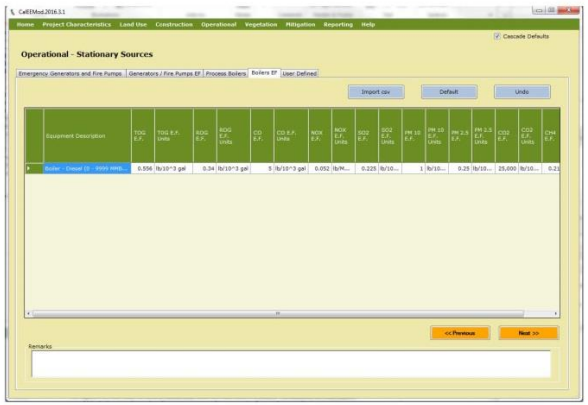

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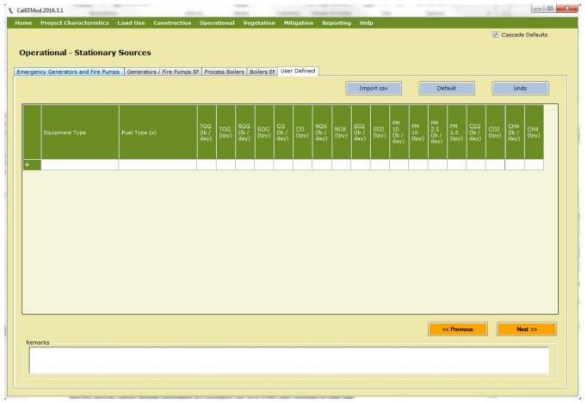
4.10.3 User Defined

An option for the user to define stationary sources other than emergency generators, fire pumps and process boiler has been included in the User Defined sub-screen. Emissions for this source would include any other miscellaneous sources that typically require permits to operate issued by an air district. Emissions may be manually entered here, either by transferring values from the permits to operate, or by calculating emissions outside of CalEEMod. Any emissions entered here will be transferred to the appropriate reports.



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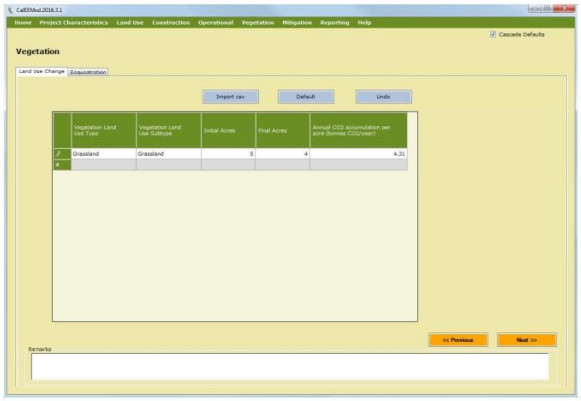
4.11 Vegetation

The vegetation screen is used to estimate the one-time change in carbon sequestration capacity due to a project. There are two sub-screens, Land Use Change and Sequestration. The methods used are based on IPCC[16].

4.11.1 Land Use Change

The Land Use Change sub-screen estimates GHG emissions due to a change in vegetation resulting from a change in land use type. The user enters the vegetation land use type, the initial and final acreage of the vegetation land use type, and the annual carbon dioxide equivalent accumulation per acre if the user chooses to override the default value. Settlement land use acreage is not considered since it is a net zero at steady state unless trees are added.



4.11.2 Sequestration

This sub-screen of Vegetation is used to estimate the GHG emissions associated with the sequestration of net new trees added to the project site. Consistent with IPCC recommendations a 20 year active growth period is assumed. The user enters the tree type or

16 IPCC. 2006. 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 4. Available at http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html

EIS-C-A-70
Cont.

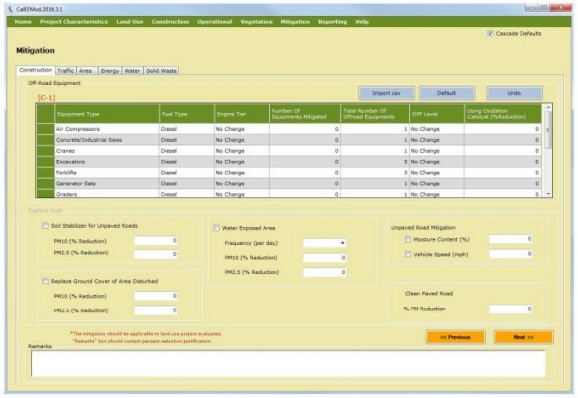
miscellaneous if it is not known, and the total number of trees. The user can override the default carbon sequestration rate.

4.12 Mitigation

The mitigation screen consists of six sub-screens that the user can indicate and supply the necessary information to estimate the emissions after mitigation measures have been implemented. The mitigation measures included in CalEEMod are largely based on the CAPCOA Quantifying Greenhouse Gas Mitigation Measures (http://www.capcoa.org/wp-content/uploads/downloads/2010/09/CAPCOA-Quantification-Report-9-14-Final.pdf) document. The CAPCOA measure numbers are provided next to the mitigation measures in CalEEMod to assist the user in understanding each measure by referencing back to the CAPCOA document.This User's Guide focuses on key aspects of the Mitigation sub-screens that users should pay particular attention.

4.12.1 Construction Mitigation

This sub-screen consists of a datagrid of off-road construction equipment to apply various mitigation measures and check boxes with supplemental information for fugitive dust emissions mitigation.



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USER'S GUIDE

To apply mitigation to construction equipment, the user selects the equipment type, notes the number of equipment mitigated (of the total number of off-road equipment listed), and type of mitigation that applies. If substantial evidence supporting reductions was available at the time of development, options include fuel type (diesel, CNG, electric, hybrid, biodiesel), engine tier (typically select Tier 4), diesel particulate filter tiers (Tier 3 being the most effective), and use of oxidative catalysts. The program estimates how much if any increase or decrease in emissions to apply for each pollutant. Some mitigation measures have trade-offs in pollutant reductions and therefore may result in increases of some pollutants. The mitigation option to use alternative fuel for construction equipment is consistent with mitigation measure C-1 in the CAPCOA Quantifying GHG Mitigation document.

To apply mitigation to construction fugitive dust, the user selects the check box in front of the mitigation measure name, and enters in the appropriate information in the drop down or text boxes. Some fugitive dust mitigation required by some air districts do not appear here since the fugitive dust source they mitigate is not quantified by CalEEMod, in particular this includes fugitive dust generated by wind over land and storage piles. Since the fugitive dust source is not quantified it is not appropriate to apply the reduction.

For Unpaved Road Mitigation for construction fugitive dust, the maximum vehicle speed and the minimum moisture content for unpaved roads are entered. Defaults for these values are those entered on the On-Road Fugitive Dust screen. Mitigated emissions are calculated using the VMT from on-road vehicles traveling along unpaved roads, previously calculated from the percentages entered on the On-road Fugitive Dust Screen (e.g., % Pave Worker, % Pave Vendor or % Pave Hauling).

Users may check the boxes and provide a lower vehicle speed and a higher moisture content to conduct the mitigation calculation. If during a particular construction phase the user defined mitigated vehicle speed is higher than the unmitigated vehicle speed and/or the user defined mitigated moisture content is lower than the unmitigated moisture content, a warming message will be displayed. In this case, the unmitigated values will be used, resulting in no mitigation being calculated.

4.12.2 Traffic Mitigation

There are two traffic mitigation sub-screens that the user can select from, Land Use & Site Enhancement and Commute. First, the user must select the Project Setting as defined in the CAPCOA document (pp. 59-60).

- Low Density Suburban: An area characterized by dispersed, low-density, single-use, automobile dependent land use patterns, usually outside of the central city (a suburb).
- Suburban Center: An area that serves the population of the suburb with office, retail and housing which is denser than the surrounding suburb.

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EIS-C-A-70
Cont.

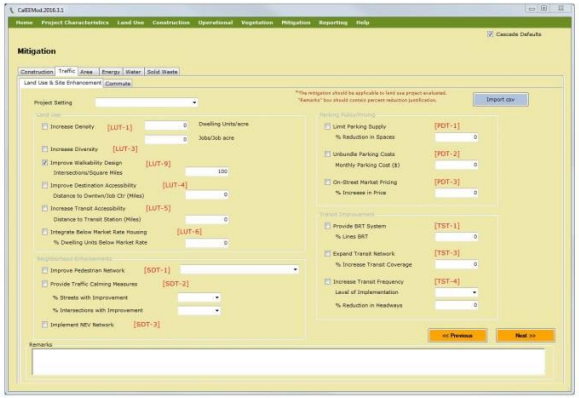
CalEEMod

USER'S GUIDE

- Urban: An area which is located within the central city with higher density of land uses than you would find in the suburbs. It may be characterized by multi-family housing and located near office and retail.
- Urban Center *(referred to as Compact Infill in the CAPCOA document)*: An area which is located within or contiguous with the central city. Examples may include redevelopment areas, abandoned sites, or underutilized older buildings/sites.

If the CAPCOA measure did not distinguish between Suburban Center and Low Density Suburban, values for Low Density Suburban were used. Similarly, if Urban Center and Urban values were not distinguished, Urban values were used.

The user checks the box next to each mitigation measure and fills in the appropriate information as required. The maximum reduction caps defined in the CAPCOA Quantifying GHG Mitigation document are integrated into these calculations. The CAPCOA traffic mitigation measure numbers included in CalEEMod are the following: LUT-1, LUT-3, LUT-9, LUT-4, LUT-5, LUT-6, SDT-1, SDT-2, SDT-3, PDT-1, PDT-2, PDT-3, TST-1, TST-3, TST-4, TRT-1, TRT-2, TRT-4, TRT-15, TRT-14, TRT-6, TRT-7, TRT-11,TRT-3, and TRT-13. The NEV network mitigation measure (SDT-3) assumes the low end of the CAPCOA recommendations.



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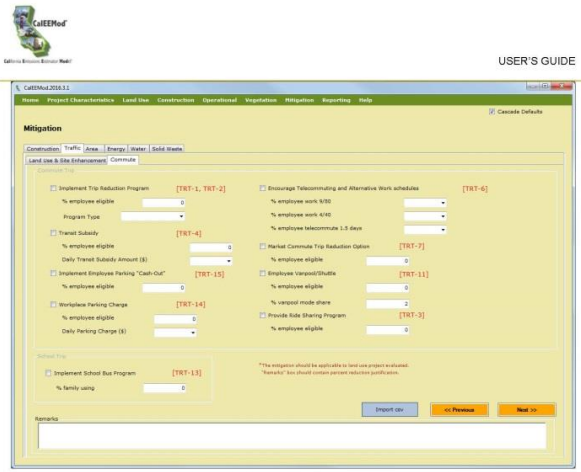

EIS-C-A-70
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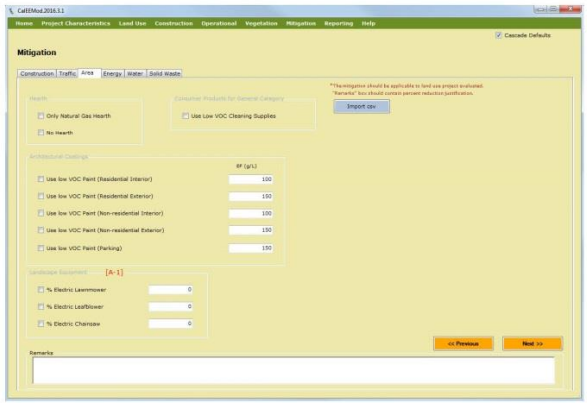
4.12.3 Area Mitigation

The user can select from a few area source mitigation measures on the Area sub-screen by checking the appropriate box and supplying any additional information in the text boxes. These measures include all natural gas hearths, no hearths, electric landscaping equipment use, reduced ROG coatings, and reduced general category consumer product ROG content. The area landscaping mitigation to prohibit gas powered landscape equipment is consistent with mitigation A-1 in the CAPCOA Quantifying GHG Mitigation document.



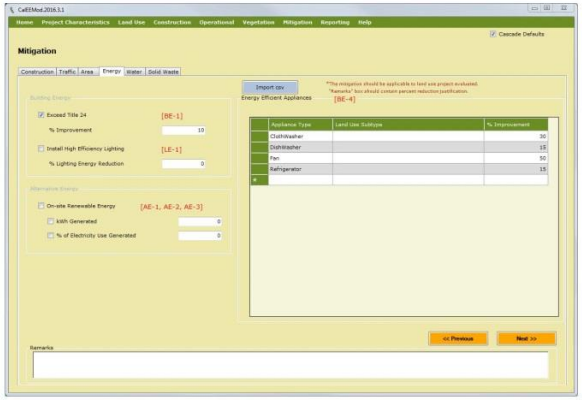
4.12.4 Energy Mitigation

The user selects energy mitigation measures on the Energy sub-screen by using the check boxes or the datagrid. These correspond to CAPCOA Mitigation Measures LE-1, BE-1, AE-1, AE-2, AE-3 and BE-4 as listed in the CAPCOA Quantifying GHG Mitigation document. The lighting is a percentage reduction in lighting as supplied by the user. The datagrid is used to enter the land use subtypes that will use energy efficient appliances. The percent improvement is the typical percent improvement above standard appliances according to the 2008 Energy Star Annual Report[17]. Alternative Energy has two methods to enter the amount of alternative energy. The first is the amount of kW-hr generated. The second is the percentage of the total

17 Available at: https://www.energystar.gov/ia/partners/annualreports/annual_report_2008.pdf

EIS-C-A-70
Cont.

electricity use by buildings that is generated. At this time alternative energy methods that are not carbon neutral are not quantified. To apply the amount of alternative energy only one of the two methods (kW-hr or percentage) needs to be entered for CalEEMod to calculate emission reductions.



4.12.5 Water Mitigation

On the Water sub-screen, water mitigation can either be estimated as the percent reduction based on a water conservation strategy or the other individual mitigation measures. The CAPCOA Quantifying GHG Mitigation document includes water supply and use measures WSW-1 & 2, and WUW-1 through 5.

For CAPCOA Mitigation Measure WSW- 3 (Use Locally Sourced Water Supply), using locally-sourced water or water from less energy-intensive sources reduces the electricity and indirect CO_2 emissions associated with water supply and transport because water from local or nearby groundwater basins, nearby surface water and gravity-dominated systems have smaller energy-intensity factors. This mitigation measure is not included in the Water mitigation sub-screen, therefore, to implement WSW-3, the user should alter the energy intensity values in water and run a separate CalEEMod run to accommodate these values.

EIS-C-A-70
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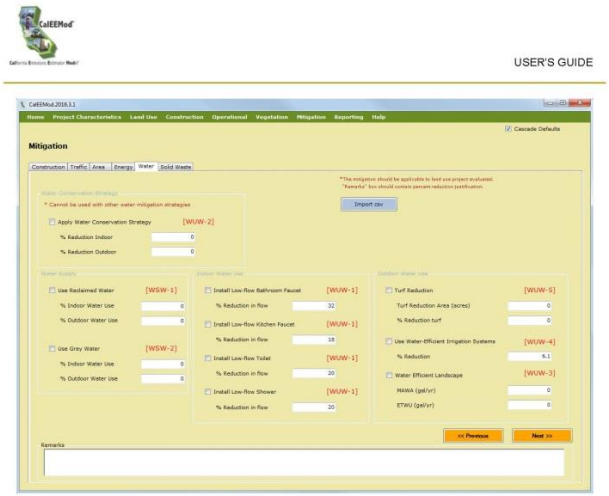

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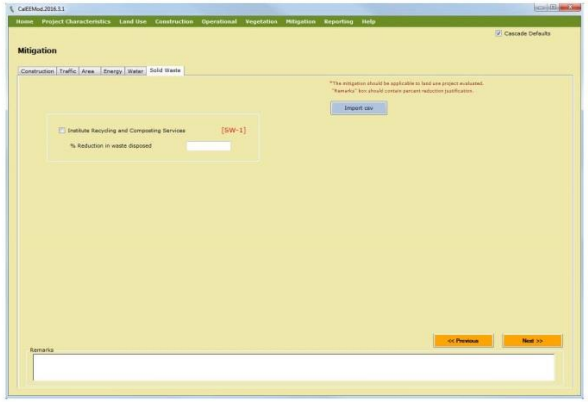
4.12.6 Solid Waste Mitigation

The user can get calculate an emissions reduction for recycling waste. This mitigation measure corresponds to CAPCOA Mitigation Measure: SW-1.



4.13 Reporting

The user initiates final emission calculations by selecting the report and clicking on the Recalculate All Emissions and Run Report button. The available reports include: Annual, Summer (peak) Daily, Winter (peak) Daily, Mitigation and Summary of peak daily emissions and annual GHG emissions. A separate report viewer will come up. From this report viewer, the user can view their report on-screen, print reports, save as Microsoft Excel xls file or save as an Adobe Acrobat pdf file, or in the case of the Mitigation report, a Microsoft Word doc file. The data in the Excel file has already been calculated and placed in the grids as text, thus, for example, the user cannot change an emission value and expect the report to change the summed total value. These values, however, can be copied to new Excel spreadsheet for any further desired calculation with the data.

EIS-C-A-70
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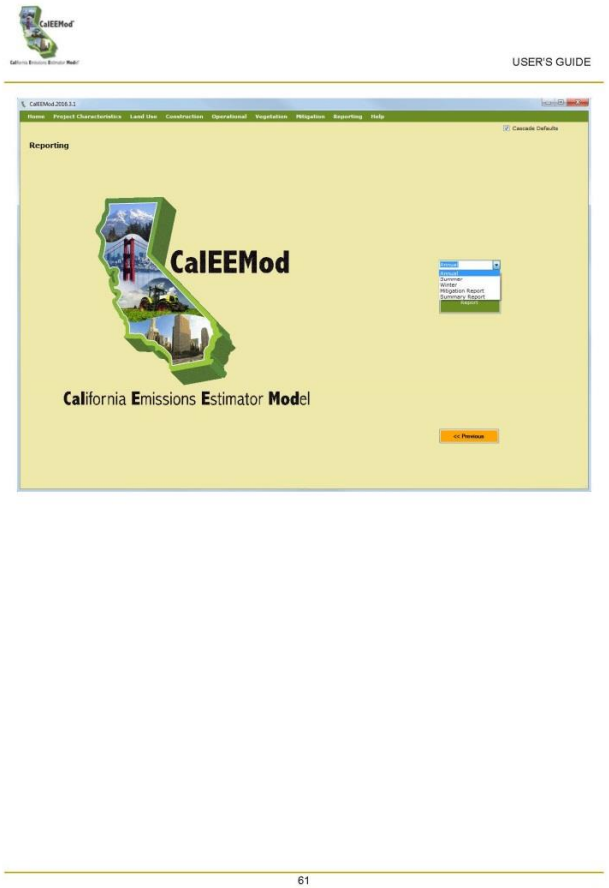

EIS-C-A-70
Cont.

Comment Letter EIS-D

From: McPherson, Douglas
To: Balo, Keli
Subject: Fwd: EQ-170062, Pure Water San Diego Program: North City Project
Date: Thursday, December 14, 2017 4:09:53 PM
Attachments: Topo_California_Miramar Mounds.pdf
NNLBrief.CA.MIMO.2006.doc

Doug McPherson, SCAO-1500
Environmental Protection Specialist
Bureau of Reclamation, Southern California Area Office
27708 Jefferson Avenue, Suite 202, Temecula, CA 92590
(951) 695-5310 dmcpherson@usbr.gov

---------- Forwarded message ----------
From: **Jenkins, Laurette** <laurie_lee_jenkins@nps.gov>
Date: Wed, Dec 13, 2017 at 10:06 AM
Subject: EQ-170062, Pure Water San Diego Program: North City Project
To: dmcpherson@usbr.gov
Cc: Black CIV Charles H <charles.h.black@usmc.mil>

Good Morning Doug,

I am reviewing projects in the Environmental Review Tracking system and wanted to make you aware of the Miramar Mounds National Natural Landmark that is within Marine Corps Air Station Miramar. The proposed project does NOT have direct impacts on landmark. See attached Landmark Brief and map. EIS-D-1

Please call if you have questions,
Laurie

Laurie Lee Jenkins
Laurie_Lee_Jenkins@nps.gov
Natural Landmarks Program
Pacific West Region
360-854-7206 (office)
360-305-9187 (work cell)

National Park Service
North Cascades National Park
810 State Route 20
Sedro Woolley, WA 98284

Supporting the Conservation of America's Natural Heritage
http://www.nature.nps.gov/nnl/

Response to Comment Letter EIS-D

Natural Landmarks Program
Laurie Lee Jenkins
December 13, 2017

EIS-D-1 Comment noted. The City acknowledges that the Project does not have impacts to the Miramar Mounds National Natural Landmark that is within the Marine Corps Air Station Miramar.

U.S. Department of the Interior
National Park Service
National Natural Landmarks Program

Name: Miramar Mounds

Location: San Diego County, California

Description:

The mima mound-vernal pool site encompasses 400 acres within the 50,000-acre Marine Corps Air Station, Miramar about 12 miles north of central San Diego. The mima mounds are 10 by 15-foot diameter hummocks covered with chamise chaparral. They rise 3 – 4 feet above adjacent depressions, or vernal pools. During the rainy season, water is held in the vernal pools by an impervious subsurface hardpan layer and by the influence of clay components in the topsoil. As the physical and chemical conditions change with evaporation, a unique assortment of flora and fauna becomes evident in concentric rings around the depressions.

Significance:

Mima mound-vernal pool areas are found in only a few regions of the world outside the South Pacific Border Region in California. Nowhere else, however, are they known to be as well-developed and as biologically diverse. Of the six different types of mima mound-vernal pool areas in California, Miramar Mounds is the best example of the type located on essentially level but rocky remnants of old alluvium. The area is the type locality of the Redding complex, soils that are of special interest because of their great age and profile development. It is also one of the few remaining areas where these soils and their natural vegetation are relatively undisturbed. Within the complex botanical communities of the vernal pools are the federally endangered San Diego Mesa Mint and two rare species, California orcutt grass and the San Diego coyote thistle.

Ownership: Federal

Designation: June 1972

Evaluation: John F. Shrawder, California State University, Sacramento, 1972

Natural Landmark Brief December 2006

EIS-D-1
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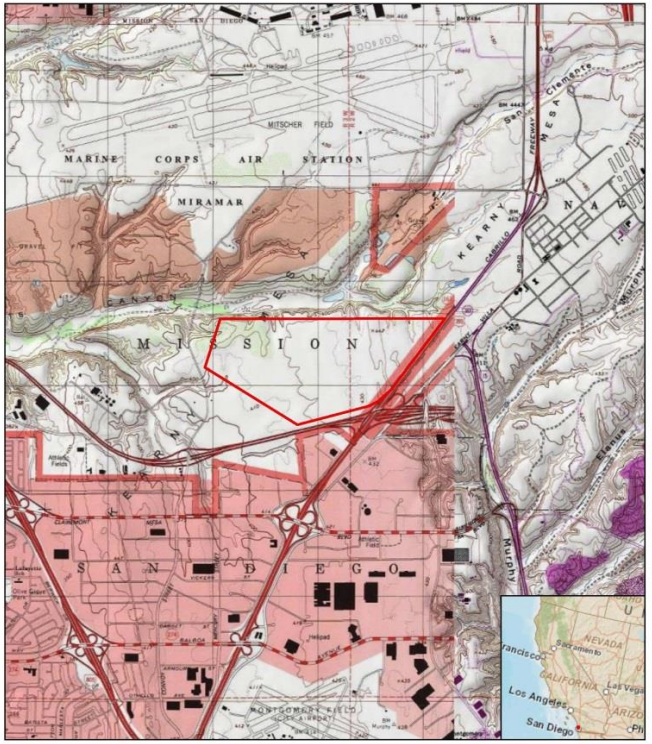
MARINE CORPS AIR STATION
MIRAMAR
MITSCHER FIELD
MISSION
SAN DIEGO
KEARNY MESA
Murphy Canyon
MONTGOMERY FIELD
NEVADA
CALIFORNIA
Los Angeles
San Diego
MIRAMAR MOUNDS
NATIONAL NATURAL LANDMARK
San Diego County, California
NNL Boundary
Calculated Acreage: 389.4
0 0.45 0.9
Miles
N

EIS-D-1
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Comment Letter EIS-E

December 22, 2017

Louis Rodolico
5906 Dirac Street
San Diego, CA 92122
lourodolico@yahoo.com

Doug McPherson
Southern California Area Office
Bureau of Reclamation
27708 Jefferson Avenue
Suite 202, Temecula
CA 92590
Email; dmcpherson@usbr.gov.
link: https://www.sandiego.gov/water/purewater/purewatersd/reports

Re: North City Project, Pure Water San Diego Program Environmental Impact Report / Environmental Impact Statement (EIR/EIS) SCH #2106081016 / PTS #499621

Mr. McPherson;

Let me start out by saying I have toured both the Pure Water Facility and the Metro Bio-Solids Center. The future belongs to these technologies. However, until recently, the community was kept in the dark about the risks associated with the high pressure sewage lines. I do not think most people realize that sewer lines are almost always at zero PSI and move due to gravity. However the forcemains in this EIR/EIS proposal are transporting raw sewage under very high pressures, uphill through residential neighborhoods. We must mitigate the risk they impose on the community or find another answer. Here are some questions that came to mind after reviewing the 10% design solution and the 60% Engineering drawings that were released a month ago:

EIS-E-1

Response to Comment Letter EIS-E

Louis Rodolico
December 22, 2017

EIS-E-1 Comment noted. The City does not agree that the transport of sewage under pressurized conditions poses a significant risk of upset or leaks, and therefore, no mitigation would be required.

The wastewater forcemain would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes.

As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma Wastewater Treatment Plant. This information is further

	discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring. As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and

	Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the City firmly believes that wastewater spills would not be likely.

	Regarding the map included outlining different suggested alternatives, please refer to specific responses to comments provided on these alternatives below, specifically Responses to Comment EIS-E-2, EIS-E-3, and EIS-E-38.

1) Why not have the forcemains follow the amtrack line up to 805 and Rose canyon? This would be the most even change in elevation and have the least amount of water hammer conditions? — EIS-E-2
2) Why did you eliminate the path under the SDGE Easement shown in yellow on the map? — EIS-E-3
3) The SDGE path represents the type of forward thinking that is associated with California, do you agree? — EIS-E-4
4) Would it make sense to have the main high pressure pump for the SDGE path to be at the base of the SDGE run and a smaller pump with pipes with a high factor of safety running through Morena? — EIS-E-5
5) Why did you choose the path through Clairemont and up through Genesee Ave to the Miramar treatment plant? Shown as red dashed line on map. — EIS-E-6
6) Since the Regents Road Bridge was never built why not cross the forcemains at Regents and leave the congested Genesee corridor alone? — EIS-E-7
7) Was your decision not to cross at Regents based on the likelihood of a legal challenge to the EIR/EIS? — EIS-E-8
8) Why was a path through Rose Canyon **not** chosen given there is a sewer in Rose Canyon already? — EIS-E-9
9) Was that decision based on the likelihood of a legal challenge to the EIR/EIS? — EIS-E-10
10) Was your decision not to place the forcemains on Regents or through Rose Canyon influenced by the likelihood that The Friends of Rose Canyon (FORC) would be able and would likely to sue and challenge the EIR/EIS? — EIS-E-11
11) Have you had any meetings with FORC, if so when? — EIS-E-12
12) Was the path, shown in red on map, that you choose based on the likelihood of a group coming up with the funding to challenge the EIR/EIS? — EIS-E-13
13) How would you rate the following, high, medium or low: — EIS-E-14
    a) Public Safety
    b) Disruption during construction
    c) Risk of EIR Challenge
    d) Project cost
14) Was the path you choose to not go in front of the Westfield Mall and the Coasta Verde Shopping Center based on the likelihood of them coming up with the funding to challenge the EIR/EIS? — EIS-E-15
15) Why did you eliminate a path next to highways? Was it based on the likelihood Caltrans could come up with the funding to challenge the EIR/EIS? — EIS-E-16
16) Why not process all raw sewage down at Morena so we would not incur the risks associated with high pressure sewage leaks, especially in residential neighborhoods?
17) Currently Caltrans allows transport of irrigation quality water next to highways. Why not process the water to an irrigation standard down at Morena so Caltrans would allow transit of irrigation quality water next to the highways?
18) Why was the 10% design solution not released to the general public back in March 2016? Who was the 10% design solution released too and when?
19) 300 pages is the recommendation maximum for a Public Review Draft, per CEQA 15141 Page Limits. Are you aware that a 1758 page Draft EIR would be too time consuming for citizens and implies obfuscation?
20) Does Pure Water think it is ethical for agencies to place utilities based on an areas ability to raise the funds to challenge an EIR/EIS.
21) If the answer to the above is yes do you plan to challenge the validity of the CEQA process and or the need to notify the public at all?

EIS-E-2 The commenter's preference for an alternative alignment for the Morena Pipelines is noted and will be included in the administrative record as part of the Final EIR/EIS. The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the alignment of the Morena Pipelines as previously analyzed or proposed by this comment would either be infeasible or would not lessen any of the significant environmental effects of the Project, and therefore, additional analysis is not required.

As stated above, the City does not concur that the transport of sewage under pressurized conditions poses a significant risk of upset or leaks. Therefore, while an alternative route may meet the basic objectives of the Project, a risk of upset or leaks is not considered a significant effect that would be lessened by an alternative route.

As stated in the Caltrans Encroachment Manual, Chapter 5, Section 606.1, "Caltrans' policy prohibits the placement of longitudinal

	encroachments within controlled access rights-of-way…[r]equests for placement of longitudinal encroachments are permitted only when approved through Caltrans' design exception process, and approved by the DOD [Division of Design], Chief, when no other reasonable alternative is available, and it has been determined that there is available space" (Caltrans 2018a). Proposed longitudinal encroachments within the access control right-of-way of freeways or expressways on a highway identified as part of the freeway and expressway system are also prohibited per the Caltrans Project Development Procedures Manual, Chapter 17 (Caltrans 2018b). As such, the feasibility for an alternative route along Interstate (I-) 8, State Route (SR-) 163, SR-52, and I-805 within freeway ROW is limited, and since impacts would not be substantially reduced, are not considered further. Additionally, construction within Rose Canyon would have additional wetland and other biological impacts and would conflict with City Council policies 400-13 and 400-14 that prohibit new wastewater forcemains in canyons and other environmentally sensitive lands (City of San Diego 2002a, City of San

	Diego 2002b). This alternative route would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway ROW (City of San Diego 2015a). Water hammer, or transient analysis, was not used as a criteria for selection of the most appropriate alignment for the Morena Pipelines. Transient flow protection was discussed in the 10% Design Report (Brown and Caldwell 2015). Transient flow conditions could result in a worst-case scenario during which a loss of power occurs when running four pumps at the peak flow rate. Wastewater being pumped uphill would reach a speed of zero, then flow backward until the Morena Pump Station's check valves close. Flow further along the alignment would continue to flow toward North City Water Reclamation Plant (NCWRP), creating a vacuum condition at the pipeline's high points. A water hammer condition could form during this condition; however, it would have no adverse impact on the pipeline or valves. The vacuum conditions would be addressed by attaching flywheels on the pump/motor trains to increase the rotational moment of inertia and allow additional air into

	the pipeline. Additional locations for air vacuum/air release assemblies will be determined during final design.
	EIS-E-3 Refer to response EIS-E-2. An alternative route within the SDG&E alignment would reduce but not eliminate potential traffic impacts, including cumulative, by locating the pipeline outside of roadway ROW; however, this is contradictory to the City's Sewer Design Guide, which prioritizes the construction of sewer facilities within roadway ROW (City of San Diego 2015a). Additionally, this alternative route would require trenchless tunneling construction methods to construct the Morena Pipelines along most of the route, which would result in increased air quality and noise impacts when compared to the proposed alignment. Extreme low points along the alignment would require very deep tunnel shafts. Therefore, there is an elevated risk that the pipeline could be impacted by geotechnical conditions. There is also an increased risk to existing facilities due to settlement or vibration from the tunneling work. This alternative route would also have potential wetland and other biological impacts at entrance and exit pit

	locations along the trenchless tunnels and would conflict with City Council policies 400-13 and 400-14 (City of San Diego 2002a, City of San Diego 2002b) related to locating sewer facilities outside of canyons and other environmentally sensitive lands. **EIS-E-4** Refer to response EIS-E-3. **EIS-E-5** Refer to response EIS-E-2. The City conducted an extensive analysis of alternative routes for proposed pipeline alignments and chose a preferred alignment based on factors including, but not limited to, environmental impacts, community disruption, traffic impacts, and the potential necessity for property and easement acquisitions. **EIS-E-6** Refer to responses EIS-E-2 and EIS-E-5, regarding City Council policies 400-13 and 400-14 that prohibit new wastewater force mains in canyons and other environmentally sensitive lands. **EIS-E-7** Refer to response EIS-E-2. **EIS-E-8** Refer to response EIS-E-2. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft

	EIR/EIS; therefore, no additional response is provided or required
	EIS-E-9 The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. Also refer to response EIS-E-2.
	EIS-E-10 The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. Also refer to response EIS-E-2.
	EIS-E-11 Please refer to response EIS-E-2.
	EIS-E-12 Please refer to response EIS-E-1 and EIS-E-2. The commenter is suggesting to process all wastewater near the proposed Morena Pump Station rather than at the NCWRP. As described in Chapter 3, Alternatives, the City is proposing to expand the capacity of the NCWRP. In order to accomplish the commenter's suggestion, an entirely new water reclamation plant would be required near the proposed Morena Pump Station to treat wastewater to a tertiary level, rather than expanding an existing facility. An

	entirely new Pure Water Facility and similar pipeline alignments would still be required under the commenter's suggested alternative. The commenter's suggested alternative would result in environmental impacts related to construction of a new water reclamation plant, and hence would not reduce or eliminate potentially significant impacts for issue areas such as traffic, air quality, or greenhouse gas emissions. Therefore, the commenter's suggested alternative is not considered further. **EIS-E-13** Please refer to response EIS-E-2. **EIS-E-14** As stated in the Public Notice of a Draft EIR, technical reports and documents were available to the public by request. **EIS-E-15** The Draft EIR/EIS is a combination EIR and EIS prepared for two different lead agencies and addresses a complex range of issues. The City has determined that the length of the EIR/EIS is necessary to present a thorough discussion of all relevant environmental issues. **EIS-E-16** The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS;

	therefore, no additional response is provided or required.

22) Did engineering consider the large amount of water hammer conditions in the redline route as compared to the small amount in the yellow line route and route along the Amtrack corridor? — EIS-E-17

23) We have all seen the amount of force ½" copper pipes can generate with water hammer. How will water hammer work over time to stress the forcemains given their area cross section is 10,000 times greater than ½" copper pipe? — EIS-E-17

24) The SDGE yellow route contains the forcemains in a tunnel so when there is a raw sewage leak it can be contained and not get into the environment. Was this type of construction considered for the EIR/EIS red route? Was cost a factor? — EIS-E-18

25) After the first high pressure raw sewage leak in residential neighborhoods what will be the backup plan if Pure water is forced to abandon the forcemains? — EIS-E-19

26) Per 25 above will a non-abandonment position be based on the investment in the forcemains and the delivery agreements that need to honored? Can these agreements force the continuation of an unsafe condition? Who is the disinterested third party who will make the review? — EIS-E-20

27) Per 25 what are the mitigating methods besides time and dispersal? — EIS-E-21

28) With single wall pipe, in the EIR/EIS, it would be unrealistic to expect that enough valves could be put in place to prevent raw sewage getting into the environment, how do you plan to protect citizens along with our; canyons, streams, bays and ocean? — EIS-E-22

29) A rupture of a four foot high pressure raw sewage main less than 2 diameters underground is likely to eject a substantial aerosol geyser, how do you plan to train and equip emergency personnel? — EIS-E-23

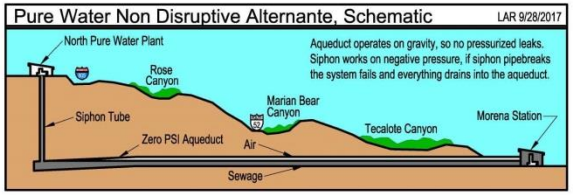
30) Would you consider the University proposed route shown in green? — EIS-E-24

31) The 60% engineering drawings for the EIR red path show a 12-15 foot open ditch just east of the Governor median with Torrey Pine Trees. How do you plan to save the Torrey Pine trees given the damage to their root systems? Do you have a botanists report? — EIS-E-25

32) Sewage and water leaks are a part of the record, can you post the links to these records so we can review them? — EIS-E-26

33) University has already retained an Attorney to fight the red line forcemain, will you consider the alternative in green or any other alternative University has to offer? — EIS-E-27

34) Why not a raw sewage aqueduct that provides a zero pressure means to deliver sewage and provides a depository if any pie ruptures? This would be similar to the SDGE alternate. See illustration below; — EIS-E-28



35) Why are there no technical solutions that are designed to contain any leaks that will occur? Shouldn't you consider a design similar to the following illustration; — EIS-E-29

EIS-E-17 Refer to response EIS-E-2.

EIS-E-18 Please refer to responses EIS-E-2 and EIS-E-3.

EIS-E-19 Please refer to response EIS-E-1.

EIS-E-20 The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

EIS-E-21 Please refer to response EIS-E-1.

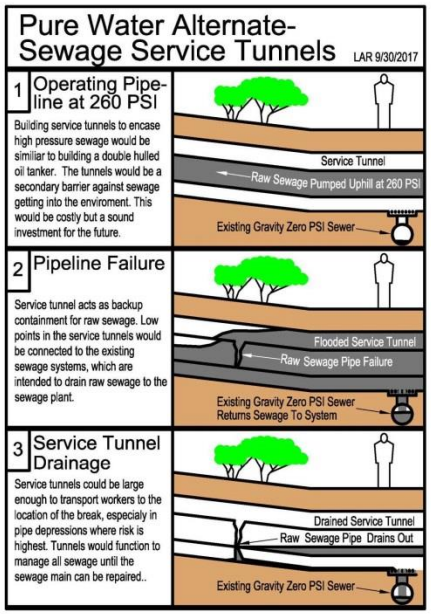
EIS-E-22 Please refer to response EIS-E-1.

EIS-E-23 Please refer to response EIS-E-1.

EIS-E-24 Please refer to response EIS-E-2. This alternative alignment would follow the same route along the southern two-thirds of the alignment and would likely result in the same noise and traffic impacts as the proposed alignment within this area; therefore, this alternative route would not alleviate the significant and unavoidable impacts that would result with construction of the Morena Pipelines. Noise and traffic impacts occurring within the University Community Planning

	Group area would merely be transferred east to other communities and would also result in significant and unavoidable impacts. **EIS-E-25** The Torrey pines within the median along Genesee Avenue were planted and are not considered a native population. Only native populations of this species are covered by the Multiple Species Conservation Program as stated in Attachment A of the San Diego Municipal Code, Land Development Code—Biology Guidelines. Additionally, the Project would not result in conflicts with City Policy 900-19 because none of the trees in the median are designated as Heritage/Conserved or Parkway Resource Trees. The Torrey pines within the median along Genesee Avenue are not protected, and the Morena Pipelines would not result in direct impacts to these trees. **EIS-E-26** Sewage spill statistics are posted on the City's website and can be accessed here: https://www.sandiego.gov/mwwd/sewerspill/stats. **EIS-E-27** Please refer to responses EIS-E-2 and EIS-E-3.

	EIS-E-28 Please refer to response EIS-E-1. The City acknowledges the commenter's suggested alternative involving an underground raw sewage aqueduct as opposed to the proposed forcemain. The suggested method of conveyance would require the pipeline to be installed in excess of 550 feet belowground at the NCWRP due to the minimum slope needed to provide adequate flow. The size of the suggested aqueduct would also require a minimum 84 inches in diameter as opposed to the proposed 48-inch-diameter forcemain to allow for gravity flow. Due to the required depth, the magnitude of pumping required at NCWRP would increase substantially. Intermediate access shafts would be required along the alignment for maintenance. Therefore, the commenter's suggested method of conveyance would affect the feasibility of installing the Morena Pipelines, as well as potentially increasing environmental impacts related to construction air quality emissions, operational energy, and long-term maintenance access. **EIS-E-29** Please refer to responses EIS-E-1 and EIS-E-28.



I believe that the city is on the right track with it's pure water program but is on the wrong track with it's raw sewage delivery method. An EIR/EIS with thousands of pages makes it difficult for citizens to grasp what the city is doing and implies obfuscation. When pipes break, how do you intend to mitigate and contain toxic sewage? Please be specific. In my opinion the redline path should be scrapped. Pure Water should improve it's design to protect us and in the long run insure the public support and survival of the Pure Water program.

Thank You

Louis Rodolico

Attached; November 2017 Clairemont Times Article.
December 2017 Clairemont Times Article.

EIS-E-29 Cont.

EIS-E-30

EIS-E-30 The commenter's support of the Project and opposition to the current design and proposed route for the Morena Wastewater Forcemain is noted and will be included in the administrative record as part of the Final EIR/EIS. Please refer to responses EIS-E-1 and EIS-E-15.

The Clairemont Times

Serving Clairemont, Bay Park, Linda Vista & Kearny Mesa

V7.E11 News of the Neighborhoods NOVEMBER 2017

Pure Water Rolls Dice With Sewage Spills

North City Project Pure Water San Diego Program

Commentary Louis Rodolico

The North City Project Pure Water San Diego Program EIR (Environmental Impact Report) is a raw sewage transport proposal. According to city officials the two proposed mains are 48 and 30 inches in diameter. These are not zero psi gravity sewers like 99% of the cities sewers, but raw sewage that is being pumped under high pressure. The 48 inch forcemain will pump untreated sewage; 400 feet uphill, at 260 psi, from the Morena pump station to the North City Water Reclamation Plant 10 ½ miles away, see red line on map. A 30 inch main returns to Morena with a more concentrated sludge, also red line on map. All pdf references are to the Project Proposal pdf link at the end of this article.

I have recently toured both the North City Water Reclamation Plant (NCWRP) or Pure Water Facility and the Miramar Sewage Treatment Plant known as the Metro Biosolids Center. Both are impressive with state of the art technologies in place. The future belongs to these technologies but we should demand that the risks they pose be fully mitigated.

University, Clairemont & Morena recently experienced major pressurized pipe failures which ejected several million gallons of drinking water, which eventually drained into our canyons, bays and ocean. What if this were raw sewage spewing from a four foot diameter high pressure main? The ejection of raw sewage into the environment will do allot of damage especially to those who are immunocompromised. Transporting liquid sewage at high pressure is risky and should be off limits to residential neighborhoods and watersheds. Underground steel pipes are subject to corrosion and shifts in the earth that damage and separate pipes. Therefore we need to fully mitigate high pressure toxic sewage.

Mitigation gets glancing consideration on Pdf page 1316 *"North City Water Reclamation Plant, North City Pure Water Facility Influent Pump Station, and North City Renewable Energy Facility Various chemical, sewage, and recycled water spills have occurred at the NCWRP site; however, all have been contained and managed appropriately. Therefore, the risk of encountering a hazardous materials site is considered low."* I'm sorry but this should not be a qualitative statement but a quantitative statement with statistical information.

Mitigation is possible if the high pressure mains are in an underground service tunnel so when pipes rupture there will be enough volumetric capacity in the service tunnels to absorb the sewage and prevent it from getting into the environment. The spilled sewage will then drain into the existing gravity sewage system. This will be expensive but it is the price we must pay if we are going to pump billions of gallons of raw sewage uphill through residential neighborhoods.

Also why are we directing all sewage down to Morena, can we not intercept sewage at higher elevations which would drop service pressures and thereby risk? If high pressure sewage mitigation is cost prohibitive should we reconsider relocating the sewage treatment facilities near the Morena pump station so these high pressure uphill sewage lines are eliminated?

The University Planning Group UCPG is mobilizing against a forcemain in University. The Clairemont Planning Group CCPG held two votes with mixed results. CCPG did not seem to have the

EIS-E-31
EIS-E-32
EIS-E-33
EIS-E-34
EIS-E-35
EIS-E-36
EIS-E-37
EIS-E-38

EIS-E-31 This comment accurately summarizes the Project as presented in the Draft EIR/EIS.

EIS-E-32 Comment noted.

EIS-E-33 The commenter's opinions of the facilities and associated technologies are noted and will be included in the administrative record for this Project as part of the Final EIR/EIS.

EIS-E-34 Please refer to response EIS-E-1.

EIS-E-35 The statement from the Draft EIR/EIS referenced in this comment refers to the potential risk for encountering hazards during construction and subsurface excavation. No documented sites or cases have been recorded at the NCWRP, and therefore, the risk of encountering a site is considered low. No mitigation is required.

EIS-E-36 Please refer to response EIS-E-1 above.

EIS-E-37 The Morena Pump Station would collect wastewater flows from a combination of four existing sanitary sewer trunk sewers: the 78-inch North Mission Valley Interceptor, the 72-inch Morena Boulevard Interceptor No. 14, the

	33-inch Morena Boulevard Trunk Sewer No. 11, and the 60-inch East Mission Bay Trunk Sewer No. 4. In order to sufficiently provide 30 million gallons per day of purified water, additional wastewater must be conveyed to the NCWRP compared to current conditions. The nearest location to the NCWRP that would provide the needed volume of wastewater in relation to existing sanitary trunk sewers is at the proposed location. Additionally, this location allows for continued flow of wastewater to the Point Loma Wastewater Treatment Plant, providing operational flexibility in allowing for a bypass mode where the Morena Pump Station could shut down at any time and the wastewater would flow to the Point Loma Wastewater Treatment Plant. As stated above, the City does not agree that the transport of sewage under pressurized conditions poses a significant risk of upset or leaks, and therefore, no mitigation would be required.
	EIS-E-38 The University Community Planning Group's opposition to the proposed route for the Morena Pipelines and preference for an alternate route crossing SR-52 then heading north along I-805, or an alternate route which

	follows I-8 east to SR-163 north to I-805 north, is noted and will be included in the administrative record as part of the Final EIR/EIS. As stated in the Caltrans Encroachment Manual, Chapter 5, Section 606.1, "Caltrans' policy prohibits the placement of longitudinal encroachments within controlled access rights-of-way…[r]equests for placement of longitudinal encroachments are permitted only when approved through Caltrans' design exception process, and approved by the DOD [Division of Design], Chief, when no other reasonable alternative is available, and it has been determined that there is available space" (Caltrans 2018a). Proposed longitudinal encroachments within the access control right-of-way of freeways or expressways on a highway identified as part of the freeway and expressway system are also prohibited per the Caltrans Project Development Procedures Manual, Chapter 17 (Caltrans 2018b). As such, the feasibility for an alternative route within freeway ROW is limited, and since impacts would not be substantially reduced, are not considered further. A reasonable range of alternatives has been provided in the Draft

stomach to fight the city on this one. UCPG might accept the line turning east on 52 and then head north up 805 to the Pure Water Facility. Another alternate is to place the mains along the Interstates, see blue line on map.

If the city considers the cost of disruption then something like a deep tunnel with an aqueduct from Morena to the NCWRP, with a siphon well at the Pure Water Facility, may be the most economical method. San Diego does not provide Disruption or Public Safety Reports, and does not budget for these since it is not their cost; this is the definition of poor governance. We saw poor city governance with the Regents Road Bridge where community safety issues were not only ignored but the city put a muzzle on public safety officials.

San Diego is doing an excellent job acquiring water for the future. The single forcemain Morena pump, with buried lines, in residential neighborhoods, is the most economical but riskiest of alternatives. According to managers Pure Water will become competitive with other water sources in about 10 years. But if they fully mitigate this proposed high pressure sewer line it could be longer than 10 years. Pdf page 1301; *"The North City Project has been designed to meet the City of San Diego's development regulations to the extent feasible; however, due to Government Code Section 53091(e) the North City Project is not required to meet all standards (see Section 6.1, Land Use). Nonetheless, in all cases related to safety, the North City Project has been designed to meet the standards of applicable development regulations."* In my opinion "to the extent feasible" is the matter at hand. It is feasible to mitigate citizen safety and disruption during construction.

I for one support the Pure Water project but the current alternative of a high pressure sewer main through residential neighborhoods needs to be scrapped.

EIS-E-38 Cont.

EIS-E-39

EIS-E-40

EIS-E-41

EIS-E-42

EIR/EIS in compliance with CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible.

EIS-E-39 The comment is noted. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

EIS-E-40 Please refer to responses EIS-E-1, EIS-E-2, and EIS-E-38 above.

EIS-E-41 The text from the Draft EIR/EIS quoted in this comment does not refer to the City's or other engineering design standards for the Morena Wastewater Forcemain. The "development regulations" that the City is not required to meet per Government Code Section 53091(e)

	include regulations such as height restrictions and setbacks of buildings. The design of the Morena Wastewater Forcemain will meet or exceed all City design standards, including those presented in the Sewer Design Guide (City of San Diego 2015a) and no impacts to citizen safety are anticipated. **EIS-E-42** The commenter's support of the Project and opposition to the current design and proposed location for the Morena Wastewater Forcemain is noted and will be included in the administrative record.

If you want your comments on the record please send them by November 21, 2017 to the following address: Mark Brunette, Senior Environmental Planner, City of San Diego Development Services Center, 1222 First Avenue, MS 501, San Diego, CA 92101 or e-mail to; DSDEAS@sandiego.gov with Pure Water San Diego North City Project Draft Environmental Impact Report in the subject line. EIS-E-43

Louis Rodolico has been a University resident since 2001
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Link: North City Project Proposal
https://www.sandiego.gov/sites/default/files/north_city_project_pure_water_san_diego_program_public_review_draft.compressed.pdf EIS-E-44

Metro Biosolids Center, Centrifuge Room Photo: Louis Rodolico 8/15/201

Centrifuges are one of the more interesting water purification technologies. Basically they spin sewer water at high speed. Inside there is a precision turbine like bladed shaft which separates out suspended solids. These centrifuges are made by overseas companies and cost a million dollars each. Europe is ahead of the US with this technology but they do manufacture some of their products here. America could miss out on upcoming technologies associated with global warming given the Federal position on climate change. EIS-E-45

This article has been reformatted to fit the 8 ½ x 11 paper size.

EIS-E-43 This comment accurately summarizes contact information for the submittal of public comments as stated in the Project's Public Notice of a Draft EIR.

EIS-E-44 This comment is noted and will be included in the administrative record for this Project as part of the Final EIR/EIS.

EIS-E-45 This comment includes a photograph of the Centrifuge Room at the Metro Biosolids Center; no response is necessary.

The
Clairemont Times
Serving Clairemont, Bay Park, Linda Vista & Kearny Mesa
V7.E12 News of the Neighborhoods DECEMBER 2017

Pure Water Awash In Dirty Ethics

North City Project Pure Water San Diego Program

Commentary Louis Rodolico

In blatant violation of California Environmental Quality Act (CEQA) requirements Pure Water completed 60% Engineering plans before public comment. The Pure Water Environmental Impact Report (EIR) is proposing pumping raw sewage, in a four foot diameter pipe, under high pressure(260 psi), uphill 400' from the Morena Pump Station to the Miramar Pure Water Facility 10 ½ miles away through our residential neighborhoods. They chose the least safe and most disruptive alternative (see red dashed line on map). I support the Pure Water program but the forcemain route shown in this EIR needs to be scrapped.

The Pure Water 10% Design link is at the end of this article. This document should have been released in March 2016, but was released two weeks ago with very little time for public comment. Go to pdf page 147 to see the SDGE easement yellow dashed line on map. The community generally likes this alternate within the existing SDGE power line easement. It would be 8.9 miles long, 50-80 feet deep and would be the least disruptive during construction. This is the only alternate that has both the 48 inch diameter and 30 inch diameter high pressure sewer mains in a 9 foot diameter tunnel so any leaking raw sewage can be collected without contaminating the environment. Pure Water should consider placing the large forcemain pump at the base of the SDGE easement.

EIS-E-46

EIS-E-47

EIS-E-46 The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

EIS-E-47 Please refer to response EIS-E-14 with regards to the public availability of the 10% Design Reports. Please refer to response EIS-E-3 with regards to the SDG&E alternative route.

The Pure Water EIR Proposal is silent on how they chose their red dashed line route on the map, but we can safely conclude the following. The blue dash line on the map was rejected by Caltrans, who is ok with purple pipe irrigation water next to highways but not high pressure raw sewage. The Friends of Rose Canyon (FORC) have half a million in the bank and eager to sue if an attempt is made to bring it up Regents Road or through Rose Canyon. Westfield Mall and Costa Verde Shopping Center have the cash to sue if placed in front of their facilities. This EIR will probably not sustain a lawsuit so those who have the means to sue, by default, force Pure Water to place the forcemain elsewhere. EIS-E-48

Hopefully the University Community Planning Group (UCPG) and the Clairemont Community Planning Group (CCPG) will coordinate and insist on the SDGE yellow path, the Amtrack or Caltrans paths or better yet the elimination of pumping raw sewage uphill altogether. EIS-E-49

The battle lines are drawn. Since Pure Water already purchased 60% construction documents, they are motivated to tell us whatever it takes to complete their selected alternate (red dashed line on map). If public outrage overturns this solution then who will pay the engineers for their time? They should have come to the public first and not try to sidestep public safety and community disruption during construction. EIS-E-50 If Caltrans is ok with irrigation water next to the highways why not partially process water to the irrigation level before pumping it 400 feet uphill? EIS-E-51 The EIR red dashed line solution will involve reducing Genesee Avenue from four to two lanes and will probably destroy the Torrey Pines north of Governor. EIS-E-52 Genesee is the only north south UC highway completed, Regents Road Bridge was never built and neither was the Governor to Gillman connector. If the city insists on digging up highways why not bring it up a low volume road like Regents and leave the congested Genesee corridor alone? Answer: Pure Water cannot bring it up Regents Road without being sued by FORC. EIS-E-53

We get a window into our political reality in a 2008 article written by Attorney Rani Gupta for the Voice of San Diego; EIS-E-54
"When the environmental group Friends of Rose Canyon (FORC) mulled a lawsuit over the expansion of the Westfield University Towne Center mall a few months ago, labor leader Lorena Gonzalez knew who to call. Westfield officials asked Gonzalez, who favored the expansion, to arrange face time with the group, which had been represented in past lawsuits by her brother Marco, an environmental lawyer. She called Friends of Rose Canyon President Deborah Knight and phoned her brother, who signed on to represent the environmental group in the Westfield dispute. A series of meetings followed, and the two sides hammered out a settlement, the terms of which remain confidential."

Why would a canyon group like FORC sue a Mall for expanding and what did they get for their threat? The Mall does not share a property line with Rose Canyon. FORC wraps themselves in a mythology of protecting animals; however FORC rejected; removal of the train from Rose Canyon, building the Regents Road Bridge and installing safe pedestrian/bike passages across the train tracks at Regents Road and at Gillman. At a recent UCPG meeting FORC went uncharacteristically public and tried to extort three million dollars from Alexandria. This was halted when FORC and a UCPG member were shouted down with audience cries of extortion. However there is nothing stopping FORC from entering into confidential/secret agreements with Alexandria. Eager to sue, but not eager to improve Rose Canyon, how many secret agreements has FORC entered into and how many of them effect spending of our public dollars? FORC holds no public meetings and their benefactors are not public record. EIS-E-55

EIS-E-48 The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

EIS-E-49 The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

EIS-E-50 The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

EIS-E-51 Please refer to response EIS-E-2.

EIS-E-52 Please refer to response EIS-E-25 regarding impacts to Torrey Pines. Genesee Avenue would temporarily be reduced in width during construction, but would be restored to full capacity. Please also refer to responses EIS-E-2 and EIS-E-5.

EIS-E-53 The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

	EIS-E-54 The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required. **EIS-E-55** The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

Pure Water has taken a page out of the FORC playbook by concealing information from the public and not releasing the 10% Design solution on March 2016. Why should the community have to bear the expense of a lawsuit to overturn the results of these dirty political ethics? How on earth did we get here?

EIS-E-56

You can E-Mail your comments to Pure Water North City Project at:
DSDEAS@sandiego.gov

EIS-E-57

Louis Rodolico has been a University resident since 2001
Additional documents at: louisrodolico.com

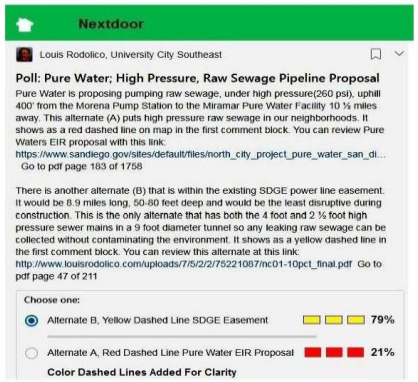
Links:

Pure Water EIR Proposal
https://www.sandiego.gov/sites/default/files/north_city_project_pure_water_san_diego_program_public_review_draft.compressed.pdf

Pure Water 10% Design, March 2016 At: louisrodolico.com Go to Additional Positions or:
http://www.louisrodolico.com/uploads/7/5/2/2/75221087/nc01-10pct_final.pdf

Pure Water 60% Submittal
louisrodolico.com Go to Additional Positions; Pure Water 60% Submittal Engineering Plan to Right

VOSD Article
https://www.voiceofsandiego.org/topics/government/thirty-something-brother-and-sister-and-atop-san-diego-politics/



EIS-E-58

EIS-E-56 Please refer to response EIS-E-14. The comment does not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.

EIS-E-57 Comment noted.

EIS-E-58 This comment provides links to Project documents as well as personal articles that do not raise specific issues related to the adequacy of the environmental analysis in the Draft EIR/EIS; therefore no additional response is provided or required.

Comment Letter EIS-F

---------- Forwarded message ----------
From: **Katie Nelson Rodolico** <ktnelson@yahoo.com>
Date: Wed, Jan 3, 2018 at 8:40 PM
Subject: Pure Water CEQA/NEPA EIR/EIS. Project No. 438188 SCH No. 2014111068
To: "dmepherson@usbr.gov" <dmepherson@usbr.gov>

Attn: Doug McPherson, Southern California Area Office, Bureau of Reclamation
27708 Jefferson Avenue, Suite 202, Temecula, CA 92590

Re: Pure Water DEIR, SCH #2106081016 / PTS #499621

I am a supporter of recapture of water, which this Pure Water Project represents. However, this particular implementation doesn't address certain realities. My issues are primarily with the alignment of the Morena Pipeline and its unmitigated impacts to our community. EIS-F-1

Concern #1: Pumping raw sewage, under pressure, along our major roadways is asking for disaster. We have non-pressurized sewer lines leaking along the Rose Canyon Sewer Trunk (currently out for bid for repair). Now we will be running sewage **under pressure** – putting a lot more stress on the piping – through neighborhoods and past homes. I am concerned that where the pipe bends and at pipe joints, the stress of this pressurized sewage will cause failures. The pressure has to be high enough to go up and down hills through several canyons. I have seen little discussion of mitigation of this very real risk. The only mitigation I saw was that pumps would turn off if a pressure change were detected. How much sewage would be spilled in that scenario? What are the odds of it being aerosolized as it shoots into the air and becoming a health risk for those with lesser immune systems like seniors and small children? Why weren't alternatives to the proposed path of the Morena pipeline included in the draft EIR? As seen in the two recent water main breaks in our county in recent weeks (Mission Bay and Escondido)- the damage of a main, under pressure, can be significant. Imagine if those water main breaks were raw sewage forcemain breaks. The city has an imperfect record of maintaining pipelines and the risks, if a pipeline were to break, are much higher with a pipeline pumping raw sewage. The DEIR does not adequately address this risk, nor does it mitigate it. EIS-F-2 EIS-F-3

Presenting only one route for the Morena Pipeline is not adequate for the CEQA/NEPA process. Other routes, especially the SDGE alignment, should have been presented in the DEIR. Failure to include alternatives defeats the CEQA/NEPA process.

Concern #2: The path of the Morena line and the disruption during construction. This is not a small project. The construction between SR-52 and Nobel Drive will take more than half a year. The construction is being done at night – despite the fact it goes past several residences. (La Jolla Park West and Regency Villas for example.) There will be trenching across Governor Drive – adjacent to gas stations with open cases of leaking underground storage tanks. What mitigation is there for the "potentially significant" risk of toxic vapors so close to Curie Elementary, Standley Middle School, the preschool at the Lutheran church on Radcliffe, and the senior housing at Regency Villas. This is a noted risk but no mitigation is offered. EIS-F-4 EIS-F-5

Concern #3: The traffic analysis is dismissive. Yes, Genesee already has horrible traffic. The traffic analysis seems to think that because the traffic already LOS E or F – it doesn't matter or have an impact if it is *far* worse during construction. The traffic analysis does not consider the impacts on parallel freeways as people avoid commuting southbound on Genesee during evening rush hour. It does not look at the impact to side streets that cross the areas impacted by the construction… for example the backups EIS-F-6

Response to Comment Letter EIS-F

Katie Rodolico
January 3, 2018

EIS-F-1 Comment noted.

EIS-F-2 The wastewater forcemain would be designed and constructed such that the City does not agree that a risk of spills or upset are likely. It would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe will be cathodically protected by an induced current to prevent corrosion, which is the primary reason for breakage of steel pipes. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

As described in Section 3.5.2 of the Draft EIR/EIS, in the unlikely case of pipe failure, the North City Pure Water Facility (NCPWF) would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode

	directing flows to the Point Loma Wastewater Treatment Plant. This information is further discussed in Section 6.7, Geology and Soils, of the Draft EIR/EIS. The Morena Pump Station has several features incorporated into Project design to minimize risk from earthquakes and faulting, and more generally, pipeline breakage. Such features include vibratory alarms to trigger pump station shut down when sensing excessive vibrations or substantial changes in pressure, flexible connections between the Morena Pump Station and the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) in the event of differential settlement, pump station shut down in the event of a break in the pipeline, and structural setbacks outside of the fault zone. Specifically, a forcemain break or blockage triggers the immediate shutdown of the Morena Pump Station, and a break in the brine/centrate line triggers the immediate shutdown of the NCPWF. The automatic shutdown of the Morena Pump Station in the event of pipe breakage would prevent substantial wastewater spills from occurring.

	As a final precaution, the City has in place a Sewer Overflow Response and Tracking Plan (described in Section 5.9, Health and Safety/Hazards), to be implemented in the event of sanitary sewer overflow or spills. The Sewer Overflow Response and Tracking Plan documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). The City has a successful history of conveying wastewater in pressurized forcemains. Over an approximate 7-year period (2010 through 2017), the City experienced approximately 4,525 gallons of wastewater released from pressurized forcemain breaks (City of San Diego 2017c). For the sake of reference, the City pumps over 100 million gallons of wastewater to the Point Loma Wastewater Treatment Plant each day; hence, the City's history with preventing forcemain leaks has been highly successful. Therefore, in addition to the North City Project design and Sewer Overflow Response and Tracking Plan, the

	City firmly believes that wastewater spills would not be likely. **EIS-F-3** Please refer to response EIS-F-2 regarding potential risk of upset. A reasonable range of alternatives has been provided in the Draft EIR/EIS in compliance with CEQA Guidelines Section 15126.6(a). The City of San Diego has considered a variety of alternative routes for each of the proposed pipeline alignments, including the Morena Pipelines, as summarized in Section 3.7.2, Current Alternative Screening. However, modifications to the route of the Morena Pipelines were determined to (1) not substantially lessen the significant environmental effects of the Project or (2) be infeasible. As such, a more detailed analysis is not required. An alternative alignment in the SDG&E easement would likely reduce potential traffic impacts; however it would merely transfer noise impacts to other areas within the community. Additionally, because it would require trenchless tunneling construction along the majority of the alignment, air quality and noise impacts would be increased. Extreme low

	points along the alignment would require very deep tunnel shafts. Therefore, there is an elevated risk that the pipeline could be impacted by geotechnical conditions. There is also an increased risk to existing facilities due to settlement or vibration from the tunneling work. This alternative would also have potential wetland and other biological impacts at entrance and exit pit locations along the trenchless tunnels and would conflict with City Council policies 400-13 and 400-14 that prohibit new wastewater force mains in canyons and other environmentally sensitive lands (City of San Diego 2002a, City of San Diego 2002b). This alternative route would also conflict with the City's Sewer Design Guide that encourages construction of sewer utilities within roadway right-of-way (City of San Diego 2015a).
	EIS-F-4 As stated in Section 5.16 of the Draft EIR/EIS, based on information provided by City of San Diego Public Utilities Department and Construction Management and Field Services, the construction of several segments within the public right-of-way is proposed to take place during the nighttime, between 9:00 p.m. and 5:00 a.m., with daytime construction along

	some segments of the pipeline alignment. Table 5.16-1 provides the work hours proposed for the roadway segments analyzed for the Morena Pipelines construction. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.
	EIS-F-5 As discussed in mitigation measure MM-HAZ-4 in Section 6.9.5.3 of the Draft EIR/EIS, all applicable procedures outlined in the City of San Diego's "Whitebook" Part 1 – General Provisions (A), Section 7-22, Encountering or Releasing Hazardous Substances will be followed (City of San Diego 2015b) to ensure that appropriate investigation, sampling, and remedial actions are taken where the potential to encounter hazardous substances or recognized environmental conditions. Compliance with these procedures would adequately mitigate any potential risk and would ensure that at-risk groups such as seniors and children are not exposed to contaminated soil and/or vapors. The City has adequately disclosed potential impacts resulting from vapor intrusion in the

	Draft EIR/EIS in Section 6.9.5. As cited in the Draft EIR/EIS, Phase I Environmental Site Assessments (ESAs) were prepared for the Morena Pump Station, WW Force Main and Brine Conveyance (Allied Geotechnical Engineers Inc. 2015a); Miramar Pipeline/Pump Station (Allied Geotechnical Engineers Inc. 2016); and the North City to San Vicente Reservoir Pipeline Project (Allied Geotechnical Engineers Inc. 2015b). The conclusions of the Phase I ESAs are consistent with those found in the Draft EIR/EIS as they related to potential vapor intrusion.
	EIS-F-6 The North City Project Traffic Impact Study (provided as Appendix I to the Draft EIR/EIS) and Sections 5.16 and 6.16, Transportation, Circulation, and Parking of the Draft EIR/EIS have been prepared consistent with the City of San Diego Traffic Impact Study Manual Guidelines and standard traffic engineering practice for the San Diego region. The impact analysis addresses potential impacts to the Level of Service and roadway volumes from construction.

	The comment specifically notes that the traffic analysis does not consider impacts during evening rush hour along Genesee Avenue and surrounding roadways. Proposed construction work hours for the Morena Pipeline are detailed in Table 5.16-1 of the Draft EIR/EIS. As shown on the table, all construction along Genesee Avenue, with the exception of southbound Genesee Avenue between Appleton Street and Clairemont Mesa Boulevard, is proposed to occur during nighttime with the intent to avoid traffic commute peak hours. For the traffic impact analysis during construction of the Morena Pipelines, please refer to Table 6.16-6 of the Draft EIR/EIS which displays near-term roadway traffic volumes with and without construction traffic. Note that Table 6.16-6 includes a column labeled "Functional Classification," which accounts for lane closures. Therefore, the Draft EIR/EIS properly analyzed traffic impacts resulting from lane closures in addition to estimated construction worker trips from the Morena Pipelines.

on Governor Drive while the construction moves along Genesee between SR-52 and Nobel. Or the traffic impacts on Decoro. This failure to analyze traffic impacts during construction other than the 324 ADT added by construction is inadequate.

EIS-F-6 Cont.

Concern #4: Expanding construction schedule. The Draft EIR table 6.16-7 shows 71 days of construction for the segment on Genesee between Governor and Nobel. On October 11, 2017, the project was presented to the University Community Planning Group (UCPG). They presented a graphic on a poster board (see attached pictures) that suggests it is closer to 200 days. I suspect the actual construction schedule will be even longer than that. This inconsistency shows that the EIR was rushed before the data was in. When I asked the utility department which was correct, the EIR 71 day schedule or the graphics presented in October suggesting a timeframe 2.5 times longer, I was told the 71 day time frame was correct. This suggests there is confusion, even within the department planning and promoting this project.

EIS-F-7

Concern #5: Emergency service response times to south University City. There is only one route north/south connecting South UC and North UC across Rose Canyon. The closest fire station and closest police station are on the north side of Rose Canyon. With nighttime construction along Genesee, involving lane closures, the response times, and times for ambulances to reach the hospitals to the north, will be significantly impacted. This was noted in the DEIR, but no mitigation was offered. Since the Pure Water program presentation at the October UCPG meeting suggests the time frame of construction along the Genesee corridor between Genesee and Nobel could take 6 months or longer, this is a risk that is unacceptable.

EIS-F-8

Concern #6: The draft EIR does not mention the risk/damage to the Torrey Pine trees along the median of Genesee, just north of Governor. The city's Climate Action Plan calls for more trees. Removing existing trees is in conflict with the city's Climate Action Plan. These torrey pines are iconic and part of the aesthetics of our neighborhood. That is not address in the DEIR. The trenching is to take place adjacent to the center divide and is certain to have an impact on these trees' root structure.

EIS-F-9

Concern #7: The draft EIR has an incomplete list of current/active projects in the University Community. It fails to include projects in the area from UCSD. The Mesa Housing project is moving forward and the North Torrey Pines living and learning project, as well as the UCSD fire station, are out for public comment on their EIRs. This information should have been considered in both the traffic analysis and the cumulative impacts.

EIS-F-10

There are other paths for the pipeline that would reduce the impacts and risks to the residents along the Morena Pipeline. Specifically the SDG&E path analysed in the 10% engineering document is a far better pipeline path - since spills would be contained well underground, and pipes contained within underground culverts. It is more expensive but mitigates and eliminates the risks of geysers of aerosolized poop near schools, homes, and businesses.

EIS-F-11

Katie Rodolico, University City Resident
5906 Dirac Street
San Diego, CA 92122

EIS-F-7 The construction schedule disclosed within the Draft EIR/EIS was determined through discussions between City of San Diego traffic engineers, pipeline engineers, and the traffic consultants based on typical construction practices and feasibility. The Draft EIR/EIS used a standard production rate of 75 feet per day for all pipelines. The construction schedule shown at the presentation at the University Community Planning Group meeting displayed a more general construction schedule including initial traffic control noticing, pavement markings, utility field locating, and site preparation. Actual road closures are anticipated to align with the construction schedule disclosed in the Draft EIR/EIS.

EIS-F-8 Emergency access and response is discussed Section 6.14, Public Services, of the Draft EIR/EIS. Emergency access would be maintained at all times. As discussed in Section 6.14, in all cases, pipeline construction within roadways would result only in temporary partial closures, with movement along the roadway and access to surrounding properties maintained at all times. Prior to pipeline construction that requires encroachment into

	public roadways, a traffic control plan would be prepared by the City in conformance with the City's traffic control regulations. The traffic control plan would be prepared to ensure that all access, including emergency access, would not be restricted. Additionally, as described in Section 3.4.2 and detailed in Section 6.16 of the Draft EIR/EIS, nighttime work hours would be implemented within certain high traffic roadways to avoid peak traffic times.
	EIS-F-9 The Torrey pines within the median along Genesee Avenue were planted and are not considered a native population. Only native populations of this species are covered by the Multiple Species Conservation Program as stated in Attachment A of the San Diego Municipal Code, Land Development Code—Biology Guidelines. Additionally, the Project would not result in conflicts with City Policy 900-19 because none of the trees in the median are designated as Heritage/Conserved or Parkway Resource Trees. The Torrey pines within the median along Genesee Avenue are not protected, and the Morena Pipelines would not result in direct impacts to these trees.

	EIS-F-10 Due to the broad geographical extent of the North City Project area, the cumulative impact analysis in the Draft EIR/EIS relies primarily on adopted planning documents. In addition, certain projects have been determined to have a high potential for cumulative impacts due to their nature, location, or scale, and therefore, are also discussed in Chapter 7. In response to this comment, the following cumulative projects have been added to Section 7.2 of the Final EIR/EIS for purposes of cumulative analysis: North Torrey Pines Living and Learning Neighborhood Project, Westfield Redevelopment Project, and Mesa House Nuevo West and East Projects. **EIS-F-11** Please refer to responses EIS-F-2 and EIS-F-3. The commenter's preference for an alternative route following the SDG&E alignment is noted and will be included in the administrative record for the Project as part of the Final EIR/EIS.

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ES EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This Environmental Impact Report/Environmental Impact Statement (EIR/EIS) evaluates the potential short-term and long-term, direct and indirect, cumulative, and combined environmental impacts of the North City Project, the first phase of the Pure Water San Diego Program (Pure Water Program). The North City Project is initiated by the City of San Diego (City) Public Utilities Department and involves the production of 30 million gallons per day (MGD) of purified water. The North City Project will expand the existing North City Water Reclamation Plant (NCWRP) and construct an adjacent North City Pure Water Facility. Two alternative purified water pipelines are considered: one to Miramar Reservoir and one to San Vicente Reservoir. Other project components include a new pump station and forcemain to deliver additional wastewater to the NCWRP; a brine/centrate discharge pipeline; upgrades to the existing Metro Biosolids Center; a new North City Renewable Energy Facility at the NCWRP; and a new Landfill Gas (LFG) Pipeline between the Miramar Landfill gas collection system and the NCWRP.

The North City Project includes a variety of facilities located throughout the central coastal areas of San Diego County in the North City geographic area. The location of the North City Project is depicted in Figure 1-1, Regional Map, and Figure 1-2, Vicinity Map. A new pure water facility and three pump stations would be located within the corporate boundaries of the City of San Diego (City). Proposed alternative pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside and other areas in unincorporated San Diego County. The proposed LFG Pipeline would traverse federal lands within Marine Corps Air Station (MCAS) Miramar.

The City of San Diego and the U.S. Bureau of Reclamation (Reclamation) are joint lead agencies in preparing this EIR/EIS in accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code, Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.), and the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.). Federal assistance is authorized by the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992 (Title XVI of Public Law 102–575). Section 1612, San Diego Area Water Reclamation Program, directs the Secretary of the Interior, in cooperation with the City of San Diego, to participate in planning, designing, and constructing

demonstration and permanent facilities to reclaim and re-use water in the San Diego metropolitan service area. This authority is delegated to Reclamation.

ES.2 BACKGROUND

On average, 85% of City's water supply is imported from the Colorado River and Northern California. This reliance on imported water causes San Diego to be vulnerable to supply shortages and price increases. With few local water supply options, the City has explored potable and non-potable reuse options of treated wastewater. On April 29, 2014, the City Council adopted a resolution (R-308906) supporting the Pure Water Program. The Pure Water Program will ultimately produce 83 MGD of locally controlled water and will be implemented in phases over a 20-year period, grouped by geographical area: North City, Central Area, and South Bay.

The North City Project will produce 30 MGD of purified water and is scheduled to be operational in 2021. The Central Area project and/or South Bay projects are scheduled to be completed by December 31, 2035, and will produce a combined total up to 53 MGD. A Final Program EIR for the Pure Water Program was certified by the City on October 25, 2016.

ES.3 PROJECT ALTERNATIVES

The North City Project EIR/EIS evaluates three alternatives including the No Project/No Action Alternative and two North City Project Alternatives: the Miramar Reservoir Alternative ~~(Locally Preferred Alternative)~~ and the San Vicente Reservoir Alternative. The Miramar Reservoir Alternative is the Locally Preferred Alternative as determined by the City; this alternative is also the Preferred Alternative for the purposes of NEPA, as determined by Reclamation. Under the No Project/No Action Alternative, the North City Project would not be implemented. The proposed North City Pure Water Facility (NCPWF) and associated improvements at other treatment, pumping, and conveyance facilities would not be constructed.

The North City Project Alternatives (Project Alternatives) would use advanced water purification technology to produce purified water from recycled water and provide a safe, reliable, and cost-effective drinking water supply for San Diego. The Project Alternatives consist of the design and construction of a new NCPWF, upgrades to an existing water reclamation facility, and design and construction of new pump stations and pipelines. The Project Alternatives would construct the NCPWF east of I-805 and north of Eastgate Mall, across from the existing NCWRP. Upgrades would occur at the existing NCWRP in order to provide sufficient tertiary influent for the

NCPWF as well as to connect the existing centrate line with the proposed brine line. Pump station and pipeline facilities would convey different types of flows to and from the treatment facilities for: (1) diverting wastewater flows to NCWRP, (2) conveying recycled water to the NCPWF, (3) conveying purified water from the NCPWF to a reservoir, and (4) transporting waste flows (brine, centrate and sludge) from treatment processes to solids handling facilities or back into the Metropolitan Sewerage System (Metro System). Upgrades would also occur at the Metro Biosolids Center to handle the additional sludge produced by the NCWRP expansion and NCPWF. A new North City Renewable Energy Facility would be constructed at the NCWRP, which would receive landfill gas from the City's Miramar Landfill gas collection system via a new LFG pipeline.

From the NCPWF, purified water would be piped to the Miramar Reservoir or San Vicente Reservoir, where it would blend with reservoir water. The water would then receive further treatment at a potable water treatment plant before being distributed as potable water.

The Miramar Reservoir Alternative would construct the NCPWF and would convey purified water to Miramar Reservoir. The Miramar Reservoir Alternative would include improvements at the Miramar Water Treatment Plant (Miramar WTP). The San Vicente Reservoir Alternative would also construct the proposed NCPWF, but would include fewer treatment processes at the facility and would pipe purified water to the San Vicente Reservoir rather than the Miramar Reservoir. The San Vicente Reservoir Alternative would also include an additional pump station, the Mission Trails Booster Station (MTBS), along the San Vicente Pure Water Pipeline (San Vicente Pipeline).

ES.4 IMPACTS DETERMINED TO BE SIGNIFICANT

Table ES-1 provides a summary of significant impacts of the North City Project. Impacts associated with land use (San Vicente Reservoir Only), air quality (Miramar Reservoir Only), biological resources, health and safety/hazards, historical resources, paleontological resources, and public utilities were identified as being potentially significant, but less than significant with mitigation. Impacts associated with air quality (San Vicente Reservoir Alternative only); aesthetics (San Vicente Reservoir Alternative Only); noise (both Project Alternatives); and transportation, circulation, and parking (both Project Alternatives) were identified as being significant and unavoidable.

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Land Use						
Would the North City Project conflict with adopted environmental plans for the area including an adopted local habitat conservation plan?	No impact.	No mitigation required.	Not applicable.	Impacts to land within MHPA would conflict with an adopted local habitat conservation plans or policies protecting biological resources.	Mitigation measures **MM-BIO-1a** and **MM-BIO-1c**, as described in Section 6.4, Biological Resources.	Below a Level of Significance
Aesthetics						
Would the North City Project result in a substantial change to natural topography or other ground surface relief features through landform alteration?	No impact.	No mitigation required.	Not applicable.	Construction activities associated with the MTBS would result in a substantial change to the natural topography of the proposed site.	No mitigation measures available.	Significant and Unavoidable.

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Air Quality and Odor						
Would the North City Project result in a violation of any air quality standard or contribute substantially to an existing or projected air quality violation? Would the proposed project exceed 100 pounds per day of respirable particulate matter (PM_{10}) or 55 pounds per day of fine particulate matter ($PM_{2.5}$)?	Daily construction emissions would result in exceedance of the NOx threshold.	Mitigation measures **MM-AQ-1** and **MM-AQ-2** as described in Section 6.3, Air Quality and Odor.	Below a Level of Significance	Daily construction emissions would result in exceedance of the NOx threshold.	Mitigation measures **MM-AQ-1** and **MM-AQ-2** as described in Section 6.3, Air Quality and Odor.	Significant and Unavoidable
Would the North City Project create objectionable odors affecting a substantial number of people?	Operation of the NCWRP and pump stations could result in potential nuisance odors.	Mitigation measure **MM-AQ-3** as described in Section 6.3, Air Quality and Odor.	Below a Level of Significance	Operation of the NCWRP and pump stations could result in potential nuisance odors.	Mitigation measure **MM-AQ-3** as described in Section 6.3, Air Quality and Odor.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Biological Resources						
Would the North City Project result in impacts to a sensitive habitat or sensitive natural community as identified in local, regional, state or federal plans, policies, or regulations?	The Miramar Reservoir Alternative would result in 18.40 acres of impacts to sensitive vegetation, 12.54 acres of which are permanent impacts while the remaining are temporary.	Mitigation measures **MM-BIO-1a, MM-BIO-1b, MM-BIO-2**, and **MM-BIO-9~~10~~,** as described in Section 6.4, Biological Resources.	Below a Level of Significance	The San Vicente Reservoir Alternative would result in 24.57 acres of impacts to sensitive vegetation, 12.79 acres of which are permanent impacts while the remaining are temporary.	Mitigation measures **MM-BIO-1a**, **MM-BIO-1b, MM-BIO-1c, MM-BIO-2**, and **MM-BIO-9~~10~~**, as described in Section 6.4, Biological Resources.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
Issue Area	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Would the North City Project result in an impact on City, State, or federally regulated wetlands through direct removal, filling, hydrological interruption or other means?	The Miramar Reservoir Alternative would impact 0.38 acre of City regulated wetlands and 0.03 acre of state and federally regulated jurisdictional resources.	Mitigation measures **MM-BIO-1b**, **MM-BIO-2**, **MM-BIO-8~~9~~**, and **MM-BIO-9~~10~~,** as described in Section 6.4, Biological Resources.	Below a Level of Significance	The San Vicente Reservoir Alternative would impact 3.02 acres of City, State, or Federally regulated wetlands.	Mitigation measures **MM-BIO-1b**, **MM-BIO-1c**, **MM-BIO-2**, **MM-BIO-7~~8~~**, **MM-BIO-8~~9~~**, and **MM-BIO-9~~10~~,** as described in Section 6.4, Biological Resources.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Would implementation of the North City Project result in a reduction in the number of any unique, rare, endangered, sensitive, or fully protected species of plants or animals?	The Miramar Reservoir Alternative would result in direct and indirect impacts to sensitive plant and wildlife species.	Mitigation measures **MM-BIO-1a, MM-BIO-1b, MM-BIO-2** through **MM-BIO-6~~7~~**, and **MM-BIO-9~~10~~,** as described in Section 6.4, Biological Resources.	Below a Level of Significance	The San Vicente Reservoir Alternative would result in direct and indirect impacts to sensitive plant and wildlife species.	Mitigation measures **MM-BIO-1a, MM-BIO-1b, MM-BIO-1c, MM-BIO-2** through **MM-BIO-6**, **MM-BIO-7~~8~~,** and **MM-BIO-9~~10~~**, as described in Section 6.4, Biological Resources.	Below a Level of Significance
Would the North City Project conflict with provisions of adopted local habitat conservation plans or policies protecting biological resources?	No impact.	Not applicable.	Not applicable.	The San Vicente Reservoir Alternative would impact 18.62 acres of land within MHPA.	Mitigation measures **MM-BIO-1a** and **MM-BIO-1c**, as described in Section 6.4, Biological Resources.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
Issue Area	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Would the North City Project introduce land uses within or adjacent to the MHPA that would result in adverse edge effects?	The Miramar Reservoir Alternative would be located adjacent to MHPA and could result in adverse edge effects.	Mitigation measures **MM-BIO-2** and **MM-BIO-~~9~~10(j)**, as described in Section 6.4, Biological Resources.	Below a Level of Significance	The San Vicente Reservoir Alternative would be located adjacent to MHPA and could result in adverse edge effects.	Mitigation measures **MM-BIO-2** and **MM-BIO-~~9~~10(j)**, as described in Section 6.4, Biological Resources.	Below a Level of Significance
Would the North City Project introduce invasive species into natural open space areas?	The Miramar Reservoir Alternative could introduce invasive species to natural open space areas.	Mitigation measure **MM-BIO-2**, as described in Section 6.4, Biological Resources.	Below a Level of Significance	The San Vicente Reservoir Alternative could introduce invasive species to natural open space areas.	Mitigation measure **MM-BIO-2**, as described in Section 6.4, Biological Resources.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Health and Safety/Hazards						
Would the North City Project expose people or property to health hazards, including fire?	Engine-powered equipment and vehicles could increase wildfire hazards by introducing new ignition sources to areas adjacent to or within currently undeveloped areas	Mitigation measure **MM-HAZ-1**, as described in Section 6.9, Health and Safety/Hazards.	Below a Level of Significance	Engine-powered equipment and vehicles could increase wildfire hazards by introducing new ignition sources to areas adjacent to or within currently undeveloped areas.	Mitigation measure **MM-HAZ-1**, as described in Section 6.9, Health and Safety/Hazards.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
Issue Area	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Would the North City Project create future risk of an explosion or the release of a hazardous substance (including, but not limited to gas, oil, pesticides, chemicals, or radiation)? Would the North City Project expose people or the environment to a significant hazard through the routine transport, use, or disposal of hazardous materials?	Potential impacts related to accidental spills during operation and maintenance activities.	Mitigation measures **MM-HAZ-2** and **MM-HAZ-3**, as described in Section 6.9, Health and Safety/ Hazards.	Below a Level of Significance	Potential impacts related to accidental spills during operation and maintenance activities.	Mitigation measures **MM-HAZ-2** and **MM-HAZ-3**, as described in Section 6.9, Health and Safety/ Hazards.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Would any component of the North City Project interface or intersect with a site that is included on a hazardous material sites list compiled pursuant to Government Code Section 6596.25 and, as a result, pose a potential hazard to the public or environment?	Potential to encounter contaminated soil or groundwater, underground storage tanks (USTs), or military munitions along pipeline corridors.	Mitigation measures **MM-HAZ-4** and **MM-HAZ-5**, as described in Section 6.9, Health and Safety/ Hazards.	Below a Level of Significance	Potential to encounter contaminated soil or groundwater, USTs, and military munitions along pipeline corridors.	Mitigation measures **MM-HAZ-4** and **MM-HAZ-5**, as described in Section 6.9, Health and Safety/ Hazards.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Historical Resources						
Would the North City Project result in the alteration or destruction of a prehistoric or historic archaeological site, or any adverse physical or aesthetic effects to a prehistoric or historic building, structure, object, or site?	Potential impacts to known archaeological resources inventoried within the project boundary (HR 450) and unknown archaeological resources and/or grave sites.	Mitigation measures **MM-HIS-1, MM-HIS-2, MM-HIS-3,** and **MM-HIS-4,** as described in Section 6.10, Historical Resources.	Below a Level of Significance	Potential impacts to known archaeological resources inventoried within the project boundary (P-37-013630 and P-37-036497) and unknown archaeological resources and/or grave sites.	Mitigation measures **MM-HIS-2** and **MM-HIS-3**, as described in Section 6.10, Historical Resources.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
Issue Area	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Would the North City Project result in any impact to existing religious or sacred uses or result in the disturbance of any human remains within the potential impact area?	Potential impacts on known tribal cultural resources associated with religious or sacred uses or human remains may occur as a result of construction.	Mitigation measure **MM-HIS-3**, as described in Section 6.10, Historical Resources.	Below a Level of Significance	Potential impacts on known tribal cultural resources associated with religious or sacred uses or human remains may occur as a result of construction.	Mitigation measure **MM-HIS-3**, as described in Section 6.10, Historical Resources.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Noise						
Would the North City Project result in or create a significant increase in the existing ambient noise level? Would construction noise associated with implementation for any component of the North City Project exceed the City's adopted noise ordinance or noise levels as established in the General Plan?	Construction noise impacts for the North City Pipeline and Morena Pipelines would be potentially significant. Impacts related to the operation of the pump stations and the North City Renewable Energy Facility would be potentially significant.	Mitigation measures **MM-NOI-1** through **MM-NOI-4**, as described in Section 6.12, Noise.	Significant and Unavoidable (Construction); Below a Level of Significance (Operation)	Construction noise and vibration impacts for the MTBS would be potentially significant. Construction noise impacts for the San Vicente Pipeline and Morena Pipelines would be potentially significant. Impacts related to the operation of the pump stations and the North City Renewable Energy Facility would be potentially significant.	Mitigation measures **MM-NOI-1** through **MM-NOI-4**, as described in Section 6.12, Noise.	Significant and Unavoidable (Construction); Below a Level of Significance (Operation)

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Paleontological Resources						
Would the North City Project result in the loss of significant paleontological resources?	Construction activities associated with specific project components have the potential to impact undisturbed, native sedimentary deposits during earthwork and could result in disturbance or destruction of paleontological resources.	Mitigation measure **MM-PALEO-1** as described in Section 6.13, Paleontological Resources.	Below a Level of Significance	Construction activities associated with specific project components have the potential to impact undisturbed, native sedimentary deposits during earthwork and could result in disturbance or destruction of paleontological resources.	Mitigation measure **MM-PALEO-1** as described in Section 6.13, Paleontological Resources.	Below a Level of Significance.

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Public Utilities						
Would the North City Project result in new systems or require substantial alterations to existing utilities including solid waste management, the construction of which would create a physical effect on the environment? These systems include communications systems, storm water drainage and solid waste disposal.	Impacts related to conflicts with existing utilities may be potentially significant.	Mitigation measure **MM-PU-1,** as described in Section 6.15, Public Utilities.	Below a Level of Significance	Impacts related to conflicts with existing utilities may be potentially significant.	Mitigation measure **MM-PU-1,** as described in Section 6.15, Public Utilities.	Below a Level of Significance

Table ES-1
Summary of Significant Environmental Impacts

Issue Area	Miramar Reservoir Alternative			San Vicente Reservoir Alternative		
	Impact	*Mitigation Measures*	*Level of Significance After Mitigation*	*Impact*	*Mitigation Measures*	*Level of Significance After Mitigation*
Transportation, Circulation, and Parking						
Would implementation of the North City Project result in an increase in projected traffic specifically associated with project-related construction that is substantial in relation to the capacity of the existing and planned circulation system?	Construction of the Morena Pipelines and North City Pipeline would exceed significance thresholds for roadways segments and intersections, and impacts would be potentially significant.	Mitigation measure **MM-TRAF-1** as described in Section 6.16, Transportation, Circulation and Parking.	Significant and Unavoidable	Construction of the Morena Pipelines and San Vicente Pipeline would exceed significance thresholds for roadway segments and intersections, and impacts would be potentially significant.	Mitigation measure **MM-TRAF-1** as described in Section 6.16, Transportation, Circulation and Parking.	Significant and Unavoidable

ES.5 EFFECTS NOT FOUND TO BE SIGNIFICANT

The remaining topics discussed in the EIR/EIS were found to be less than significant without mitigation; these topics include land use (Miramar Reservoir Only), aesthetics (Miramar Reservoir Only), environmental justice, energy, geology and soils, greenhouse gas emissions, hydrology and water quality, public services, water supply, and recreation.

ES.6 AREAS OF KNOWN CONTROVERSY

Public scoping meetings were held on August 23, 2016, at the Scripps Miramar Ranch Public Library, and on August 25, 2016, at the Public Utilities Department Metropolitan Operations Complex, to gather additional public input. Comments received during the Notice of Preparation (NOP) public scoping period and meetings were considered during the preparation of this EIR/EIS. Comment letters received during the NOP public scoping period expressed concern about biological resources, fisheries, recreation, water supply, water quality, health and safety/hazards, and public utilities. Additional comments received during Site Development Permit meetings and Environmental Committee and City Council meetings have voiced concern regarding traffic, road closures, impacts to the fishery at Miramar Reservoir, odor concerns, community impacts, and cost. These concerns have been identified as areas of known controversy and are also analyzed in Chapter 6 of this EIR/EIS. The NOP, scoping letter, and other NOP public comments are included as Appendix A of this EIR/EIS.

ES.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Per Section 15126.6(e)(2) of the CEQA Guidelines, an environmentally superior alternative must be identified (other than the No Project Alternative). CEQA also requires that the environmentally superior alternative be selected from the range of reasonable alternatives that could feasibly attain the basic objectives of the project.

As discussed in Chapter 6, Environmental Analysis, impacts resulting from implementation of the proposed North City Project would not occur under the No Project/No Action Alternative. Under this alternative, however, none of the project objectives would be met. CEQA Guidelines, Section 15126.6(e)(2), states that "if the environmentally superior alternative is the no project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Additionally, under the No Project/No Action Alternative, beneficial impacts realized by the proposed Project, such as the creation of a local renewable energy source and the replacement of existing imported supply with a new, local, drought-proof supply, would not occur.

The Miramar Reservoir and San Vicente Reservoir Alternatives would result in less-than-significant impacts, with and without mitigation, related to biological resources; environmental justice; energy; geology and soils; greenhouse gas emissions; health and safety/hazards; historical resources; hydrology and water quality; noise; paleontological resources; public services; public utilities; transportation, circulation, and parking; water supply; and recreation. While the significance of impact would be similar, the San Vicente Reservoir Alternative would result in a greater degree of impact to biological resources, electricity and energy consumption, and a smaller net decrease in greenhouse gas emissions when compared to the Miramar Reservoir Alternative. Additionally, the San Vicente Reservoir Alternative would result in significant and unavoidable impacts associated with air quality (related to construction emissions) and aesthetics (related to construction of the MTBS); both of which would be less than significant with mitigation for the Miramar Reservoir Alternative. Therefore, the Miramar Reservoir Alternative is considered the environmentally superior alternative.

CHAPTER 1 INTRODUCTION

This Environmental Impact Report/Environmental Impact Statement (EIR/EIS) evaluates the potential short-term and long-term, direct and indirect, cumulative, and combined environmental impacts of the North City Project, the first phase of the Pure Water San Diego Program (Pure Water Program). The North City Project, which is initiated by the City of San Diego (City) Public Utilities Department, involves the production of 30 million gallons per day (MGD) of purified water. The North City Project will expand the existing North City Water Reclamation Plant (NCWRP) and construct an adjacent North City Pure Water Facility (NCPWF) and North City Pump Station. Two alternative purified water pipelines are considered: one to Miramar Reservoir and one to San Vicente Reservoir. Other project components include a new pump station and forcemain to deliver additional wastewater to the NCWRP; a brine/centrate discharge pipeline; upgrades to the existing Metro Biosolids Center; a new North City Renewable Energy Facility at the NCWRP; and a new Landfill Gas (LFG) Pipeline between the Miramar Landfill gas collection system and the NCWRP. The location of the North City Project is depicted in Figure 1-1, Regional Map, and Figure 1-2, Vicinity Map.

The City of San Diego and the U.S. Bureau of Reclamation (Reclamation) are joint lead agencies in preparing this EIR/EIS in accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code, Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.), and the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.). Federal assistance is authorized by the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992 (Title XVI of Public Law 102–575). Section 1612, San Diego Area Water Reclamation Program, directs the Secretary of the Interior, in cooperation with the City of San Diego, to participate in planning, designing, and constructing demonstration and permanent facilities to reclaim and re-use water in the San Diego metropolitan service area. This authority is delegated to Reclamation.

This EIR/EIS is intended for use by both decision makers and the public. It provides relevant information concerning the potential environmental impacts associated with the construction and operation of the North City Project. Marine Corps Air Station (MCAS) Miramar, the Department of Veteran's Affairs National Cemetery Administration, and the U.S. Environmental Protection Agency are cooperating agencies under NEPA. Additional approvals from responsible agencies under CEQA are listed in Section 1.6.

1.1 BACKGROUND

On average, 85% of the City's water supply is imported from the Colorado River and Northern California. This reliance on imported water causes San Diego to be vulnerable to supply shortages and price increases.

With few local water supply options, the City has explored new potable and expanded non-potable reuse options of treated wastewater. In 2011, the City started operating a one MGD demonstration-scale advanced water purification facility at the NCWRP site and confirmed that the purified water complied with all federal and state drinking water standards.

During the 2010 National Pollutant Discharge Elimination System (NPDES) permit renewal process, San Diego Coastkeeper and the San Diego Chapter of the Surfrider Foundation entered into a Cooperative Agreement with the City to conduct the Recycled Water Study (City of San Diego 2012) to find ways to maximize water reuse and minimize the flow to the Point Loma Wastewater Treatment Plant (WWTP). In 2014, the City negotiated a second Cooperative Agreement with Coastkeeper, Surfrider, the Coastal Environmental Rights Foundation, and the San Diego Audubon Society (collectively referred to as the environmental stakeholders) for purposes of supporting potable reuse of wastewater and secondary equivalency. On April 29, 2014, the City Council adopted a resolution (R-308906) supporting the Pure Water Program.

On November 18, 2014, the City Council unanimously supported the application to renew the National Pollutant Discharge Elimination System permit for the Point Loma WWTP; the application included key elements of the City's Pure Water Program to implement potable reuse. The U.S. Environmental Protection Agency (EPA) and San Diego Regional Water Quality Control Board (RWQCB) released the Tentative Order No. R9-2017-0007 (Tentative Order/Permit) for public review and comment on October 28, 2016. The EPA and San Diego RWQCB revised the Tentative Order/Permit based on comments received, including revisions to the Compliance Schedule for the Pure Water San Diego Potable Reuse Tasks. The San Diego RWQCB adopted the Tentative Order/Permit on April 12, 2017, and it was issued by the EPA on August 4, 2017; the Tentative Order/Permit took effect on October 1, 2017 (San Diego RWQCB and EPA 2017). ~~The EPA and San Diego RWQCB are currently, as of February 10, 2017, seeking public comments on the proposed revisions to the Tentative Order/Permit and will consider adoption of the Revised Tentative Order/Permit on April 12, 2017 (EPA 2017).~~

The Pure Water Program will ultimately produce 83 MGD of locally controlled water and will be implemented in phases over a 20-year period, grouped by geographical area: North City, Central Area, and South Bay. The North City Project will produce 30 MGD of purified water and is scheduled to be operational in 2021. The Central Area project and/or South Bay projects are scheduled to be completed by December 31, 2035, and will produce a combined total up to 53 MGD.

A Final Program EIR for the Pure Water Program was certified by the City on October 25, 2016.

1.2 PURPOSE AND NEED

The purpose of the North City Project is to plan, design, construct and operate the treatment and conveyance facilities necessary to produce 30 MGD of purified water, thereby creating a new source of reliable, locally controlled water. The North City Project would expand the City's potable water production capacity to replace imported water supplies and would meet projected water demands within the City's service area as outlined in the conceptual future water supply sources in the City's 2015 Urban Water Management Plan. The North City Project will also serve existing and planned future non-potable recycled water customers.

The North City Project will provide increased protection of the ocean environment. The North City Project would reduce flows to the Point Loma WWTP, which would reduce total suspended solids discharged and recycle a valuable and limited resource that is currently discharged to the Pacific Ocean.

The City primarily relies on imported water supplies to meet the City's potable water demand. The region's reliance on imported water causes the City's water supply to be vulnerable to impacts from shortages and susceptible to price increases beyond the City's control. Potable reuse provides a proven, safe, and reliable source of water. The North City Project is needed to make San Diego more water independent and increase the reliability of water supplies.

The Point Loma WWTP currently operates with a Clean Water Act Section 301(h) modified National Pollutant Discharge Elimination System permit, which allows the City to operate without full secondary treatment. The North City Project, by reducing flows to the Point Loma WWTP, would contribute to the Point Loma WWTP's continued ability to meet modified treatment standards that would be the same as if the existing 240 MGD Point Loma WWTP were converted to secondary treatment standards by significantly reducing total suspended solids.

1.3 PROJECT OBJECTIVES

The North City Project would implement the first phase of the Pure Water Program. The Final Program EIR (City of San Diego 2016a) contains broad goals related to the Pure Water Program. Specifically, the North City Project goals and objectives include the following:

1. Produce 30 MGD of local, high-quality purified water to serve the San Diego region.
2. Reduce dependence on imported water.
3. Increase use of recycled water.
4. Reduce flows to the Point Loma Wastewater Treatment Plant and reduce total suspended solids discharged at the Point Loma ocean outfall.
5. Exceed the target online dates for the first phase of the Pure Water Program agreed to in the 2014 Cooperative Agreement[1] and meet the revised Compliance Schedule for the Pure Water San Diego Potable Reuse Tasks, Phase 1 of the Order No. R9-2017-0007[2].

1.4 CEQA REQUIREMENTS

CEQA requires the preparation of an EIR for any project that a lead agency determines may have a significant impact on the environment. According to Section 21002.1(a) of the CEQA statutes, "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." CEQA also establishes mechanisms whereby the public and decision makers can be informed about the nature of the project being proposed, and the extent and types of impacts that the project and its alternatives would have on the environment if they were to be implemented. This EIR/EIS has

[1] In 2014, the City negotiated a Cooperative Agreement with Coastkeeper, Surfrider, Coastal Environmental Rights Foundation, and the San Diego Audubon Society (collectively referred to as the environmental stakeholders) for purposes of supporting potable reuse of wastewater and secondary equivalency.

[2] Modified permit that commits to the goal of implementing a potable reuse program and obtaining legislative or administrative actions such that the Point Loma ocean outfall discharge is recognized as equivalent to secondary treatment for purposes of compliance with the Clean Water Act (secondary equivalency).

been prepared to comply with all criteria, standards, and procedures of the CEQA Guidelines (14 CCR 15000 et seq.).

This EIR/EIS has been prepared pursuant to the City's CEQA Significance Determination Thresholds (City of San Diego 2016b). This document represents the independent judgment of the City as lead agency.

1.4.1 NOTICE OF PREPARATION, NOTICE OF INTENT, AND SCOPING MEETINGS

The scope of analysis for the EIR/EIS was determined by the City and Reclamation in a scoping letter dated August 4, 2016, as well as a result of public responses to the Scoping Letter Notice of Preparation (NOP). In compliance with CEQA Guidelines Section 15082, the City's Development Services Department circulated the NOP and Scoping Letter to interested agencies, groups, and individuals. The 30-day public scoping period ended September 4, 2016. A Notice of Intent was circulated in the Federal Register on August 5, 2016, by Reclamation, requesting comments by September 6, 2016. The Notice of Intent was prepared and posted pursuant to NEPA (42 U.S.C. 4332(2)(c)), and Department of the Interior regulations for implementation of NEPA (43 CFR part 46). In addition, public scoping meetings were held on August 23, 2016, at the Scripps Miramar Ranch Public Library, and on August 25, 2016, at the Public Utilities Department Metropolitan Operations Complex, to gather additional public input. Comments received during the NOP public scoping period and meetings were considered during the preparation of this EIR/EIS. The NOP and Scoping Letter comments are included as Appendix A of this EIR/EIS. Based on the scope of analysis for this EIR/EIS, the following issues were determined to be potentially significant/adverse and are therefore addressed in Chapter 6, Environmental Analysis, of this document: land use, visual effects and neighborhood character, air quality/odor, biological resources, energy, environmental justice, geology/soils, greenhouse gas emissions, health and safety, historical resources, hydrology and water quality, noise, paleontological resources, public services, public utilities, transportation/circulation/parking, and water supply.

Additional CEQA- and NEPA-mandated environmental topics, such as agricultural and forestry resources, mineral resources, population and housing, marine fisheries, wilderness, and socioeconomic effects were not found to be significant based on the scoping results. These issues are addressed in Chapter 8, Effects Not Found to be Significant, of the EIR/EIS. Specific environmental topics were included in Chapter 8 because they did not meet the screening thresholds established in the City's Significance

Determination Thresholds (City of San Diego 2016b); therefore, impacts associated with these environmental topics were considered to be less than significant.

1.5 EIR/EIS FORMAT

An executive summary of this EIR/EIS is provided at the beginning of this document. The summary includes the conclusions of the environmental analysis and a comparative summary of the Alternatives analyzed in this EIR/EIS. Chapter 1, Introduction, introduces the North City Project in light of the required environmental review procedures and provides a description of the North City Project's purpose and need and required discretionary approvals. Chapter 2, Environmental Setting, Project Background and Regulatory Setting, describes the North City Project's location, physical environmental setting, and the City's current wastewater and water system; provides an overview of the regulatory setting for potable reuse; and provides a summary of related studies. Chapter 3, Project Description/Alternatives, provides a description of the components of the North City Project and each of the alternatives. Chapter 4, History of Project Changes, contains a discussion of how the North City Project has changed since issuance of the NOP. Chapter 5 provides the affected environment and regulatory setting. Chapter 6 consists of the environmental analysis, which examines the potentially significant/adverse environmental issues for the North City Project. Chapter 7, Cumulative Impacts, addresses cumulative impacts, and Chapter 8 discusses effects not found to be significant or adverse. Chapter 9 discusses significant environmental effects which cannot be avoided if the North City Project is implemented, significant irreversible environmental changes, and growth inducements, including the potential direct and indirect growth-inducing impacts of the North City Project. Chapter 10, Mitigation, Monitoring, and Reporting Program, provides mitigation for significant impacts incurred by the North City Project, and Chapter 11, References Cited, contains a list of sources cited throughout the EIR/EIS organized by section. The remaining EIR/EIS sections and appendices are provided as set forth in the table of contents.

1.6 DISCRETIONARY ACTIONS AND APPROVALS

The North City Project would require a variety of discretionary actions, approvals, and permits by the City, Reclamation, and various agencies. It is anticipated that this EIR/EIS will be used by these agencies in their decision-making process. Table 1-1 summarizes the future discretionary actions, approvals, and permits anticipated to be required as part of the implementation of the various components of the North City Project, and identifies agencies that would be responsible for granting the approvals and permits.

Table 1-1
Discretionary Actions and Approvals

Discretionary Action/Approval/Permit	Agency
Certification of the North City Project EIR	City of San Diego
Approval of funding for the North City Project	Bureau of Reclamation
Approval of funding under the Water Infrastructure Finance and Innovation Act Program for the North City Project	Environmental Protection Agency
Property and Easement Acquisition	City of San Diego; County of San Diego; City of Santee (San Vicente Reservoir Alternative Only)
Construction and Encroachment Permit(s)	City of San Diego; County of San Diego; City of Santee (San Vicente Reservoir Alternative Only)
Traffic Control Permit	City of San Diego (Transportation and Stormwater Department)
Groundwater Discharge Permit	City of San Diego (Public Utilities Department)
Site Development Permit	City of San Diego
Encroachment Permit	California Department of Transportation
Right of Entry Permit & Dual Right of Entry Permit	Metropolitan Transit System/North County Transit District
Easement Amendments and Acquisition	Metropolitan Transit System
Section 401 Permit – Water Quality Certification	State Water Resources Control Board/ Regional Water Quality Control Board
Section 404 Permit – Clean Water Act	U.S. Army Corps of Engineers
Section 1602 Streambed Alteration Agreement	California Department of Fish and Wildlife
Air Quality Permit to Construct/Permit to Operate	San Diego Air Pollution Control District
National Pollution Discharge Elimination Permit	San Diego Regional Water Quality Control Board
Waste Discharge Requirements	San Diego Regional Water Quality Control Board
DWQ Construction General Permit, including the stormwater pollution prevention plan	State Water Resources Control Board/Regional Water Quality Control Board
Domestic Water Supply Permit Amendment	State Water Resource Control Board, Division of Drinking Water
Obstruction Evaluation/Airport Airspace Analysis (OE/AAA), Form 7460-1	Federal Aviation Administration
Easement Amendments and Acquisition	MCAS Miramar/Department of Defense
Amendment of Property Easement	Department of Veteran's Affairs
Multi-Habitat Planning Area Boundary Line Adjustment for the SANDER Mitigation Site (approved July 12, 2017)	City of San Diego, Multiple Species Conservation Program, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service

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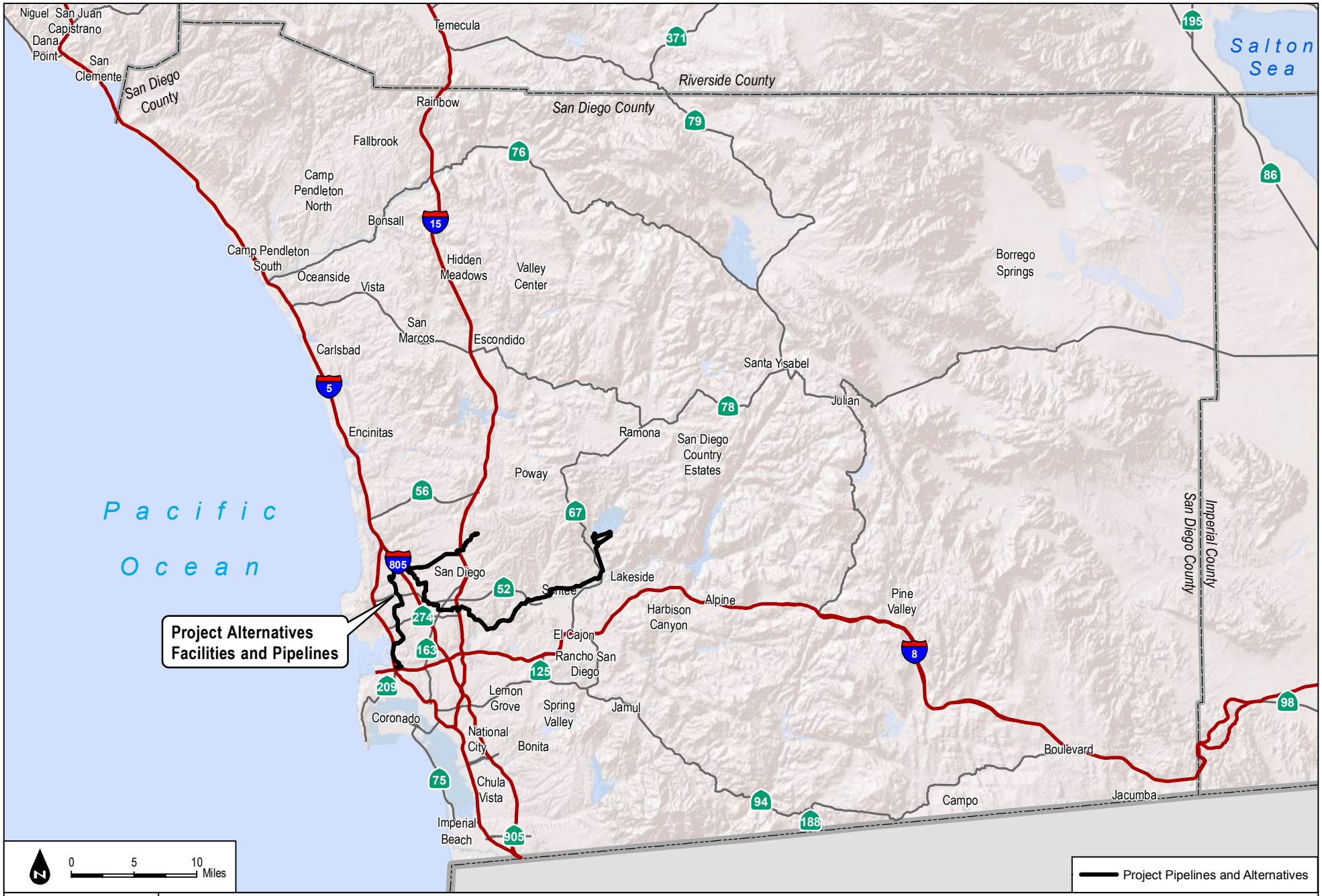

SOURCE: City San Diego 2016; ESRI 2016

FIGURE 1-1
Regional Map

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Pure Water San Diego Program North City Project EIR/EIS

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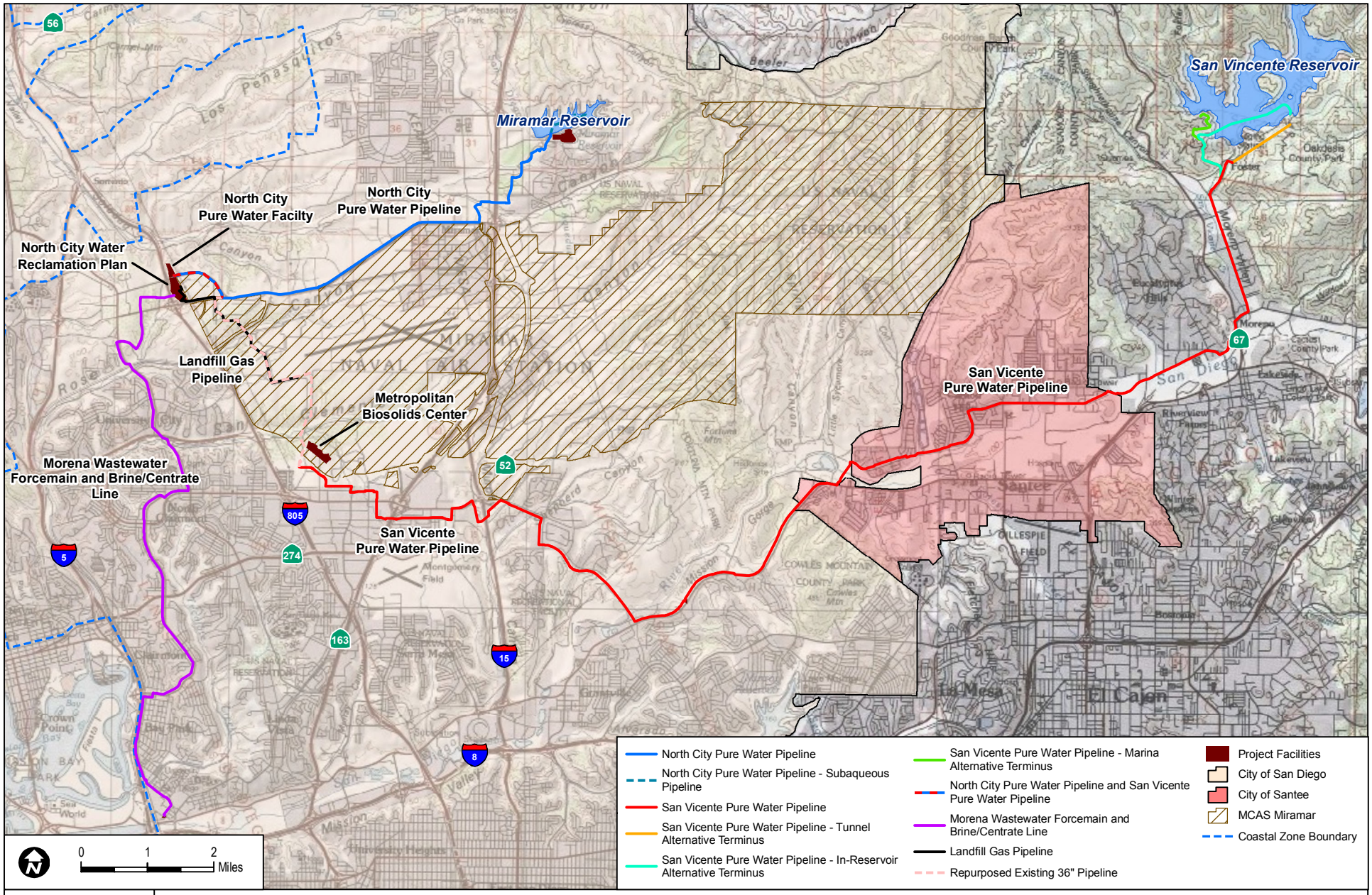

SOURCE: USGS 7.5-Minute Series Del Mar, Poway, San Vicente Reservoir, La Jolla, La Mesa, El Cajon Quadrangles; City of San Diego 2016; CA Coastal Commission

FIGURE 1-2

Vicinity Map

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Pure Water San Diego Program North City Project EIR/EIS

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CHAPTER 2 ENVIRONMENTAL SETTING

2.1 LOCATION

The North City Project includes a variety of facilities located throughout the central coastal areas of San Diego County, California within the southwest portion of Southern California (see Figure 1-1). As shown in Figure 1-2, project facilities are proposed in the North City geographic area. A new pure water facility and three pump stations would be located within the corporate boundaries of the City of San Diego (City). Proposed pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee, the community of Lakeside and other areas of unincorporated San Diego County, and federal lands within Marine Corps Air Station (MCAS) Miramar. Portions of the North City Project area fall within the City's Multiple Species Conservation Program and Multi-Habitat Planning Area, as further described in Section 5.1, Land Use.

2.2 PHYSICAL CHARACTERISTICS

The North City Project is generally located within the Coastal Plain geographic region of San Diego, west of the Peninsular Ranges and the Desert Basin regions. The Coastal Plain consists of a series of marine and non-marine terraces referred to as "mesas," which extend miles inland and are dissected by stream valleys. Much of the North City Project area is gently sloping or relatively flat, with steeper areas around the reservoirs.

The North City Project area lies within the South Coast Hydrologic Region, which drains in a westerly direction away from the Peninsular Ranges towards the Pacific Ocean. Project facilities are located with the San Diego and Peñasquitos Hydrologic Units. The San Diego Hydrologic Unit (907.00) is a long, triangular area covering approximately 440 square miles and is drained by the San Diego River and includes several reservoirs such as the San Vicente Reservoir. The Peñasquitos Hydrologic Unit (906.00) is a triangular area covering approximately 170 square miles (San Diego RWQCB 2016) and is drained by the Los Peñasquitos Creek.

The North City Project lies within the San Diego Air Basin, 1 of 15 air basins that geographically divide the state of California. The San Diego Air Basin is an area of high air pollution potential and experiences warm summers, mild winters, and infrequent rainfalls.

2.3 SURROUNDING LAND USES

The North City Project area is primarily developed with suburban uses including residential, commercial, industrial, and transportation uses. Transportation corridors in the vicinity include Interstate 805 (I-805), I-15, I-5, State Route 52 (SR-52), SR-163, SR-67, Miramar Road, Mission Gorge Road, Genesee Avenue, Morena Boulevard, Clairemont Mesa Boulevard, and Balboa Avenue. The new North City Pure Water Facility (NCWPF) would be located adjacent to the existing North City Water Reclamation Plant (NCWRP) site located at Eastgate Mall and I-805. The NCPWF is proposed to be located on an undeveloped site north of Eastgate Mall. The North City Pure Water Pump Station (North City Pump Station) would also be located on this currently undeveloped site. Carroll Canyon is located immediately north of the NCPWF site.

The NCWRP site is located south of Eastgate Mall and currently developed with wastewater treatment facilities, an operations building, and a power generation facility. The Demonstration Project is also located at the NCWRP and currently produces 1 million gallons per day (MGD) of purified water. I-805 borders the western edge of both the NCPWF and NCWRP properties and is a major north–south transportation corridor in the San Diego region.

The new Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) would primarily follow existing roads from the NCWRP through the University, Clairemont Mesa, and Linda Vista communities to the Morena Pump Station, which is located northeast of the intersection of I-5 and I-8 in a mostly industrial area. The Morena Pipelines alignment crosses urban canyons, including Rose, San Clemente, and Tecolote canyons, and associated open space systems. The San Diego River is just south of the Morena Pump Station.

The North City Purified Water Pipeline (North City Pipeline) would generally be located in the right-of-way of Miramar Road and other City streets in primarily commercial and industrial areas. The Dechlorination Facility would be located adjacent to the cul-de-sac at the end of Meanley Drive on City-owned property within a business park. The final portion of the North City Pipeline would run adjacent to the Scripps Ranch Library and Evan's Pond before entering Miramar Reservoir.

The Miramar Water Treatment Plant (Miramar WTP) is adjacent to Miramar Reservoir and is currently developed with water treatment facilities. Miramar Reservoir is located in the Scripps Miramar Ranch Community and was developed

in order to provide a drinking water storage facility. The reservoir currently provides secondary benefits as a recreational area. Picnic and barbecue facilities, parking, and a concession area are located near the reservoir entrance off Scripps Lake Drive. A paved services road encircles Miramar Reservoir providing bicycling, walking, and rollerblading opportunities (City of San Diego 2017a).

The Metro Biosolids Center (MBC) site is currently developed with biosolids treatment and handling facilities. MBC is located adjacent to the Miramar Landfill, north of SR-52 and south of MCAS Miramar.

The San Vicente Purified Water Pipeline (San Vicente Pipeline) would also generally be located in roadway right-of-way; however, the pipeline would utilize an existing 36-inch-diameter recycled water line that crosses the Miramar National Cemetery and undeveloped lands on MCAS Miramar, and would cross other undeveloped lands including the San Diego River. One of the proposed reservoir outfall discharge structures at San Vicente Reservoir is located in undeveloped land on the south side of San Vicente Reservoir. The Mission Trails Booster Station would also be located on undeveloped land along Mission Gorge Road adjacent to residences. The Landfill Gas Pipeline would parallel the existing 36-inch-diameter recycled water line and cross Miramar National Cemetery.

The San Vicente Reservoir is the largest reservoir in the City of San Diego. The San Vicente Reservoir was closed between September 2008 and September 2016 for the San Vicente Dam Raise Project. There is a public boat launching facility on the southern end of the San Vicente Reservoir that is accessed via Moreno Avenue. A concession, bait shop, and boat rental facility operated by Rocky Mountain Recreation Company are located at the boat launch. Fishing, general boating, and water contact activities are allowed Thursdays through Sundays; fishing and general boating are allowed on Mondays; and no activities are allowed on Tuesdays or Wednesdays (Rocky Mountain Recreation Company 2017).

2.4 PROJECT HISTORY AND BACKGROUND

2.4.1 EXISTING FACILITIES, WATER DEMANDS, AND WASTEWATER FLOWS

Potable Water System Overview

The City's Public Utilities Department not only delivers water to its citizens; it also supplies treated water to the city of Del Mar and the California American Water Company, which serves the cities of Coronado and Imperial Beach. As a result,

more than 1.36 million people receive approximately 65.7 billion gallons a year of water treated by the City.

After water is treated at the City's treatment plants, it is pumped to all parts of the City over 342 square miles (see Figure 2-1, City of San Diego Potable Water System). The City maintains and operates more than 3,300 miles of water lines; 49 water pump stations; 32 standpipes, elevated tanks, and concrete and steel reservoirs with a potable water storage capacity of more than 200 million gallons; more than 24,000 fire hydrants; and approximately 290,000 water meters. The pipelines range in diameter size from 2-inch service lines to 96-inch transmission pipelines. Because of San Diego's diverse topography, including sea level beach communities, mesas, hills, valleys, and canyons, the City maintains more than 120 pressure zones (City of San Diego 2017b).

On average, 85% of City's water supply is imported. The City purchases imported water from the San Diego County Water Authority (SDCWA). The City's local water supplies consist of surface water obtained from local watersheds. The City has nine local surface water reservoirs with more than 569,021 acre-feet (AF) of capacity, which are connected directly or indirectly to three water treatment plants. The largest reservoir is San Vicente Reservoir with a capacity of 242,000 AF since completion of the Emergency Storage Project (discussed in more detail in Section 2.4.3). The Miramar WTP has a rated capacity of 144 MGD and generally serves the City's geographical area north of the San Diego River (City of San Diego 2016a). The Alvarado WTP recently underwent upgrades and improvements and has a current capacity of 120 MGD. The Alvarado WTP generally serves the geographical area from National City to La Jolla Village Drive/Miramar Road. The Otay WTP has a current rated capacity of 34 MGD and serves south San Diego (City of San Diego 2017c).

The City overlies and is in the vicinity of several groundwater basins. Currently, less than 1% of the City's water supply is produced from groundwater resources that come from the San Vicente Production Well. The well has a maximum capacity of 600 gallons per minute, and raw water is treated at the Alvarado WTP. Additional groundwater supplies from the Santee-El Monte Basin and the San Diego Formation Basin are expected to augment the City's future water supply (City of San Diego 2016a).

City of San Diego Current and Projected Water Demands

The City's actual water use declined between 2005 and 2010 from 199,178 acre-feet per year (AFY) to 162,291 AFY for many reasons including economic conditions, response to the mandatory water use restrictions associated with the Level 2 Drought Alert, increased retail water costs, and conversion of potable water system customers to the recycled water system. The Drought Alert was lifted after the substantially above-average hydrologic events of the 2010/11 winter. Water use in the City had climbed back up to roughly 187,000 AFY by 2012, and to over 195,000 AF during the historically warm and dry 2014. The entire state experienced drought conditions between 2012 and 2016, and on May 5, 2015, the State Water Resources Control Board (SWRCB) adopted water use restrictions, including allocation reductions, from Calendar Year 2013 levels, for every individual water agency in the state. Due to above-average hydrologic events in the recent 2016/2017 winter, the City is now operating at a Level 1 Drought Watch, and landscape watering restrictions are no longer mandatory. However, it is assumed that some portion of the reduction in water use will continue to be realized even though the drought restrictions have been lifted, as many have replaced high water use landscaping with drought-tolerant and California native landscaping, in addition to more and more water efficient technologies being adopted. Nonetheless, the City's expected population growth in the future will continue to increase water demands (City of San Diego 2015a; City of San Diego 2017d).

The City receives, on average, 85% of its water from its wholesale supplier, SDCWA, which is responsible for providing a safe and reliable supply of water to its 24 member agencies, including the City of San Diego. SDCWA serves 95% of the County of San Diego's population over an area of 951,000 acres. Up to 80% of the region's water is imported from the Colorado River and Northern California. The Metropolitan Water District of Southern California is SDCWA's largest supplier, providing more than half of the water used in 2010 (SDCWA 2017). The remaining water supply comes from SDCWA's long-term water conservation and transfer agreement with the Imperial Irrigation District, conserved water resulting from lining of portions of the All-American and Coachella Canals in Imperial Valley, and local supply sources including groundwater, local surface water, recycled water, and conservation (SDCWA 2017). Seawater desalination also came on line in December 2015, producing from 48,000–56,000 AFY of drought-proof potable supply.

Metropolitan Wastewater and Water Reclamation System Overview

The City of San Diego operates the Metropolitan Sewerage System (Metro System) which provides regional wastewater treatment and disposal for the City and 12 Participating Agencies (the cities of Chula Vista, Coronado, Del Mar, El Cajon, Imperial Beach, La Mesa, National City, and Poway; the Lemon Grove Sanitation District, the Otay Water District, the Padre Dam Municipal Water District, and the County of San Diego (on behalf of Winter Gardens Sewer Maintenance District, and the Alpine, Lakeside and Spring Valley sanitation districts)). The system was designed to provide sufficient capacity to accommodate a regional population in excess of 2.5 million, and covers a 450-square-mile area including most of the City, stretching from Del Mar and Poway to the north, Alpine and Lakeside to the east, and south to San Ysidro. The Metro System consists of wastewater treatment plants, conveyance facilities (including major pipelines and pump stations), two ocean outfalls, water reclamation plants, and a regional biosolids processing facility. Figure 2-2, City of San Diego Metropolitan Sewerage System, provides a schematic of the Metro System showing the major facilities. As described below, the Point Loma Wastewater Treatment Plant (Point Loma WWTP) is the main treatment plant in the Metro System, and uses a chemically enhanced primary treatment process that uses chemical coagulant and flocculent to remove suspended solids. Wastewater treated through the chemically enhanced primary treatment process is disposed via an ocean outfall. The City also operates two water reclamation plants: the NCWRP and the South Bay Water Reclamation Plant (SBWRP). These plants are capable of treating wastewater to a level that is suitable for non-potable reuse, as further described below (City of San Diego 2012).

Point Loma Wastewater Treatment Plant

The Point Loma WWTP is the main treatment facility in the Metro System with a rated capacity of 240 MGD based on annual average daily flows (AADFs) and a peak wet weather capacity of 432 MGD. The Point Loma WWTP is located on the south and western coastline of the Point Loma Peninsula. It discharges treated effluent into the Pacific Ocean 4.5 miles offshore at a depth of over 300 feet via the Point Loma Ocean Outfall. Biosolids are separated and pumped 17 miles to the MBC located adjacent to the Miramar Landfill, further described below (City of San Diego 2012).

Between 2003 and 2009, wastewater flows recorded at the Point Loma WWTP ranged from 145 MGD to 185 MGD, with peak flows in 2005 resulting from a

significant above-average rainfall season. High flows occur during rain due to infiltration of storm water into the sewer system. The flows then steadily decreased until 2009 as a result of increased recycled water production at the NCWRP and SBWRP, as well as from implementation of significant water conservation and water efficiency measures (City of San Diego 2012). The AADF rate at the Point Loma WWTP in 2014 was 141 MGD (City of San Diego 2015b).

North City Water Reclamation Plant

The NCWRP is one of two water reclamation plants in the Metro System that uses both the secondary and tertiary treatment processes. Secondary treatment removes the dissolved organic matter through the use of microbes that consume the organic matter. The biological process is then followed by settling tanks to remove the biological suspended solids. The tertiary treatment process involves additional filtration and disinfection, which produces water that is suitable for reuse in non-potable applications, such as irrigation and industrial uses. The NCWRP's permitted capacity is 30 MGD (based on an AADF rate); however, it was master-planned for expansion to 45 MGD. Annual average non-potable recycled water output averaged 7 MGD in 2016 (City of San Diego 2017e). Wastewater in excess of the non-potable recycled water demands is treated to secondary level and diverted to the Metro System into the Rose Canyon Trunk Sewer and ultimately flows to the Point Loma WWTP for ocean disposal (City of San Diego 2012).

South Bay Water Reclamation Plant

The SBWRP was commissioned in 2002 and has a permitted capacity of 15 MGD AADF. The facility is located in the Tijuana River Valley near the international border and serves the surrounding area. The SBWRP also treats water up to a tertiary level to produce non-potable recycled water to be distributed to surrounding communities for irrigation and industrial uses; the majority of the South Bay demand comes from the Otay Water District through a wholesale agreement between the Otay Water District and the City. Annual average non-potable recycled water output averaged 6 MGD in 2016 (City of San Diego 2017e). Wastewater in excess of the non-potable recycled water demands is treated to secondary level and discharged to the ocean via the 3.5-mile-long, 100-foot-deep South Bay Ocean Outfall. Solids removed at the SBWRP are returned to the collection system for transport to the Point Loma WWTP for treatment and then ultimately to the MBC for processing (City of San Diego 2012).

Recycled Water Conveyance System

The City also operates a non-potable recycled water conveyance and delivery system consisting of two service areas—the Northern Service Area and the Southern Service Area—supplied with recycled water from the NCWRP and SBWRP, respectively. Three wholesale purchasers of recycled water for the City are located within the service area: the City of Poway and Olivenhain Municipal Water District in the Northern Service Area, and Otay Water District in the Southern Service Area. The recycled water conveyance system and water reclamation plants are shown on Figure 2-3, City of San Diego Recycled Water Conveyance System.

Metro Biosolids Center

The MBC is a biosolids treatment facility adjacent to the Miramar Landfill. MBC receives anaerobically digested sludge from the Point Loma WWTP and primary and waste-activated sludge from the NCWRP. At MBC, NCWRP wastes are thickened, digested, and dewatered, while the digested sludge from Point Loma WWTP is only dewatered. Silos are provided to store dewatered biosolids before transferring to the truck loading facilities. Dewatered biosolids are hauled away for land application or landfill cover.

Centrate, which is the water remaining after centrifugation at MBC, is currently pumped through a 4.3-mile-long, 20-inch-diameter force main to a drop structure at the Influent Pump Station at NCWRP. From there it is discharged by gravity to the Rose Canyon Trunk Sewer, which flows to Pump Station 2 and eventually to the Point Loma WWTP for treatment and discharge through the ocean outfall.

The MBC is currently sized to treat 179 dry tons per day (City of San Diego 2012).

Wastewater Pump Stations

Most of the wastewater collection in San Diego relies on gravity for the flow of wastewater through sewers to a treatment plant. In some instances, it is necessary to pump this wastewater uphill before it can return to a gravity flow. There are 8 major pump stations in the Metro and Municipal Systems and 75 smaller municipal pump stations (City of San Diego 2017b).

The largest Pump Stations are Pump Stations No. 1 and No. 2. Pump Station No. 1, located on East Harbor Drive, collects all of south San Diego's wastewater and conveys an AADF of 75 MGD. It sends the wastewater flow north via the 8-mile-long

South Metro Interceptor Sewer to Pump Station No. 2, which is located on North Harbor Drive. The AADF into Pump Station No. 2 is approximately 180 MGD. This station pumps the wastewater to the Point Loma WWTP through two 87-inch-diameter force mains and the 114-inch-diameter West Point Loma Interceptor Sewer. The two pump stations have 24-hour staffing (City of San Diego 2017b).

Other Agency Water Reclamation Capacity

Two additional reclamation plants (each separately owned and operated by Participating Agencies)—the Padre Dam Water Recycling Facility and the Ralph W. Chapman Water Recycling Facility—also offload flows before reaching the Metro System (see Figure 2-2). The conveyance of non-potable recycled water from the reclamation plants to customers (via pumps, piping, and reservoirs) is coordinated by individual water purveyors and is not part of the Metro System (City of San Diego 2012).

The Padre Dam Municipal Water District began operating an Advanced Water Purification Demonstration Project in April 2015 at the Ray Stoyer Water Recycling Facility to evaluate treatment strategies needed to meet the requirements for potable reuse from recycled water. The Advanced Water Purification Demonstration Project is currently processing approximately 100,000 gallons of water per day for demonstration and testing purposes. In addition, the District has completed the East County Advanced Water Purification Program (ECAWPP) planning study in a collaborative partnership between the Helix Water District, County of San Diego, and City of El Cajon. As stated in the planning study, the primary objectives of the ECAWPP are (1) to utilize wastewater generated in East County to create a cost-effective new source of local, reliable, and drought-proof water supplies for potable and non-potable uses; and (2) to minimize future financial liabilities related to the Metro System. The planning study evaluated alternatives for increasing recycled water availability and use within San Diego East County and identified a preferred alternative that would produce up to 15.5 MGD of new potable water. It is envisioned that the ECAWPP would be executed in three phases. Phase 1 would include expansion of the Ray Stoyer Water Recycling Facility from 2 MGD to 6 MGD and construction of a 2.2- to 3.5-MGD capacity advanced water treatment plant by 2023. The approximately 3.5 MGD of advanced water purification effluent would either recharge the Santee Basin aquifer or augment water supply at Lake Jennings, owned and operated by the Helix Water District. Phase 2 would include expansion of the water recycling facility to 15 MGD, producing a total of 10.4 MGD of purified water for surface

water augmentation at Lake Jennings by ~~2023~~2025. Phase 3 would expand the water recycling facility capacity to 21 MGD, producing a total of 15.5 MGD of purified water for surface water augmentation at Lake Jennings by 2035 (Padre Dam Municipal Water District 2016).

A draft Program EIR was released in December 2016 for the Padre Dam Municipal Water District Comprehensive Facilities Master Plan. The draft Program EIR considers 173 projects identified in the Master Plan, which would meet existing and future potable water system demands. The ECAWPP Project is a key component of the Master Plan (Padre Dam Municipal Water District 2016). The Final Program EIR for the Comprehensive Facilities Master Plan was certified in May 2017.

2.4.2 REGULATORY SETTING

A number of laws and regulations currently exist to ensure the protection of public health related to both indirect potable reuse and the treatment of drinking water. The statutory and regulatory framework surrounding recycled water and potable reuse as relevant to the North City Project is described below.

Agency Roles, Responsibilities, and Statutory Authority

U.S. Environmental Protection Agency

The principal federal agency involved in drinking water regulation is the U.S. Environmental Protection Agency (EPA). The EPA is responsible for implementing federal drinking water law, setting national drinking water requirements, and overseeing the California SWRCB enforcement of the federal law.

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of Americans' drinking water. Under the SDWA, the EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The SDWA authorizes the EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. The EPA, states, and water agencies then work together to make sure that these standards are met. Originally, SDWA focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments to the SDWA greatly enhanced the existing law by recognizing source water protection, operator training, funding for water system improvements, and public information as important components of

safe drinking water. This approach ensures the quality of drinking water by protecting it from source to tap.

State Water Resources Control Board

The principal state regulatory agency involved in drinking water quality and potable reuse in California is the SWRCB. In 1991, the SWRCB and its nine Regional Water Quality Control Boards (RWQCBs) were brought together with five other state environmental protection agencies under the newly crafted California Environmental Protection Agency (CalEPA). CalEPA was formed by a Governor's Executive Order to create a cabinet level voice for the protection of human health and the environment and to ensure the coordinated deployment of state resources. At the time, and up until 2014, the California Department of Public Health (CDPH)—which is a department under the California Health and Human Services Agency and not part of CalEPA—was responsible for regulating and enforcing potable water quality standards. On July 1, 2014, the CDPH Drinking Water Program and the Environmental Laboratory Accreditation Program[1] moved from CDPH to the SWRCB. The roles and functions of the Drinking Water Program and the Environmental Laboratory Accreditation Program remain the same, but are now administered by the SWRCB under the Division of Drinking Water (DDW).

The SWRCB receives the majority of its statutory authority related to public health and potable water from the California Safe Drinking Water Act, as defined in the California Health and Safety Code and Titles 17 and 22, California Code of Regulations. In addition, the SWRCB DDW has the primary enforcement authority (primacy) to enforce the federal SDWA, and is responsible for the regulatory oversight of about 8,000 public water systems[2] (PWSs) throughout the state including the City of San Diego's water system. As discussed in Section 5.11, Hydrology and Water Quality, the SWRCB also administers and enforces regulations pertaining to protection of water quality and beneficial uses of water (including both surface water and groundwater) under the Porter-Cologne Water Quality Control Act, aspects of the federal Clean Water Act, and other statutes. The purpose of transferring the CDPH Drinking Water Program to the SWRCB was to promote more integrated water

[1] The Environmental Laboratory Accreditation Program provides evaluation and accreditation of environmental testing laboratories to ensure the quality of analytical data used for regulatory purposes to meet the requirements of the state's drinking water, wastewater, shellfish, food, and hazardous waste programs.

[2] Public water systems are systems that either have 15 or more service connections or regularly serve at least 25 individuals daily at least 60 days out of the year.

quality management, from source to tap, and to take advantage of the natural synergies and common resources needed to ensure both (1) the protection of surface water quality in the environment and (2) the protection of human health through administration and enforcement of potable water standards.

Other State and Local Agencies

In addition to the SWRCB, there are several state agencies that have a role in regulating certain types of PWSs, including PWS formation, design, construction, and operation, including the rates that they can charge their customers. For example, the Department of Pesticide Regulation is responsible for ensuring that pesticides do not pollute groundwater. In addition to the SWRCB's role in ensuring that drinking water standards are protective of public health, the Office of Environmental Health Hazard Assessment is responsible for providing the SWRCB with health-based risk assessments for contaminants; these assessments are used to develop primary drinking water standards.

Local agencies also have a role in drinking water regulation both through direct oversight of certain PWSs and through activities that affect a PWS service area. In addition to other functions, Local Agency Formation Commissions oversee the expansion of service areas of public agencies that are PWS and can review to determine if an agency is providing municipal services in a satisfactory manner, including the delivery of safe drinking water.

Drinking Water Quality Standards

U.S. Environmental Protection Agency

Drinking water standards are set by the EPA to control the level of contaminants in the nation's drinking water. The SDWA requires the EPA to set these standards, which public water systems in the United States are required to meet. Enforceable standards set by the EPA come in the form of a maximum contaminant level[3] (MCL) and/or a treatment technique[4] (TT). Examples of rules requiring TTs are the Surface Water Treatment Rule (requires disinfection and filtration) and the Lead and Copper Rule (requires optimized corrosion control). The Lead and Copper Rule, for

[3] A maximum contaminant level is the maximum concentration of a contaminant allowed in water delivered to a user of any public water system.

[4] A treatment technique is the required procedure or level of technological performance set when there is no reliable method to measure a contaminant at very low levels.

example, outlines additional treatment or other requirements a PWS must follow if water samples show exceedances of the action level trigger. The process for establishing an MCL involves consideration of both health risk and technological and economic feasibility. After considering the level of a contaminant in drinking water below which there is no known or expected health risk (referred to as an "MCL Goal"), technological and economic feasibility, and public comments and other information, the EPA finalizes enforceable MCLs or TTs to provide the maximum feasible protection. The EPA has set standards for 90 chemical, microbiological, radiological, and physical contaminants in drinking water.

The EPA also sets Secondary Drinking Water Regulations, which are nonenforceable guidelines for contaminants that may cause cosmetic effects (such as skin and tooth discoloration) or aesthetic effects (such as taste or odor). Water systems are not required by the EPA to adopt these secondary standards, but states may choose to adopt and enforce them.

The EPA and others are currently conducting research and collecting information to determine which currently unregulated contaminants pose the greatest public health risk and will therefore be regulated in the future. MCLs, TTs and other drinking water standards are not fixed and absolute; they evolve as analytical testing methods become more precise, as new scientific information regarding the public health effects of pollutants is revealed, and as technological advancements are made in the field of water treatment. The EPA continually coordinates with state agencies and the scientific community to ensure adopted drinking water quality standards reflect the current state of knowledge regarding the health effects and toxicology of chemical constituents.

State Water Resources Control Board

The California SDWA prescribes enforceable primary standards for five major categories of drinking water contaminants consisting of microorganisms, disinfectants and disinfection byproducts, inorganic chemicals, organic chemicals, and radionuclides (i.e., radioactive forms of elements). Primary drinking water standards established by the SWRCB under the California SDWA are equivalent or more stringent than those set by the EPA under the aforementioned federal SDWA. The DDW has adopted new or more stringent drinking water standards for at least 16 inorganic and 33 organic contaminants, 2 groups of disinfection byproducts, 2 individual disinfection byproducts, and 2 treatment technique requirements. Domestic Water Quality and Monitoring Regulations (22 CCR 64400 et seq.) include MCLs for chemicals, monitoring

requirements, compliance determination procedures, and requirements for public notification in case of failure. Monitoring requirements were also established in 2001 for nine unregulated organic and inorganic chemical contaminants, which allowed collection of information on their presence in drinking water supplies. In addition, secondary MCLs have been established for nonhealth concerns, based on aesthetic issues, such as taste, odor, or color in the water. The SWRCB and EPA have established secondary MCLs for at least 15 contaminants.

The Surface Water Treatment Rule (22 CCR 64650 et seq.) is a set of regulations intended to control the pathogenic microorganisms found in surface water sources by setting treatment requirements in lieu of MCLs. The regulations establish source sanitary survey, multi-barrier treatment, treatment design, operation, reliability, monitoring, reporting, and failure notification requirements. The regulation requires that the water source, be it surface water or groundwater under the direct influence of surface water, received permit approval from SWRCB in accordance with Sections 116525 through 116550 of the Health and Safety Code.

With regard to chemical contaminants that do not have established MCLs, the SWRCB establishes notification levels, which are health-based advisory levels. When chemicals are found at concentrations greater than their notification levels, certain reporting requirements apply. In addition, the SWRCB has established response levels at two to three times higher than each notification level, where the SWRCB recommends removal of a drinking water source from service to protect public health. The SWRCB has established notification levels and response levels for at least 30 constituents.

Evolution and Trends in Drinking Water Standards

Individual treatment technologies are designed to be effective in removing one or more types of contaminants including particulate, chemical, and biological contaminants. The application of a specific treatment technology depends on the type of contaminants present in the source water. Generally, groundwater sources contain more chemical contaminants, whereas surface water sources contain more particulate matter, and most waters require disinfection treatment in order to render the water microbiologically safe for human consumption. Technologies used for reducing or removing biological contaminants are classified disinfection or reduction treatment processes or as particulate or turbidity removal or filtration treatment processes (SWRCB 2015).

PWSs have long employed treatment techniques that have been effective at removing bacterial, viral, and protozoan pathogens; industrial chemicals; pesticides; and water-treatment byproducts. Contaminants that have emerged in the last few decades, such as perchlorate, methyl tertiary butyl ether (MTBE), *Giardia*, and *Cryptosporidium*, have been regulated and effectively controlled through treatment; while others, such as 1,2,3-trichloropropane (1,2,3-TCP), and N-Nitrosodimethylamine (NDMA), are in the process of becoming regulated by DDW. Notification levels for both 1,2,3-TCP and NDMA have been established, and the SWRCB is proposing an MCL for 1,2,3-TCP. Standards for some regulated chemicals, such as hexavalent chromium, arsenic, and disinfection byproducts, have been newly established or have become more stringent in the last decade.

Recent trends in recycled water use applications have focused on contaminants of emerging concern (CECs). Such contaminants include pharmaceuticals, endocrine-disrupting compounds such as hormones, and other environmentally persistent chemicals that enter the wastewater system through human use. These constituents are not currently regulated in the potable water supply or in wastewater. Studies indicate that conventional secondary wastewater treatment only partially removes CECs; however, three of the advanced treatment processes, specifically ozonation, reverse osmosis (RO), and advanced oxidation, have each been demonstrated to reduce such chemicals to nondetectable or very low levels. The SWRCB convened an expert advisory group and expert panel to identify knowledge gaps, recommend criteria, and determine other actions needed to successfully establish uniform statewide health-protective criteria for advance wastewater treatment systems and surface water augmentation (see the discussion under Potable Reuse Draft Regulations below).

Public Water System Permitting

PWS permits are issued to each producer or purveyor of drinking water serving a specified minimum number of connections as required by the California Health and Safety Code. The permit covers each source of water used by the system. These permits and their accompanying engineering reports identify the source site, construction, and contaminant threats, and establish the treatment, operational, and monitoring requirements for each source. Almost all permits include special provisions established specifically for the individual water system, setting forth operating requirements that, if not met, could result in a formal enforcement action. Permits do not have expiration dates, but whenever a water system adds a new water source, adds or changes treatment, has a change in ownership, or makes

changes that are not in compliance with DDW drinking water regulations, then an amendment to the water permit is required.

In the case of potable reuse, the use of recycled water as a source must be identified in the PWS permit. There are several regulations, draft regulations, and policies that SWRCB uses in its current operations that must be considered in the development of any project involving potable reuse.

A Consumer Confidence Report is required annually for each PWS (22 CCR 64481). Each report must contain information on the source of the water delivered, including:

- The type of water delivered by the water system (e.g., surface water, groundwater, and the commonly used name [if any] and location of the body of water).
- If a source water assessment has been completed, notification that the assessment is available, how to obtain it, the date it was completed or last updated, and a brief summary of the system's vulnerability to potential sources of contamination.

The report is intended to clearly communicate to the public the source of their water, threats to the source, and any water quality problems. The City of San Diego (City) Public Utilities Department publicizes its annual drinking water quality reports (consumer confidence report) online at https://www.sandiego.gov/water/quality/reports. The City provides potable water that meets or exceeds all state and federal potable water quality standards.

Non-potable Recycled Water Regulations

Non-potable recycled water (also referred to as “reclaimed water” in the United States or “Title 22 water” in California) is a broad term that encompasses several beneficial uses of treated wastewater. Chapter 3 of CCR Title 22, Division 4, outlines criteria for non-potable water recycling. This document is commonly abbreviated as Title 22 in the industry, and contains regulations that govern the sources, production, intended use, and quality of recycled water. Limited applications are allowed at secondary treatment levels. Most agencies in California operate water reclamation plants meeting disinfected tertiary standards (which add filtration and disinfection process after secondary treatment). Disinfected tertiary treatment plants allow serving much broader uses.

The City's plants, along with Padre Dam Municipal Water District's and the Otay Water District's plants, include disinfected tertiary treatment, which allows them to serve the broadest application of non-potable recycled water uses in San Diego County. Allowed uses of tertiary treated recycled water include applied irrigation (including agricultural and landscaping), fire protection, toilet/urinal flushing, and construction uses (e.g., dust control, soil compaction, concrete mixing).

On February 3, 2009, the SWRCB adopted Resolution 2009-0011, Adoption of a Policy for Water Quality Control for Recycled Water (Recycled Water Policy). The Recycled Water Policy promotes the use of recycled water to achieve sustainable local water supplies, but also requires consistency with the SWRCB Policy 68-16, known as the Anti-degradation Policy. The Anti-degradation Policy requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Anti-degradation Policy allows limited degradation of water quality so long as such degradation does not result in water quality impaired to levels above water quality objectives as defined in Regional Basin Plans. Additionally, the Drought State of Emergency proclaimed in 2014 led the California Legislature to declare that a substantial portion of future water requirements may be met by beneficial use of recycled water.

The State Recycled Water Policy [Section 9.d] states, "Landscape irrigation with recycled water in accordance with this Policy is to the benefit of the people of the State of California. Nonetheless, the State Water Board finds that the use of water for irrigation may, regardless of its source, collectively affect groundwater quality over time" (SWRCB 2013). To assess whether a recycled water use project meets the Anti-degradation Policy requirements, the State Recycled Water Policy stated that a:

> project that meets the criteria for a streamlined irrigation permit and is within a basin where a salt/nutrient management plan satisfying the provisions of paragraph 6(b) is being prepared may be approved by the Regional Water Board by demonstrating through a salt/nutrient mass balance or similar analysis that the project uses less than 10 percent of the available assimilative capacity as estimated by the project proponent in a basin/sub-basin.

Potable Reuse Draft Regulations

California Senate Bill 918, signed into law on September 30, 2010, provided funding and deadlines to complete regulations for indirect potable reuse projects and to

evaluate direct potable reuse. The law required the CDPH Drinking Water Program (now the SWRCB DDW) to adopt uniform water recycling criteria for potable water reuse for groundwater recharge by December 31, 2013. These draft regulations were completed and adopted on June 18, 2014, as 22 CCR Division 4, Chapter 3, Articles 5.1 and 5.2, "Indirect Potable Reuse: Groundwater Replenishment – Surface Application / Subsurface Application."

The law also required the department to develop and adopt uniform water recycling criteria for surface water augmentation by December 31, 2016. The proposed surface water augmentation regulations went through two separate external review processes: (1) an external scientific peer review of the basis of the scientific portions of the regulation (per Health and Safety Code section 57004), and (2) an evaluation by an expert panel as to whether the proposed uniform water recycling criteria for surface water augmentation adequately protects public health. These external review process were completed by the end of 2016, finding that the proposed uniform water recycling criteria for surface water augmentation adequately protects public health. The regulations include the following: (1) specific water quality criteria that must be met for approval of a "Surface Water Source Augmentation Project"; (2) describe the minimum required advance treatment processes, lab analyses, source control, and chemical/contaminant monitoring protocols; and (3) requires the water agency (or agencies) proposing such a project to submit a joint plan to the SWRCB and RWQCB outlining corrective actions to be taken in the event that a delivery of recycled municipal wastewater from the Surface Water Source Augmentation Project to an augmented reservoir fails to meet required water quality criteria, and procedures to be used in notifying the SWRCB and RWQCB of any operational changes that might adversely affect the quality of the recycled municipal wastewater to be delivered to an augmented reservoir. In addition, the plan must demonstrate the agency's financial, managerial, and technical capability to comply with the regulations; and demonstrate that all proposed treatment process will be operated, as designed, to achieve their intended function.

On July 21, 2017, the SWRCB announced the proposed regulatory action to amend California Code of Regulations, Title 22, Division 4, Chapters 3 and 17, for the purpose of establishing regulations governing surface water augmentation. The public comment period closed~~s~~ September 12, 2017, after which the SWRCB will consider the comments received, revise the regulations if appropriate, set an effective date, and submit them to the Office of Administrative Law for eventual adoption.

Potable reuse is currently regulated by the SWRCB and the RWQCBs through the issuance of National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements. These are described in greater detail in Section 5.11, Hydrology and Water Quality. The proposed surface water augmentation regulations would not preclude the RWQCB, via their authority and responsibility, from imposing more stringent requirements when issuing a waste discharge and/or water recycling permit to water recycling agencies that may choose to engage in surface water augmentation, including having to meet NPDES requirements established by the EPA. With respect to augmentation of water supply reservoirs using water that has undergone advanced purification, it is stated in the California Health and Safety Code (Section 116551) that SWRCB DDW shall not issue a permit to a public water system or amend a valid existing permit for the use of a reservoir as a source of supply that is directly augmented with recycled water unless SWRCB DDW performs an engineering evaluation of the proposed treatment technology and finds that the proposed technology will ensure that the recycled water meets all applicable primary and secondary drinking water standards and poses no significant threat to public health.

National Pollution Discharge Elimination System Permit

The Point Loma WWTP operates with a modified NPDES Permit that includes a variance from the federal Clean Water Act (CWA) secondary requirements for the discharge of total suspended solids and biochemical oxygen demand. The permit contains modified standards for only these two substances; all other constituents in the discharge meet the same standards as in a secondary permit. This variance has ensured protection of ocean water quality from discharges at the Point Loma WWTP ocean outfall while avoiding unnecessary and expensive upgrades at the Point Loma WWTP to secondary treatment capacity. The City currently operates the SBWRP at a secondary treatment level, which can be discharged to the ocean through the South Bay Ocean Outfall with no permit modification.

Section 301(h) of the CWA allows the EPA to grant variances to ocean dischargers who demonstrate that the modified standards are not harmful to the ocean. Additionally, in the 1990s, the City worked with the local congressional delegation to pass special legislation modifying the CWA to provide the City with its own unique ability to apply for a modified permit for the Point Loma WWTP. This legislation, known as the Ocean Pollution Reduction Act, was signed into law on October 31, 1994, and as a result, the City received its first modified permit in 1995. The permit must be renewed every 5 years.

In 2010, the EPA granted the City of San Diego its third 301(h) modified NPDES Permit. The 301(h) modification allows the City to continue operating the Point Loma WWTP as a chemically enhanced (advanced) primary treatment facility instead of upgrading the Point Loma WWTP to secondary treatment. During the 2010 NPDES permit renewal process, San Diego Coastkeeper and the San Diego Chapter of the Surfrider Foundation (Surfrider) entered into a Cooperative Agreement with the City to conduct the Recycled Water Study (City of San Diego 2012), described above, to find ways to maximize water reuse and minimize the flow to Point Loma WWTP. In accordance with the agreement, both organizations provided support to the EPA's decision to grant the modified permit. In 2014, the City negotiated a second Cooperative Agreement with San Diego Coastkeeper, Surfrider, Coastal Environmental Rights Foundation, and the San Diego Audubon Society (collectively referred to as the Environmental Stakeholders) for purposes of supporting potable reuse of wastewater and secondary equivalency.

The City has the legal authority under the Ocean Pollution Reduction Act to continue applying for a modified permit each renewal term. Results from the City's extensive Point Loma WWTP and ocean monitoring program have shown that discharges from the Point Loma WWTP continue to meet all requirements of the modified permit; however, NPDES discharge permits must be renewed every fice years and the modified permit must be re-justified in conjunction with each renewal~~because a modified permit is not a standard process, there is always uncertainty that the EPA would continue to approve this in the future~~. As part of its report of waste discharge, the City submitted a modified permit application for the 2015 permit renewal that committed to the goal of implementing a potable reuse program (Pure Water Program) and obtaining legislative or administrative actions such that the Point Loma Ocean Outfall discharge is recognized as equivalent to secondary treatment for purposes of compliance with the CWA (secondary equivalency). Implementation of the Program would off-load the Point Loma WWTP by removing flows and constituents upstream. This diversion would reduce the amount of water, total suspended solids, and biochemical oxygen demand discharged to the ocean.

On September 17, 2015, the City received a letter in support of the Program from the EPA recognizing that upgrades at the Point Loma WWTP to achieve secondary treatment may not be needed to protect ocean water quality as a result of Program improvements to effluent quality. The EPA and San Diego RWQCB released the Tentative Order No. R9-2017-0007 (Tentative Order/Permit) for public review and comment on October 28, 2016. The EPA and San Diego RWQCB revised the Tentative

Order/Permit based on comments received, including revisions to the Compliance Schedule for the Pure Water San Diego Potable Reuse Tasks. The San Diego RWQCB adopted the Order on April 12, 2017, and the EPA issued a Permit on August 4, 2017. The Order/Permit ~~will become~~became effective on October 1, 2017, for a 5-year term through September 30, 2022 (San Diego RWQCB and EPA 2017).

2.4.3 PREVIOUS STUDIES AND PROJECTS

The North City Project is the first in the state to propose reservoir augmentation with advanced purified recycled water. Other water purveyors have been implementing potable reuse projects through groundwater replenishment, primarily in Southern California, in an effort to reduce reliance on imported supplies and exert more local control on management of water resources. For example, the Orange County Water Agency has been replenishing their underground aquifers using advanced water purification technologies for over a decade.

The North City Project proposes reservoir augmentation, as the San Diego region lacks large groundwater basins suitable for large-scale groundwater replenishment projects. Like groundwater replenishment, reservoir augmentation employs the concept of an environmental buffer, whereby treated wastewater that has undergone wastewater treatment followed by advanced purification processes is discharged at a location that is removed from raw water intake facilities—both spatially and temporally—to allow for ample dilution and time to respond to any issues detected upstream in treatment barriers. Where environmental buffers provide less than the minimum dilution and retention times, additional treatment steps such as ozone system and biologically active carbon filters would be added to the advanced purification process. The City has been studying this concept for years and has commissioned economic, regulatory, technical, and social studies necessary to demonstrate the concept is protective of public health and is feasible. These studies are available on the City's website at http://www.sandiego.gov/water/purewater/index.shtml. They are also summarized in the discussion below.

Issues common to both groundwater replenishment and reservoir augmentation include ensuring adequate treatment for CECs and other unregulated contaminants. Issues unique to reservoir augmentation include potential changes to the water quality of the subject reservoirs, such as changes to reservoir chemistry and temperature (e.g., nutrient levels).

City of San Diego Water Reuse Study

The City of San Diego Water Reuse Study (2006) evaluated opportunities available to the City to increase beneficial use of recycled water, including both non-potable reuse and potable reuse, which is the augmentation of a potable drinking water supply (surface or ground water) with recycled water followed by an "environmental buffer" that precedes the typical treatment of drinking water prior to entering a potable water distribution system. Two groups were formed to provide input and oversee the process: an Assembly on Water Reuse comprising a cross-section of San Diego stakeholders and an Independent Advisory Panel of experts in relevant fields. The Metropolitan Joint Powers Authority and the SDCWA also participate in the stakeholder meetings. The study included an evaluation of six strategies integrating non-potable reuse and potable reuse opportunities for the North, Central, and South potable water service areas. A potable reuse project using the City's San Vicente Reservoir through a concept known as "reservoir augmentation" was identified as the preferred reuse strategy. This concept formed the basis of the North City component as analyzed in the Pure Water Program EIR (City of San Diego 2016b).

Water Purification Demonstration Project

In December 2007, the City Council voted to accept the Water Reuse Study and to proceed with the Water Purification Demonstration Project (Demonstration Project). The objective of the Demonstration Project was to determine the feasibility of turning recycled water produced at the NCWRP into drinkable water through the use of advanced water purification technology.

In the last decade, there have been significant advances in treatment technology (e.g., improvements in membrane performance, the use of advanced oxidation processes for the reduction of organic compounds, and the increasing use of ultraviolet radiation for disinfection) and analytical monitoring methodology (e.g., development of test methods for trace organic constituents—particularly endocrine disrupting compounds, pharmaceuticals, and ingredients in personal care products—and the ability to measure them at nanogram per liter or lower levels) (SWRCB 2015). Municipal wastewater contains a myriad of microbial pathogens (e.g., bacteria, parasites, and viruses) and chemical contaminants (e.g., heavy metals, pharmaceutically active compounds, endocrine-disrupting compounds, and ingredients in personal care products) that must be reduced to extremely low or immeasurable levels in recycled water used for potable reuse. According to the

Draft Safe Drinking Water Plan for California (SWRCB 2015), and as demonstrated by the City, advanced wastewater treatment processes are now available which are suitable to reliably accomplish this task.

The main components of the Demonstration Project included:

- Operated, tested and monitored a demonstration-scale advanced water purification facility (AWPF) that produced one million gallons of purified water per day;
- Convened an Independent Advisory Panel to provide expert peer review and feedback;
- Conducted a study of San Vicente Reservoir;
- Proposed a regulatory framework for a full-scale reservoir augmentation project;
- Performed an energy and cost analysis;
- Performed a pipeline alignment study;
- Conducted an education and outreach program.

The Demonstration Project included the design, installation, and operation of a 1 MGD demonstration-scale AWPF at the NCWRP, which began operation in June 2011. The AWPF treatment process begins with microfiltration (MF) or ultrafiltration (UF), followed by RO, and ends with ultraviolet disinfection and advanced oxidation processing (UV/AOP). Testing at the AWPF was conducted from June 2011 until August 2012 and included measurements for 342 constituents and parameters (231 regulated constituents and 111 non-regulated constituents).

Key monitoring activities from the demonstration-scale AWPF included:

- Daily testing to identify potential breaches in the membrane filtration units.
- Continuous measurement of total organic carbon (TOC) and conductivity to demonstrate that the RO system was performing as expected.
- Continuous UV reactor power level monitoring to confirm UV lamp operations.
- Daily monitoring of hydrogen peroxide dose and continuous flow confirmation to demonstrate that the target hydrogen peroxide dose was achieved.

This daily and continuous testing was conducted throughout the 12-month testing period. This extensive monitoring showed that the demonstration-scale AWPF

equipment met the intended treatment performance on a continuous basis and was reliable throughout the operational period (City of San Diego 2013).

As shown in Table 2-1, comprehensive water quality testing at the demonstration-scale AWPF included almost 30,000 tests (including 9,000 tests during initial testing completed in 2012) of the purified water at various points in the treatment process and for 342 different constituents. The water quality of the purified water was compared to regulatory limits, verifying that purified water met all applicable water quality standards. Furthermore, the water quality testing shows that the purified water produced at the demonstration-scale AWPF approaches distilled water quality. For example, the total dissolved solids (a measure of salt content) in the purified water is about 15 milligrams per liter (mg/L), compared to total dissolved solids in San Diego's source and drinking water of about 500 mg/L. As a second example, the TOC (a measure of carbon that is bound in organic molecules) in the purified water is about 0.1 mg/L compared to TOC of 3.0 mg/L in San Diego's source water and 2.5 mg/L in San Diego's drinking water (City of San Diego 2013).

Regarding CECs and unregulated constituents that as of yet do not have primary drinking water MCLs, only 6 out of 111 unregulated constituents were detected in the purified water during in at least one sampling event. All six were 10 million times to 18 times lower than the associated Drinking Water Equivalent Level or the EPA-identified Health Reference Level. Although these standards are guidelines and not regulatory limits, they both represent an acceptable concentration in drinking water based on a human health risk assessment that considered an average person consumes 2 liters of water per day for 70 years. As discussed below, the water produced by the full-scale facility would be diluted to at least 100:1 in the reservoir, or will be diluted at least 10:1 in the reservoir with an additional, independent treatment barrier at the AWPF.

Table 2-1
AWPF Demonstration Project Monitoring Results

Regulations or Guidelines	Number of Constituents and Parameters	Purified Water Results	Comment
California Department of Public Health Goals			
Primary Drinking Water MCLs	90	Meets All Regulations	Primary drinking water MCLs are enforceable, human health-based water quality limits.

Table 2-1
AWPF Demonstration Project Monitoring Results

Regulations or Guidelines	Number of Constituents and Parameters	Purified Water Results	Comment
Secondary Drinking Water MCLs	18	Meets All Regulations	Secondary drinking water MCLs are unenforceable water quality goals related to aesthetic water characteristics such as taste and odor. Purified water met all federal and state secondary MCLs with the exception of pH and corrosivity. The potential full-scale AWPF would include post treatment to meet these requirements.
Microbial	4	Not Detected	Total coliform, fecal coliform, and viruses (somatic and male specific bacteriophage)
Notification Levels	30	Meets All Regulations	Notification levels are drinking water quality advisory limits.
Groundwater Replenishment Criteria	142	Meets All Regulations	Groundwater Replenishment Criteria are water quality limits specifically developed for indirect potable reuse via groundwater replenishment.
Anticipated San Diego Water Board Goals for Reservoir Augmentation			
Reservoir Limits	143	Meets All Regulations	Reservoir limits are EPA Numeric Criteria for Priority Pollutants and San Diego Basin Numeric Objectives.
Total	231	Because some contaminants and parameters are in multiple regulations/guidelines, the total of unique parameters is less than the sum.	

Source: City of San Diego 2013, page 34.

The Water Purification Demonstration Project has shown that the advanced water purification process would produce water in compliance with existing drinking water quality standards and guidelines.

Attachment B, Quarterly Testing Report No. 4, of the AWPF Study Report (City of San Diego 2013) provides a comprehensive list of all potential drinking water contaminants and the monitoring results of the level of contaminants present in purified water after advanced treatment. Common drinking water contaminant levels are summarized below in a comparison chart for the tertiary effluent from the NCWRP, demonstration facility AWPF product water, imported raw aqueduct

water, Miramar WTP product water, Alvarado WTP product water, and Otay WTP product water. As shown below, the product water from the AWPF has substantially lower levels of contaminants than the imported raw aqueduct water in all instances except for nitrate. In instances where the product water for the WTPs had detectable levels of contaminants, the product water for the AWPF had lower levels in almost all instances.

Table 2-2
Comparison Summary of Contaminants with Federal and State Drinking Water Standards

	Primary MCL or (Secondary MCL)	NCWRP Tertiary Effluent	Pure Water Facility	Imported Raw Aqueduct Water	Miramar WTP (2015 CCR Average)	Alvarado WTP (2015 CCR Average)	Otay WTP (2015 CCR Average)
Radioactivity (pCi/L)							
Alpha Radiation	15	0.016	0.16	1.02	ND	4.4	6.4
Beta Radiation	50	3.4	0.62	5	ND	ND	ND
Combined Radium	5	0.27	0.22	0.57	<DLR	<DLR	<DLR
Uranium	20	0.31	<0.019	2.2	2.4	2.8	1.8
Volatile Organics (ppb)							
Tetrachloroethylene	5	<0.18	<0.18	<0.18	<DLR	<DLR	<DLR
Trichloroethylene	5	<0.18	<0.18	<0.18	<DLR	<DLR	<DLR
Inorganics (ppm)							
Aluminum	1000	6.1	<5	16	<DLR	<DLR	<DLR
Arsenic (ppb)	10	0.77	<0.4	2.2	<DLR	<DLR	<DLR
Fluoride, naturally occurring	2	0.71	<0.02	0.25	0.3	0.3	0.3
Nitrate	45	66	4.3	<1	<DLR	<DLR	<DLR
Nitrite as N	1000	<100	<10	<10	<DLR	<DLR	<DLR
Selenium (ppb)	50	1.1	<0.28	0.87	<DLR	<DLR	<DLR
Secondary Standards (ppm)							
Chloride	250	270	<5	71	99.2	103	112
Color (units)	15	15	<3	<3	ND	ND	ND
Iron (ppb)	300	69	<1.1	18	<DLR	<DLR	<DLR
Manganese (ppb)	50	72	<0.2	2.8	<DLR	<DLR	<DLR
Odor (TON)	3	10	<1	<1	ND	ND	1
Specific Conductance (μmhos/cm)	900	1500	26	670	985	993	1010

Table 2-2
Comparison Summary of Contaminants with Federal and State Drinking Water Standards

	Primary MCL or (Secondary MCL)	NCWRP Tertiary Effluent	Pure Water Facility	Imported Raw Aqueduct Water	Miramar WTP (2015 CCR Average)	Alvarado WTP (2015 CCR Average)	Otay WTP (2015 CCR Average)
Sulfate	250	180	<0.5	130	232	232	219
Total Dissolved Solids	500	650	11	290	618	620	621
Turbidity (NTU)	5	<0.024	<0.024	<0.024	0.09	0.17	0.13
Other Analyses (ppm)							
pH (Units)	NR	6.91	5.89	7.62	8.1	8.07	8.23

Notes: ppb = parts-per-billion; ppm = parts-per-million; pCi/L = picoCuries per liter; ntu = nephelometric turbidity units; µmho/cm = micromhos per centimeter; NR = not required to be analyzed; ND = not detected; <DLR = average is less than the detection limit for reporting purposes; MCL = maximum contaminant level.
Sources: Table 26 and Table 27, Appendix B, Quarterly Testing Report No. 4, AWPF Study Report (City of San Diego 2013).

Table 2-3 provides a summary of the findings for each of the Pure Water Program's key components.

Table 2-3
Summary of Demonstration Project Findings

Project Component	Key Findings
Convene an Independent Advisory Panel	The Independent Advisory Panel found that purified water would meet or exceed all drinking water requirements and provide multiple barriers for public health protection; reservoir modeling verified that the reservoir will provide at least a 100-fold dilution of purified water, SWRCB and the San Diego RWQCB have indicated support for the project, and City staff has implemented an effective public outreach program. The Independent Advisory Panel found the demonstration-scale AWPF produced water of a higher quality than any source available to the City of San Diego and unanimously concluded that a reservoir augmentation project at San Vicente Reservoir would be a landmark project in the acceptance and furtherance of indirect potable reuse and would improve the reliability of the City of San Diego's water supply portfolio.
Design, install, and operate a demonstration-scale advanced water purification facility at the NCWRP	Water quality of the purified water was compared to regulatory limits, verifying that purified water met all applicable water quality standards. This comprehensive water quality testing showed that the purified water produced at the demonstration-scale AWPF is pure, approaching distilled water purity. Continuous and daily monitoring of each water purification process can assure the integrity of each treatment step and that only high quality water is produced.
Perform a study of San Vicente Reservoir to establish residence time and water quality parameters and conditions of purified water in the reservoir	The addition of purified water into San Vicente Reservoir would not affect natural hydrologic characteristics of the reservoir, seasonal stratification, or mixing. Blending and retention of purified water in the reservoir would constitute a substantial environmental barrier, sufficient to meet regulatory requirements. For all anticipated reservoir operating scenarios and purified water release locations, the reservoir would dilute the purified water by at least a factor of 100 to 1, or by a factor of 10 to 1 with an additional, independent treatment barrier at the AWPF. The addition of purified water would not substantially affect water quality in San Vicente Reservoir. The dam raise will improve overall water quality and the addition of purified water will not change these improvements.

Table 2-3
Summary of Demonstration Project Findings

Project Component	Key Findings
Perform an energy and economic analysis	The estimated capital and annual operational and maintenance costs for a full-scale reservoir augmentation project at San Vicente Reservoir are $369 million and $15.5 million per year, respectively. This capital and annual costs for a full-scale project yielded an estimated unit cost of $2,000/AF. This unit cost is comparable to the $2,100/AF unit cost estimated in the Long-Range Water Resources Plan for a full-scale (15 MGD average production) reservoir augmentation project at San Vicente Reservoir. Accounting for wastewater system avoided costs, the estimated net unit cost of a reservoir augmentation project at San Vicente Reservoir is $1,000/AF, which is comparable to the current imported water cost. A full-scale reservoir augmentation project at San Vicente Reservoir was estimated to require 2,500 kilowatt hours per AF (kWh/AF) of energy and would produce approximately 1.0 metric tons of greenhouse gases/AF. A full-scale project would consume energy and produce greenhouse gas emissions that are equivalent to imported water and less than ocean desalination.
Define the state's regulatory requirements for a full-scale reservoir augmentation project at San Vicente Reservoir.	The CDPH issued a concept approval of the City's San Vicente Reservoir Augmentation Project. The San Diego RWQCB, with concurrence from the EPA issued concept approval as well.
Perform a pipeline alignment study.	The estimated capital and annual operational and maintenance costs for the conveyance system are $225 million and $3.4 million, respectively. Updated analysis of the pipeline alignment confirmed that a southerly alignment appears to be the most feasible.
Conduct a public outreach and education program.	Recent research showed that when provided with information about the water purification process, respondents favor use of purified water to supplement local water supply via reservoir augmentation at San Vicente Reservoir. Feedback from individuals that toured the Advanced Water Purification Facility showed that providing an opportunity to tour the facility increases understanding about water purification.

Source: City of San Diego 2013, pgs. 121–124.

On October 12, 2011, the San Diego RWQCB adopted Resolution No. R9-2011-0069, which documented the San Diego RWQCB's support for a reservoir augmentation project, as well as its intent to consider permitting through the NPDES and Waste Discharge Requirements process. Regulatory acceptance of the City's Demonstration Project was validated through a Concept Approval letter from SWRCB and a Resolution of Support and Letter of Concurrence from the San Diego RWQCB in February 2013.

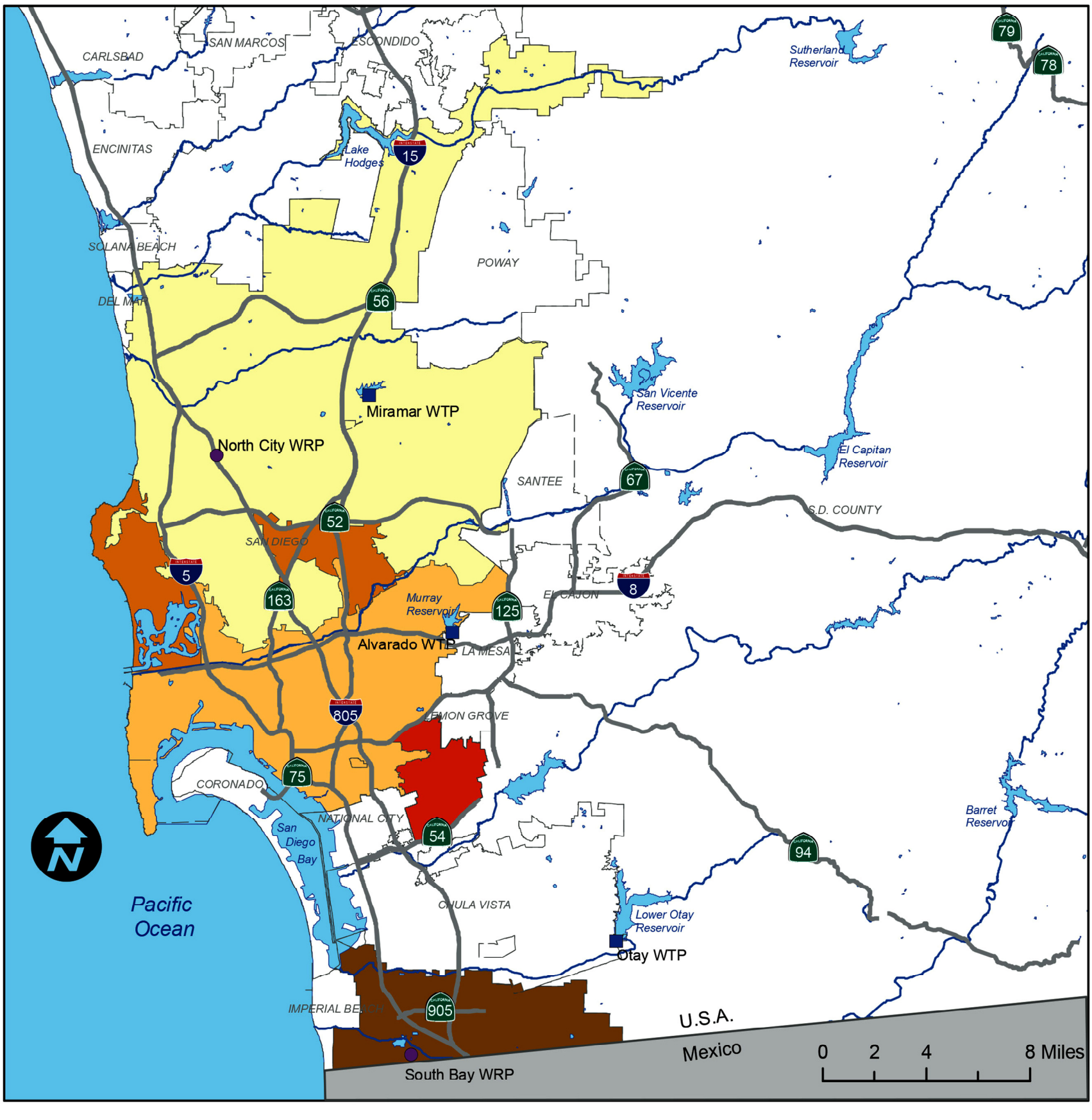
A report on the Demonstration Project was completed in March 2013 and was unanimously accepted during the April 23, 2013, City Council hearing (R-308121). At the hearing, the City Council directed staff to define in greater detail the City's potable reuse options and to determine a preferred implementation plan and schedule that considers potable reuse options for maximizing the local water supply and reducing flows to the Point Loma WWTP. This potable reuse program forms the basis of the Pure Water San Diego Program. On April 29, 2014, the City Council adopted a resolution (R-308906) supporting the implementation of Pure Water San Diego. On November 18, 2014, the City Council unanimously supported the application to renew the NPDES permit for Point Loma WWTP; the application included key elements of the City's Pure Water Program to implement potable reuse.

Recycled Water Study

In August 2009, the City, along with key stakeholders, initiated the Recycled Water Study (City of San Diego 2012) as part of a Cooperative Agreement between the City and two environmental groups: San Diego Coastkeeper and the San Diego Chapter of the Surfrider Foundation. The study developed integrated water reuse alternatives which support both non-potable and potable reuse to augment the region's water supply and reduce reliance on imported water. The Recycled Water Study identified potential locations for future AWPFs and water and wastewater facilities. Two of these locations, North City and South Bay, are existing water reclamation plants. The Recycled Water Study proposed to construct the AWPFs on vacant land adjacent to these existing reclamation plants and proposed to purify the recycled water they produce to near distilled-water quality. The study proposed a third AWPF as a combination of a water reclamation plant to be located west of the airport near Harbor Drive (due to its proximity to Pump Station No. 2 and the confluence of the vast majority of the wastewater generated within the Metro System) and an AWPF proposed to be located at a site in Mission Valley, which would process recycled water from the reclamation plant. The Recycled Water Study identified two City-owned and

operated reservoirs (Otay Reservoir and the San Vicente Reservoir) as potential locations for reservoir augmentation (City of San Diego 2012).

The City Council accepted the Recycled Water Study on July 17, 2012 (R-307584). Follow-up studies and technical memoranda have been completed to refine the information presented in the very high level evaluation of the alternatives presented in the Recycled Water Study.



Legend

- Water Reclamation Plants (WRP)
- Water Treatment Plants (WTP)
- Major Freeways
- Rivers
- Municipal Boundaries
- Miramar Service Area
- Alvarado/Miramar Service Area
- Alvarado Service Area
- Alvarado/Otay Service Area
- Otay Service Area
- Lakes/Reservoirs

Morena Lake, not shown in the figure, is located to the East and upstream of Barret Reservoir

DUDEK

SOURCE: City of San Diego 2015 Urban Water Management Plan

FIGURE 2-1

City of San Diego Potable Water System

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SOURCE: City of San Diego, 2018

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FIGURE 2-2

City of San Diego Metropolitan Sewerage System

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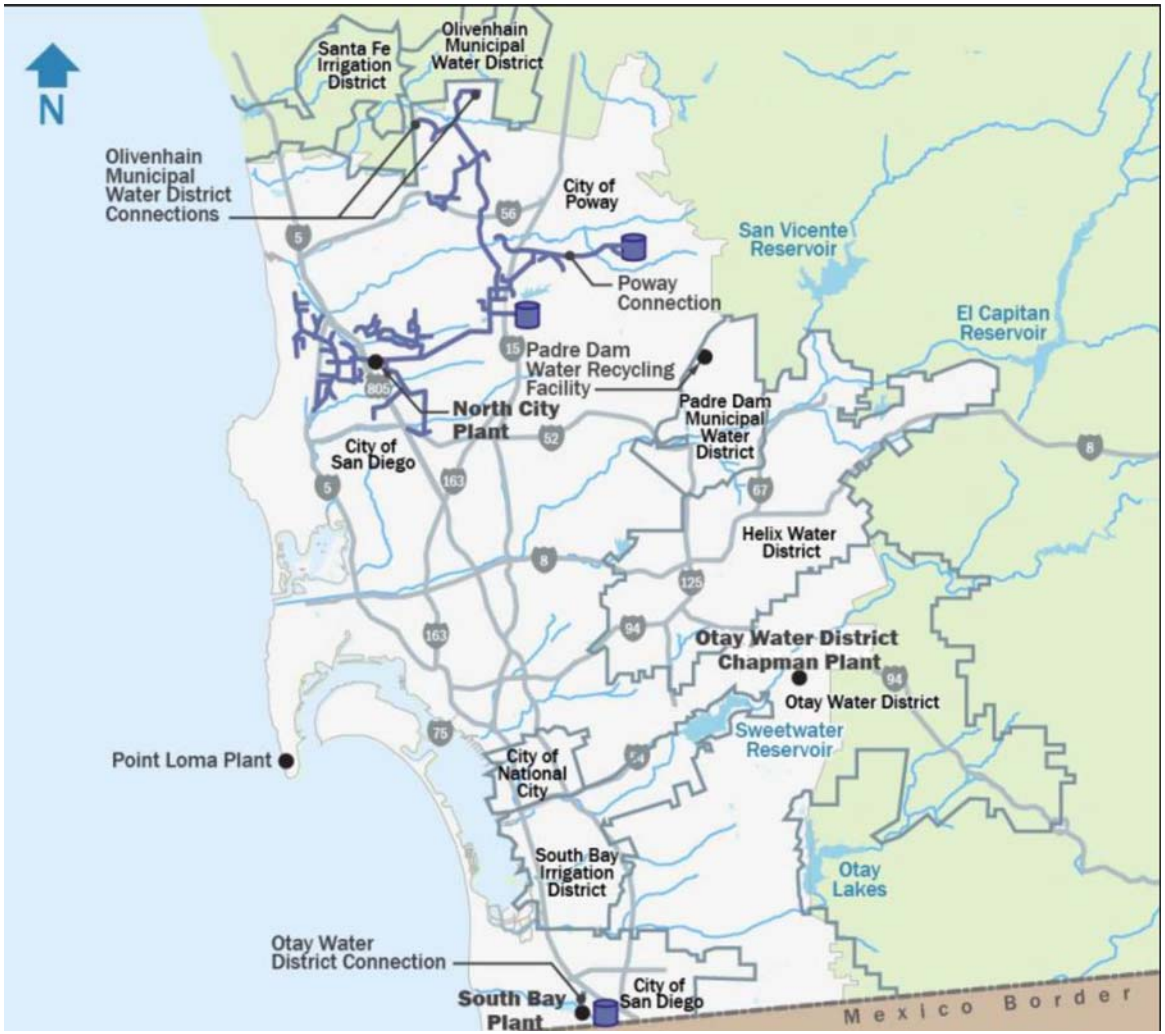

SOURCE: San Diego Recycled Water Study, 2012.

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FIGURE 2-3

City of San Diego Recycled Water Conveyance System

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CHAPTER 3 PROJECT DESCRIPTION/ALTERNATIVES

The National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) require that environmental documents identify and analyze a reasonable range of feasible alternatives that could be implemented to meet the North City Project purpose and need and objectives. In addition, CEQA and NEPA focus on alternatives that would avoid or substantially lessen any of the significant/adverse effects of the North City Project. This Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) evaluates the No Action/No Project Alternative and two Project Alternatives.

3.1 LOCATION OF THE PROJECT ALTERNATIVES

The North City Project Alternatives include a variety of facilities located throughout the central coastal areas of San Diego County in the North City geographic area. Figures 3-1 and 3-2 show the location of proposed facilities and pipelines for the alternatives. A new pure water facility, expanded water reclamation facility, and three pump stations would be located within the corporate boundaries of the City of San Diego (City). Proposed pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside and other areas of unincorporated San Diego County. The proposed North City Pure Water Pipeline (North City Pipeline) and Landfill Gas (LFG) Pipeline would traverse federal lands within Marine Corps Air Station (MCAS) Miramar.

3.2 NO PROJECT/NO ACTION ALTERNATIVE

CEQA Guidelines, Section 15126.6(e) and NEPA regulations (40 CFR 1502.14(d)), require that a No Project (CEQA) and No Action (NEPA) alternative be analyzed in an EIR and an EIS, respectively, to allow decision makers to compare the impacts of not approving the action with those of approving the action. In the remainder of this document, references to the No Project Alternative are synonymous with the No Action Alternative.

Under CEQA Guidelines Section 15126.6(e), the No Project Alternative assumes existing conditions at the time that the Notice of Preparation is filed or at the time the environmental analysis commenced. This document reflects existing conditions through 2016. In addition, to satisfy NEPA requirements, this EIR/EIS also considers foreseeable actions that are likely to occur without implementation of the Pure Water Program.

Under the No Project/No Action Alternative, the North City Project would not be implemented. The proposed North City Pure Water Facility (NCPWF) and associated improvements at other treatment, pumping, and conveyance facilities would not be constructed. Therefore, 30 million gallons per day (MGD) of purified water would not be produced. Instead, potable water demand would continue to be met through imported water supplies. In addition, current levels of wastewater flows would continue to the Point Loma Wastewater Treatment Plant (Point Loma WWTP). It is anticipated that the Point Loma WWTP would continue operating under a modified permit.

3.3 NORTH CITY PROJECT ALTERNATIVES

The North City Project would use advanced water purification technology to produce purified water from recycled water and provide a safe, reliable, and cost-effective drinking water supply for San Diego. The North City Project consists of the design and construction of a new NCPWF, upgrades to an existing water reclamation facility, and design and construction of new pump stations and pipelines. The North City Project would construct the NCPWF east of Interstate 805 (I-805) and north of Eastgate Mall, across from the existing North City Water Reclamation Plant (NCWRP). Upgrades would occur at the existing NCWRP in order to provide sufficient tertiary influent for the NCPWF as well as to connect the existing centrate line with the proposed brine line. Pump station and pipeline facilities would convey different types of flows to and from the treatment facilities for: (1) diverting wastewater flows to NCWRP, (2) conveying recycled water to the NCPWF, (3) conveying purified water from the NCPWF to a reservoir, and (4) transporting waste flows (brine, centrate, and sludge) from treatment processes to solids handling facilities or back into the Metropolitan Sewerage System (Metro System). Upgrades would also occur at the Metro Biosolids Center (MBC) to handle the additional sludge produced by the NCWRP expansion and NCPWF. A new North City Renewable Energy Facility would be constructed at the NCWRP, which would receive landfill gas from the City's Miramar Landfill gas collection system via a new Landfill Gas (LFG) Pipeline.

Tertiary treated water would be treated at the NCPWF; from there, purified water would be piped to the Miramar Reservoir or San Vicente Reservoir, where it would blend with impounded water and imported supplies. The water would then receive further treatment at a potable water treatment plant before being distributed as potable water (see Figure 3-3, Pure Water System Overview).

The North City Project would create up to 30 MGD of locally controlled water and reduce flows to the Point Loma WWTP, which in turn would reduce total suspended solids (TSS) discharged to the ocean. The North City Project would construct facilities that have the ability to produce an annual average daily flow (AADF) of 30 MGD in 2021.

Two North City Project Alternatives (Project Alternatives) are proposed. The Miramar Reservoir Alternative is the ~~(~~Locally Preferred Alternative as determined by the City of San Diego. This alternative is also the Preferred Alternative for purposes of NEPA, by the U.S. Bureau of Reclamation.~~)~~ This alternative would construct the NCPWF and would convey purified water to Miramar Reservoir. The Miramar Reservoir Alternative would include improvements at the Miramar Water Treatment Plant (Miramar WTP) (see Figure 3-1, Miramar Reservoir Alternative, for a map of facilities proposed by the Miramar Reservoir Alternative). The San Vicente Reservoir Alternative would also construct the proposed NCPWF, but would include fewer treatment processes at the facility and would pipe purified water to the San Vicente Reservoir rather than the Miramar Reservoir. The San Vicente Reservoir Alternative would also include an additional pump station, the Mission Trails Booster Station (MTBS), along the San Vicente Pure Water Pipeline (San Vicente Pipeline) (see Figure 3-2, San Vicente Reservoir Alternative, for a map of facilities proposed by the San Vicente Reservoir Alternative). Table 3-1 shows a comprehensive list of all components associated with the North City Project and which components are associated with each Project Alternative. The two Project Alternatives are discussed in more detail below.

Table 3-1
North City Project Components

Project Component
Components Common to Project Alternatives
Morena Pump Station
Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)
North City Water Reclamation Plant (NCWRP) Expansion
North City Pure Water Facility (NCPWF) Influent Pump Station
North City Pure Water Pump Station (North City Pump Station)
North City Renewable Energy Facility
Landfill Gas Pipeline
Metro Biosolids Center (MBC) Improvements
Miramar Reservoir Alternative
North City Pure Water Facility – Miramar Reservoir (NCPWF-MR)
North City Pure Water Pipeline (North City Pipeline)

Table 3-1
North City Project Components

Project Component
Pure Water Dechlorination Facility (Dechlorination Facility)
Miramar Water Treatment Plant (WTP) Improvements
San Vicente Reservoir Alternative
North City Pure Water Facility – San Vicente Reservoir (NCPWF-SVR)
San Vicente Reservoir Pure Water Pipeline (San Vicente Pipeline)
Mission Trails Booster Station (MTBS)

3.3.1 MIRAMAR RESERVOIR ALTERNATIVE

The Miramar Reservoir Alternative includes the following: (1) a new pump station at Morena Boulevard, a wastewater forcemain, and brine/centrate pipeline (Morena Pump Station and Pipelines); (2) expansion of the existing NCWRP; (3) construction of a new influent pump station at NCWRP and conveyance pipeline between NCWRP and the NCPWF; (4) construction of the new NCPWF; (5) construction of a new North City Pump Station; (6) construction of a new North City Pure Water Pipeline (North City Pipeline); (7) construction of a new renewable energy facility at the NCWRP; (8) a new LFG Pipeline between the Miramar Landfill gas collection system and the NCWRP; (9) upgrades at the MBC; and (10) improvements at the Miramar WTP (see Figure 3-1).

Morena Pump Station and Pipelines

In order to utilize the proposed expanded capacity of the NCWRP, approximately 32 MGD AADF of additional wastewater flows that would normally be conveyed to the Point Loma WWTP would need to be diverted to the NCWRP. The Morena Pump Station and Wastewater Forcemain are proposed to deliver maximum flow of 37.7 MGD of raw wastewater to the NCWRP, expanding the NCWRP's production capacity from 30 MGD to 52 MGD in dry weather conditions. Wastewater will be conveyed to the Morena Pump Station by connections with four existing sanitary sewer trunk sewers: the 78-inch North Mission Valley Interceptor, the 72-inch Morena Boulevard Interceptor No. 14, the 33-inch Morena Boulevard Trunk Sewer No. 11, and the 60-inch East Mission Bay Trunk Sewer No. 4.

The North City Project would also increase production of Title 22 recycled water at the NCWRP. The increased production would be utilized to meet the demand of the

NCPWF in order to produce an annual average daily flow of 30 MGD of purified water and to provide non-potable water to existing and planned future recycled water customers.

The proposed Morena Pump Station is to be located on a parcel currently owned by the San Diego Humane Society and the Society for the Prevention of Cruelty to Animals. The site is approximately 1 acre and is near the intersection of Sherman Street and Custer Street (see Figure 3-4, Morena Pump Station Site). The proposed Morena Pump Station would consist of: (1) a junction structure and intake screening facility – flow separator and screening structures, (2) a pump station building, (3) odor control and chemical storage, (4) an energy dissipater for the 30-inch brine/centrate line, (5) a transformer, (6) an electrical and motor control center building, and (7) a diversion structure (see Figure 3-5, Morena Pump Station Conceptual Site Layout).

Yard piping is anticipated to consist of both wet and dry underground piping as well as duct banks. The pump station will be an approximately 92-foot-long by 66-foot-wide, reinforced, cast-in-place concrete structure. The finished floor of the pump room and wet well will be approximately 52 feet below grade. Due to the location of the pump station, an additional depth of 6 to 10 feet may be required for sub-grade stabilization below the groundwater level. The top slab of the pump station will extend above finish grade approximately 1 foot, 6 inches at the ridge and taper down to 1 foot, 3 inches at the edges. It is anticipated that the cast-in-place walls will be approximately 4 feet thick and include external buttresses for lateral soil support.

Influent flows are conveyed in reinforced concrete pipe (RCP) with protective linings via a 72-inch-diameter west diversion and a 78-inch-diameter east diversion sewer pipeline. The pipelines will merge in a junction structure near the southwest parcel corner. From here the combined influent is conveyed via an 84-inch-diameter RCP conduit to the flow separator structure before discharging into the intake screening building via three 42-inch-diameter RCP conduits. Downstream of the intake screening building, the influent is sent to the pump station building through another 72-inch-diameter RCP.

Off-site infrastructure of the pump station facility, excluding the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines), consists of a storm drainage line, pump station inflow piping, overflow piping, and associated subgrade diversion structures. Diversion structure No. 1 will be approximately 14 feet long by 12 feet wide; diversion structure No. 2 will be approximately 18 feet

long by 10 feet wide. Flow control gates will be installed at each diversion structure for flow management into the pump station.

The Morena Pump Station would convey new wastewater approximately 11 miles through a new 48-inch-diameter wastewater forcemain to the existing NCWRP. The wastewater forcemain will connect to the existing 60-inch-diameter reinforced steel line prior to entering the existing headworks building at NCWRP.

Approximately 6 MGD AADF of brine (produced as a by-product of the advanced water purification treatment process) and 6 MGD AADF of centrate (product remaining after centrifugation at MBC) will be conveyed via a new 30-inch-diameter gravity flow line from the new NCPWF back to Morena Pump Station, and then to a sanitary sewer located in Friars Road where it will ultimately flow to the Point Loma WWTP. The brine/centrate line will combine with the 60-inch diameter overflow sewer and would discharge downstream of the diversion structures back to the Mission Valley Interceptor with sufficient distance as to not recirculate brine flows into the screening facility of the pump station.

The Morena Pipelines will follow the alignment as depicted in Figures 3-6A through 3-6C, Morena Wastewater Forcemain and Brine/Centrate Line Alignment. The alignment would begin in an open cut section near the north corner of the Morena Pump Station site, entering the public street right-of-way (ROW) on Custer Street. The alignment would generally head north along Sherman Street, Morena Boulevard, and West Morena Boulevard. The alignment would cross Tecolote Creek just to the east of Tecolote Road bridge, then continue generally heading north and east along ~~Ingulf~~ Jellette Street, Denver Street, Clairemont Drive, Clairemont Mesa Boulevard, and Genesee Avenue. It would cross near the bridge at San Clemente Canyon near the State Route 52 (SR-52) on-ramp. Following the bridge, the alignment would continue along Genesee Avenue, crossing SR-52 and the Metropolitan Transit System (MTS) railroad tracks. After the railroad tracks, the alignment will continue north along Genesee Avenue to the intersection of Nobel Drive and Genesee Avenue. After the intersection, the alignment will head east on Nobel Drive and then continue heading north on Towne Centre Drive. The alignment would turn east on Executive Drive and cross I-805. The alignment would end at NCWRP. Three trenchless installations are proposed along the Morena Pipelines alignment and include the following: (1) San Clemente Canyon at the SR-52 eastbound off-ramp/on-ramp; (2) railroad tracks owned by the MTS at Rose Canyon north of University City High School and (3) the I-805 at the terminus of Executive Drive to the NCWRP. An additional trenchless

installation would occur where the overflow pipeline crosses MTS right-of-way near the Morena Pump Station.

The entire alignment of the wastewater forcemain would be constructed of welded steel pipe that has an inner mortar coating that is tape wrapped with a mortar shield coating on the outside. The pipe would be cathodically protected by an induced current to prevent corrosion. The pipe would be tested to a pressure that is 1.5 times higher than the proposed operational pressure to ensure structural integrity.

North City Water Reclamation Plant Expansion

The NCWRP is an existing facility located south of Eastgate Mall and east of I-805, and is currently developed with wastewater treatment facilities, an operations building, a power generation facility, and the Demonstration Project (see Figure 3-7, North City Water Reclamation Plant Expansion Site). The NCWRP would be expanded from a capacity of 30 MGD to 52 MGD (AADF) and 90 MGD on a peak daily flow and additional wastewater flows would be delivered from the Morena Pump Station and Wastewater Forcemain (CH2M 2017). This recommended expansion intends to provide sufficient capacity to meet the NCPWF flow and water quality needs, and to improve energy efficiency. Up to 12 MGD of disinfected tertiary effluent produced by the NCWRP will be delivered to satisfy non-potable reuse demand. An additional 42 MGD of tertiary effluent flow will be pumped to the NCPWF to produce an AADF of 30 MGD of purified water.

To ensure the 30 MGD AADF of purified water can be produced at the NCPWF, the NCWRP will undergo an expansion of the primary, secondary, and tertiary treatment processes, as well as the corresponding support systems. The recommended improvements are presented in Figure 3-8, North City Water Reclamation Plant Expansion Improvements, and the proposed location for improvements are shown on Figure 3-9, North City Water Reclamation Plant Expansion Conceptual Site Plan. An alternative design concept to the site layout shown is being evaluated to repurpose the existing secondary clarifiers to minimize demolition and the size of new aeration basins.

To increase capacity at the NCWRP, a number of new process units and tankage would be required. Process units requiring expansion include influent screening, primary sedimentation, flow equalization, aeration basins, secondary clarification, and tertiary filtration. The expanded NCWRP facilities are expected to include an additional bar screen, grit pumps, primary sedimentation with chemically enhanced

primary treatment, a primary equalization basin, aeration basins using biological nutrient removal, secondary clarifiers, tertiary filters, and additional ancillary and support systems.

The existing main access road, Road "B" (near Eastgate Mall), will need to be realigned to allow the addition of the new secondary clarifiers and to be aligned with the plant entrance for the NCPWF across Eastgate Mall. At the perimeter of the new secondary clarifiers a new maintenance road will be constructed. The maintenance road will be 20 feet wide at the south leg, and then narrow down to 15 feet wide on the east leg.

Centrate, which is the water leaving a centrifuge after most of the solids have been removed at MBC, is currently pumped through a 4.3-mile-long, 20-inch-diameter forcemain to a drop structure at the Influent Pump Station at NCWRP. An increased volume of centrate would be produced at MBC as a result of the increased influent received at MBC. In addition, construction of the Morena Pump Station would divert additional wastewater flows to the NCWRP, including increased centrate flows, which would result in a higher than desirable concentration of nitrogen in the tertiary effluent produced at NCWRP, and therefore in the influent received at the NCPWF. The centrate forcemain would be connected to the proposed brine line that discharges from the NCPWF to convey flows downstream of the Morena Pump Station. A brine-centrate valve vault will be constructed on the NCWRP site adjacent to the tunnel that conveys the brine and wastewater forcemains on the western edge of the NCWRP next to the existing aeration basins. The brine-centrate valve vault would be approximately 22 by 14 feet, within which the centrate pipeline would connect into the brine pipeline. The vault would allow for personnel access to check valves and perform routine maintenance.

Non-potable recycled water usage is highly affected by the seasons since a majority of the water serves landscaping. Demands peak in the summertime, with a general rule of thumb being that peak summer day demands will be twice the average annual demands. The seasonal fluctuation is an important constraint for non-potable recycled water systems since serving peaks require sizing treatment plants and storage facilities large enough to handle the highest demand condition. This generally means that the treatment plant capacity must be two times larger than the average demands, resulting in potentially underutilized capacity at the treatment plants. Optimization through peak management is a major focus for all infrastructure systems (City of San Diego 2012).

North City Pure Water Facility Influent Pump Station and Conveyance

The NCPWF Influent Pump Station will be constructed at the NCWRP and will convey tertiary effluent from the NCWRP to the NCPWF as shown on Figure 3-10, North City Pure Water Facility Influent Pump Station and Conveyance Location. The NCPWF Influent Pump Station will have a maximum capacity of 42.5 MGD to enable the NCPWF to produce a maximum of 34 MGD of purified water after accounting for recycle and other streams. The NCPWF Influent Pump Station would be located on the west side of the NCWRP adjacent to the tertiary filters to divert tertiary effluent from upstream of the chlorination facilities and pump it to the NCPWF. The NCPWF Influent Pump Station would consist of a single enclosed 6,700-square-foot building approximately 32 feet high and would contain two separate rooms: a pump room and electrical room.

Piping, equipment, and appurtenances are currently located within the site. These components will be removed prior to construction of the NCPWF Influent Pump Station. The site is partly covered with grass and is relatively flat.

The proposed tertiary effluent pipeline alignment crosses Road C in a northwest direction and then continues to the north along the western boundary of the NCWRP site until it passes under Eastgate Mall to the future NCPWF site. Existing grades vary from about 342 feet above mean sea level (AMSL) at the pump station to about elevation 368 feet AMSL at the NCPWF site to the north. A concrete retaining wall up to 20 feet in height is located on the north side of the landscaped area west of Building 51. Other improvements include a concrete modular (reinforced earth) wall located adjacent to the proposed pipeline alignment along the western boundary of the NCWRP, as well as landscaped and hardscaped areas.

North City Pure Water Facility – Miramar Reservoir Alternative

The new NCPWF under the Miramar Alternative (NCPWF-MR) would be located on the vacant 10-acre City-owned lot across Eastgate Mall to the north of the NCWRP (see Figure 3-11, North City Pure Water Facility Site). The NCPWF-MR would produce 34 MGD AADF of purified water. A portion of the purified water would be returned to the NCWRP to reduce the TSS concentration of the disinfected tertiary treated effluent to 1,000 milligrams per liter (mg/L), a level suitable for irrigation. Approximately 30 MGD AADF of purified water will be pumped to Miramar Reservoir.

The treatment process is described in more detail in Section 3.6. The treatment train includes an ozone system, biological activated carbon filtration (BAC), membrane

filtration (MF), reverse osmosis (RO), and ultraviolet/advanced oxidation process (UV/AOP), before it is stabilized and chlorinated prior to pumping out to Miramar Reservoir. In addition to process areas for each stage of treatment at the NCPWF-MR, the facility would include chemical feed systems and post-treatment chemical storage.

Figure 3-12, North City Pure Water Facility – Miramar Reservoir Conceptual Site Layout, provides a conceptual site layout for the NCPWF-MR. The access to the site will be from Eastgate Mall, and the entrance will be coordinated with the entrance to the NCWRP. A traffic signal is proposed at the NCWRP driveway to provide a protected crossing for pedestrians and will be designed in accordance with the City of San Diego standards, including appropriate signing and striping. An approximately 15,000-square-foot operations and maintenance (O&M) building with three above-grade stories will be built as part of the NCPWF-MR, including a water quality testing laboratory.

All the pipes between the NCPWF-MR and the NCWRP will be direct buried. Major piping and duct banks within the NCPWF-MR will also be direct buried. Smaller pipes (chemical, utility lines etc.) will be installed in shallow utility trenches for better access.

North City Pure Water Conveyance System

The North City Pure Water Conveyance System will transmit product water from the NCPWF-MR to Miramar Reservoir where it will be blended with the imported raw water in the Miramar Reservoir and receive additional treatment at the Miramar WTP. The North City Pure Water Conveyance System consists of the North City Pure Water Pump Station (North City Pump Station), North City Pipeline, and the Pure Water Dechlorination Facility (Dechlorination Facility).

The North City Pump Station would be located on the southeast corner of the NCPWF site as shown on Figure 3-12. The North City Pump Station will have three duty pumps and one standby pump, all of which are 1,000 horsepower (HP) motor pumps and vertical-turbine. Each pump will be design to deliver a flow rate of 7,593 gallons per minute. The North City Pump Station layout is shown on Figure 3-13, North City Pump Station Conceptual Site Layout. The North City Pump Station will serve as the NCPWF-MR's only effluent pump station and will convey purified water from the NCPWF Product Water Storage Tank via the approximately 8-mile (46,000-linear-foot) North City Pipeline to the Miramar Reservoir.

The North City Pipeline will be designed for an average daily flow of 30 MGD with a minimum daily flow of 23 MGD and a maximum daily flow of 33 MGD. A 48-inch-diameter welded steel pipe is the recommended width and material for the North City Pipeline as the most suitable for the design conditions.

The North City Pipeline alignment is shown on Figures 3-14A and 3-14B, North City Pure Water Pipeline Alignment. Detailed cross sections of the North City Pipeline are included on Sheets C1 through C51 in the Design Report for the North City Pure Water Pipeline (HDR ~~2017~~2018). The North City Pipeline is proposed to travel through the University, Mira Mesa, and Scripps Miramar Ranch communities of the City of San Diego (City of San Diego 2017a). The North City Pipeline would also cross federal lands in MCAS Miramar along segments of Miramar Road and would cross an unincorporated area of the County of San Diego immediately after the I-15 crossing.

The North City Pipeline alignment would begin in an open trench in Eastgate Mall and would head southeast, with a short trenchless section just before Eastgate Court. At Miramar Road, the North City Pipeline would continue east for approximately 4.5 miles, with a bridge over the MTS Railway crossing and a short trenchless section under the BNSF Railway crossing. The North City Pipeline would turn north on Kearny Villa Road and then turn east on Candida Street. The North City Pipeline would head north on Via Pasar via a trenchless segment, and then continue east on Via Excelencia in an open cut section. A trenchless segment would cross I-15 then would return to an open cut section across private property then turn north on Businesspark Avenue. The North City Pipeline would continue north on Carroll Canyon Road then head east on Hoyt Park Drive and Meanley Drive, continuing east/northeast before crossing Evans Pond in a trenchless segment.

The final segment of the North City Pipeline will consist of a subaqueous pipeline within Miramar Reservoir. The segment of pipeline will begin at the Miramar WTP site and continue to the far east side of Miramar Reservoir. The pipeline would be a submerged, 4,800-foot-long HDPE pipe ranging in diameter from 8 inches to 54 inches with 94 outlets and 188 subaqueous diffusers along the bottom of Miramar Reservoir.

The Dechlorination Facility will be located at the end of Meanley Drive off the cul-de-sac on the City's property for the Miramar Recycled Water Storage Tank as shown on Figure 3-15, Pure Water Dechlorination Facility Site. The facility will include an approximately 768-square-foot above-grade building to house chemical storage tanks, dosing pumps, analyzers, and associated piping valves and appurtenances as shown on Figure 3-16, Pure Water Dechlorination Facility

Conceptual Site Layout. The NCPWF purified water will be chlorinated to maintain chlorine residual and prevent regrowth within the North City Pipeline. Prior to blending the purified water with the raw water at Miramar Reservoir, the remaining free chlorine residual will be removed from the purified water to protect the aquatic life in the lake. The Dechlorination Facility would reduce the residual chlorine concentration to below the required limit of 0.019 mg/L. The use of 38% concentration liquid sodium bisulfite solution is proposed as the preferred method of removing total and free chlorine residue from the purified water.

North City Renewable Energy Facility

A new North City Renewable Energy Facility would be constructed in order to provide power to the expanded NCWRP as well as the new NCPWF and North City Pump Station. The new facility includes approximately 15.4 megawatts (MW) of new generation capacity. The 5 MW of existing power generation capacity already at NCWRP would remain.

Six new internal combustion engines (ICE) and generator units would be installed. Each of these consists of a 3.8 MW Caterpillar Model CG260-16 IC or equivalent ICE and generator units. The generator units would use landfill gas as fuel, supplemented with natural gas as needed. One additional 3.8 MW Caterpillar Model CG260-16 IC or equivalent ICE will serve as backup to the engines.

The engines will be placed inside a building located immediately south of the new circular secondary clarifiers and north of the existing power generation facility at NCWRP (see Figure 3-7, NCWRP Expansion Site). The building will include sound suppression features to reduce the noise levels outside the building. The estimated stack height of the engines' exhaust stacks is 55 feet measured from the finished ground elevation immediately adjacent to the power generation building (at approximate elevation 354 feet AMSL) which is approximately 30 feet above the top of the building.

A skid-mounted equipment package consisting of a natural gas compressor system, air receivers, and oil storage will be located on the site adjacent to the power generation building. Two additional buildings will be included on the site for controls equipment and storage. The facility will also include a gas cleaning and cooling equipment skid and an electrical switchyard. An area chemical storage, containment, and feed facility will be provided for emissions control.

The facility layout includes relocation of the City's existing 1.6 MW engine to a new location on the site near the existing power generation equipment at NCWRP in order to accommodate the layout of the new North City Renewable Energy Facility. Figure 3-17, North City Renewable Energy Facility Conceptual Site Layout, illustrates a preliminary layout for the new North City Renewable Energy Facility at the NCWRP.

The North City Renewable Energy Facility covers an area of approximately 1 acre and is fully contained within the existing NCWRP property. Approximately half of that area is existing impervious paved surface and the entire area will be impervious once the facility is constructed. The site topography for the new North City Renewable Energy Facility at NCWRP will necessitate a perimeter retaining wall approximately 300 feet in length with a maximum height of 22 feet. The retaining wall will be either a mechanically stabilized earth wall or reinforced concrete. The North City Renewable Energy Facility will include utility relocations, new utilities, equipment, earthwork, retaining wall, paving, and other site-preparation activities.

Landfill Gas Pipeline

The new North City Renewable Energy Facility will receive landfill gas from the City's Miramar Landfill gas collection system via a new 12-inch diameter LFG Pipeline. The approximately 15,885 linear feet alignment runs from the existing Miramar Landfill north along the western end of the MCAS Miramar property to the NCWRP site as shown on Figure 3-18, Landfill Gas Pipeline Alignment. The new LFG Pipeline will parallel an existing 10-inch-diameter gas pipeline that conveys landfill gas from the landfill to fuel the existing power generation units at NCWRP. Approximately 4,050 linear feet of the new LFG Pipeline will be constructed within the limits of the City's existing 40-foot utility easement where it crosses the Veteran's Administration (VA) at the Miramar National Cemetery. Within the VA, the majority would be constructed using open trench techniques. A short section of the LFG Pipeline would be constructed using trenchless techniques where the alignment passes developed portions of the cemetery in order to avoid sensitive vegetation (wetlands) and to minimize disturbance to cemetery visitors. An expanded additional 10-foot easement is planned along the remainder of the alignment outside of the VA to facilitate construction and future maintenance activities.

A new 5,000-square-foot gas compressor station will be sited immediately adjacent to an existing gas compressor station at the Miramar Landfill in order to pressurize and convey the landfill gas from the landfill to NCWRP.

Metro Biosolids Center Improvements

The MBC site is currently developed with biosolids treatment facilities. MBC is located adjacent to the Miramar Landfill, north of State Route 52 and south of MCAS Miramar (see Figure 3-19, Metro Biosolids Center Site).

Diverting additional wastewater flows to the NCWRP ultimately changes the relative contribution of biosolids received at the MBC from the NCWRP and the Point Loma WWTP. Projected flows of raw solids from the NCWRP will increase, while projected flows of digested solids from Point Loma WWTP will remain roughly constant such that MBC will be required to provide on-site anaerobic digestion for a greater percentage of the system's biosolids output. In addition to changes in quantity, changes in treatment processes at the NCWRP and Point Loma WWTP may change the quality, and hence treatability, of the two biosolids streams. Raw solids flows are expected to increase by a factor of 7 from a current maximum operating flow of 0.89 MGD to a projected flow of 6.55 MGD at maximum conditions; solids in pounds per day (lb/d) are expected to increase by a factor of 5:1 from 56,000 lb/d (current) to 294,000 lb/d (maximum conditions).

Improvements at MBC would include expanding the existing closed-loop grit removal system and building; replacement of the existing thickening centrifuges (a total of six new centrifuges will be installed); upgrades to digesters, including replacing the existing digester gas laterals with larger lines and larger gas handling appurtenances, installing one additional flare, and replacing existing biogas booster blowers with three new blowers and increasing the size of the biogas feed line from the blowers to the cogeneration facility; installing new thickened sludge supply line; upgrading the sludge feed pumps and polymer feed pumps; installing three new centrate pumps and variable frequency drives; adding a fourth off-the-shelf replacement peristaltic pump; and expansion of existing piping systems. Improvements at MBC are shown on Figure 3-20, Metro Biosolids Center Improvements Conceptual Site Layout.

The current centrate pump station at MBC would require pumps to be upgraded to be capable of higher flows and pressure. In addition, the centrate forcemain would need regular maintenance to clean the pipe and restore capacity to its full potential. As part of the pipe cleaning, existing plug valves would need to be replaced with full port valves. Launching and receiving pits may need to be constructed.

Miramar Water Treatment Plant Improvements

Under the Miramar Reservoir Alternative, purified water discharged into the Miramar Reservoir will be pumped via the existing Miramar Reservoir Pump Station to the Miramar WTP for treatment and eventual distribution (see Figure 3-21, Miramar Water Treatment Plant and Miramar Reservoir Pump Station Site, for the location of the Miramar WTP and Miramar Reservoir Pump Station). Currently, the majority of the water treated at the Miramar WTP is fed directly to the plant, and the Miramar Reservoir is primarily used for balancing flows and emergency storage. Under the Miramar Reservoir Alternative, the Miramar Reservoir will receive approximately 30 MGD AADF of purified water on a more or less continuous basis, meaning that the Miramar Reservoir Pump Station must operate at roughly 30 MGD AADF to maintain the inflow/outflow balance in the reservoir. This increased use calls for rehabilitation of the Miramar Reservoir Pump Station, which includes upgrading the existing pumps with Variable Frequency Drives along with various mechanical upgrades to the valves and piping. Machinery and pumps would be housed within concrete structures with acoustically absorptive treatments, where necessary. Additional noise reduction measures may also be applied, such as sound enclosures, separate rooms for high noise equipment, etc.

In addition to increased pumping, the Miramar Reservoir Alternative will result in changes to the treatment and corrosion control processes during operation of the Miramar WTP. Operational adjustments, such as changes to chemical dosing, may also be required. The Miramar WTP would be completely powered by an on-site 1 megawatt solar photovoltaic system.

3.3.2 SAN VICENTE RESERVOIR ALTERNATIVE

Project components described above under the Miramar Reservoir Alternative that are also common to the San Vicente Reservoir Alternative include (1) the Morena Pump Station and Pipelines, (2) expansion of the existing NCWRP, (3) construction of a new influent pump station at NCWRP and conveyance pipeline between NCWRP and the NCPWF, (4) a new power generation facility at the NCWRP, (5) a new LFG Pipeline between the Miramar Landfill gas collection system and the NCWRP; and (6) upgrades at the MBC. The San Vicente Reservoir Alternative would yield 31.4 MGD AADF of purified water and 12 MGD AADF of recycled water for non-potable use.

Both alternatives would include the construction of a new full-scale advanced water purification facility adjacent to the NCWRP and a pipeline to convey purified water from the NCPWF to a reservoir. However, because of the different sizes of the Miramar Reservoir and San Vicente Reservoir, the design of the NCPWF for each will be different (i.e., no ozone system or BAC filtration treatment processes would be required at the NCPWF-SVR). Similarly, the pipeline alignment would be different depending on which reservoir purified water would be delivered to. Additionally, no improvements at the Miramar WTP would be required under this alternative. Therefore, details regarding these components which are applicable to the San Vicente Reservoir Alternative are discussed separately below.

North City Pure Water Facility – San Vicente Reservoir

The new NCPWF under the San Vicente Alternative (NCPWF-SVR) would be located on the vacant 10-acre City-owned lot across Eastgate Mall to the north of the NCWRP (see Figure 3-11). The NCPWF-SVR would produce 31.4 MGD AADF of purified water. A portion of the purified water would be returned to the NCWRP to reduce the TDS concentration of the disinfected tertiary treated effluent to 1,000 mg/L, a level suitable for irrigation. Another portion, about 1.4 MGD on average, would be sent to non-potable reuse customers connected to a repurposed segment of the San Vicente Pipeline. Approximately 30 MGD of purified water will be delivered to the San Vicente Reservoir.

The treatment process is described in more detail in Section 3.6. The treatment train includes MF, RO, and UV/AOP, before it is stabilized and chlorinated prior to pumping out to San Vicente Reservoir.

Figure 3-22, North City Pure Water Facility – San Vicente Reservoir Conceptual Site Layout, provides a conceptual site layout for the NCPWF-SVR. The access to the site will be from Eastgate Mall, and the entrance will be coordinated with the entrance to the NCWRP to be at the same traffic signal along Eastgate Mall. An approximately 17,000-square-foot O&M building with three above-grade stories will be built as part of this project. The third level of the O&M building will be dedicated for a water quality testing laboratory. Access between NCWRP and NCPWF-SVR will be via a traffic signal and pedestrian crosswalk on Eastgate Mall.

All the pipes between the NCPWF-SVR and the NCWRP will be direct buried. Major piping and duct banks within the NCPWF-SVR will also be direct buried. Smaller pipes (chemical, utility lines etc.) will be installed in shallow utility trenches for better access.

San Vicente Pipeline and Pump Stations

Two pump stations would be required to convey purified water via the approximately 29-mile (154,775-linear-foot) San Vicente Pipeline to the San Vicente Reservoir. The North City Pump Station would be located on the southeast corner of the NCPWF site and would be the same as discussed above under the Miramar Reservoir Alternative (see also Figure 3-11). The MTBS would be located along Mission Gorge Road spread across two privately owned parcels (see Figure 3-23, Mission Trails Booster Station Site). Both the North City Pump Station and MTBS will have three duty pumps and one standby pump, all of which are 1,000 HP vertical-turbine motor pumps (see Figure 3-24, Mission Trails Booster Station Conceptual Site Layout).

The San Vicente Pipeline will be designed for an average daily flow of 30 MGD with a minimum daily flow of 27 MGD and a maximum daily flow of 35 MGD. The San Vicente Pipeline includes a segment (approximately 21,300 linear feet) of existing recycled water pipe that will be repurposed for purified water conveyance (San Vicente Pipeline - Repurposed 36-inch Recycled Water Line). That segment currently serves non-potable reuse customers. Under the San Vicente Reservoir Alternative, the San Vicente Pipeline will continue to supply those non-potable reuse customers with purified water. Approximately 1.4 MGD AADF will be provided as non-potable reuse to existing customers.

The remaining 133,475 linear feet of the San Vicente Pipeline would be newly constructed using a combination of open cut trench and trenchless construction methods to deliver 30 MGD AADF to the San Vicente Reservoir. A 48-inch-diameter and 60-inch-diameter welded steel pipe is the recommended width and material for the San Vicente Pipeline as the most suitable for the design conditions.

The general alignment of the San Vicente Pipeline is shown on Figures 3-25A through 3-25D, San Vicente Pure Water Pipeline Alignment. Detailed cross sections of the San Vicente Pipeline are included on Sheets 7 through 89 in Appendix K of the 10% Engineering Design Report: North City Plant to San Vicente Reservoir (Brown and Caldwell 2015). The pipeline is proposed to travel through the University, Kearny Mesa, Navajo, Tierrasanta, and East Elliot communities of the City of San Diego; the City of Santee; and the unincorporated community of Lakeside in the County of San Diego.

The first approximately 5,500 linear feet of the San Vicente Pipeline would follow the same alignment as the North City Pipeline along Eastgate Mall. At Miramar

Road, purified water would be conveyed via the San Vicente Pipeline – Repurposed 36-inch Recycled Water Line. This repurposed 36-inch-diameter pipeline traverses federal lands, including the Miramar National Cemetery and MCAS Miramar. The new 48-inch-diameter San Vicente Pipeline would begin again in an open cut segment on Copley Drive and would continue southeast until heading due east on Copley Park Place, then south on Convoy Street, then east again on Convoy Court. The San Vicente Pipeline would continue east on Mercury Court, passing through various business park and industrial uses before heading south on Industrial Park Driveway.

A trenchless segment would cross Clairemont Mesa Boulevard, and the San Vicente Pipeline would continue south on Ronson Court before heading east on Ronson Road. A trenchless segment would cross SR-163 and then the San Vicente Pipeline would continue again in an open cut segment east along Lightwave Avenue. The alignment would continue north on Ruffin Road, east on Clairemont Mesa Boulevard and then south on Murphy Canyon Road. At Elanus Canyon, the alignment would head east across a parking lot before crossing I-15 in a trenchless segment and traversing the canyon until rejoining Clairemont Mesa Boulevard. At Santo Road the alignment would head south then east along Tierrasanta Boulevard. A trenchless segment would continue south across the San Diego River and then the alignment would turn east on Mission Gorge Road, traversing the Mission Trails Regional Park. A trenchless segment would cross the SR-52 at West Hills Parkway before continuing east on Carlton Oaks Drive. The alignment would leave the roadway ROW for a short segment and then cross Sycamore Canyon via a trenchless crossing before continuing east again within Carlton Oaks Drive.

The San Vicente Pipeline would continue north on Halberns Boulevard, then east on Mast Boulevard with another trenchless segment between two disconnected portions of Mast Boulevard. The alignment would continue east on Riverside Drive and Lakeside Avenue before connecting with Willow Road. From Willow Road the San Vicente Pipeline would turn north on Moreno Avenue, continuing north to the shore of the San Vicente Reservoir.

San Vicente Reservoir Inlet Terminus Alternatives

The San Vicente Reservoir Alternative proposes three alternative pipeline terminus options as shown on Figure 3-26, San Vicente Reservoir Inlet Terminus Alternatives: (1) San Vicente Pipeline - Tunnel Alternative Terminus (TAT), (2) San Vicente Pipeline

- In-Reservoir Alternative Terminus (IRAT), and (3) San Vicente Pipeline - Marina Alternative Terminus (MAT).

For the San Vicente Pipeline - TAT, an approximately 5,400-linear-foot tunnel would be located at the end of the San Vicente Pipeline. The San Vicente Pipeline - TAT would discharge 32 feet above the spillway elevation of the San Vicente Dam (elevation 766 feet) into a reinforced concrete discharge structure and flow down a natural drainage way into the San Vicente Reservoir. Prior to the structure itself, a dechlorination injection point is envisioned to be incorporated to eliminate any residual chlorine in the purified water prior to discharge. Monitoring and injection equipment could be located on an existing City property nearby or at the structure itself, provided regular maintenance can be accommodated.

The San Vicente Pipeline - IRAT would continue via open trench from Moreno Avenue approximately 6,900 linear feet up the existing Marina access road to the San Vicente Reservoir's western side near the newly constructed Marina. An approximately 10,000-linear-foot subaqueous HDPE pipeline would then convey water across the San Vicente Reservoir, exiting up the far bank where it would connect to the same discharge structure as proposed for the San Vicente Pipeline - TAT. As proposed for San Vicente Pipeline – TAT, a dechlorination injection point is envisioned to be incorporated to eliminate any residual chlorine in the purified water prior to discharge. The subaqueous pipeline would be weighted to ensure it remains on the San Vicente Reservoir bottom in its final position.

The San Vicente Pipeline - MAT would follow the same alignment as the San Vicente Pipeline - IRAT from the intersection of Vigilante Road and Moreno Avenue along the Marina access road. At the road's high point, near the saddle dam, the pipeline would continue in the access road to the Marina parking area rather than transition to a subaqueous pipeline. The pipeline would continue in the access road that runs along the shoreline and would discharge at the western shore of the San Vicente Reservoir. As proposed for San Vicente Pipeline – TAT, a dechlorination injection point is envisioned to be incorporated to eliminate any residual chlorine in the purified water prior to discharge. The San Vicente Pipeline – MAT would be approximately 8,625 linear feet.

3.4 CONSTRUCTION SUMMARY OF ALTERNATIVES

3.4.1 CONSTRUCTION SCHEDULE

The North City Project Alternatives would be constructed in approximately 36 months, beginning in October 2018 and completing in December 2021. All North City Project components would be online by the end of 2021.

Table 3-2
North City Project Construction Schedule

Project Component	Construction Start Date	Construction End Date
Components Common to Project Alternatives		
Morena Pump Station and Pipelines	4/2019	10/2021
NCWRP Expansion	10/2018	12/2021
NCPWF Influent Pump Station	1/2019	10/2021
North City Pump Station	5/2019	11/2021
Renewable Energy Facility	3/2020	12/2021
Landfill Gas Pipeline	3/2020	10/2021
MBC Improvements	4/2019	10/2021
Miramar Reservoir Alternative		
NCPWF-MR	10/2018	11/2021
North City Pipeline + Dechlorination Facility	11/2018	10/2021
Miramar WTP Improvements	7/2020	9/2021
San Vicente Reservoir Alternative		
NCPWF-SVR	10/2018	11/2021
San Vicente Pipeline + MTBS	12/2018	5/2021
MTBS	5/2019	9/2021

3.4.2 CONSTRUCTION HOURS

Construction will generally occur for 8 to 10 hours during the work day. However, night or holiday work may occur to accommodate time-sensitive work, such as construction of pipelines in roadway ROW, or at the NCWRP and NCPWF. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas. Night or holiday work would typically occur for a maximum of one week in any given location, and most frequently between 2 to 3 days (refer to Section 6.16, Transportation and Traffic, for details regarding duration and progression of pipeline construction within roadways).

3.4.3 CONSTRUCTION METHODS

Treatment Facilities

Construction of treatment facilities includes the new construction of the NCPWF, as well as improvements and/or expansion of existing facilities, including the NCWRP, Miramar WTP, and MBC. Under the Miramar Reservoir Alternative, the Dechlorination Facility would also be constructed.

The construction phasing for treatment facilities generally begins with initial procurement of equipment and materials concurrent with physical mobilization on the facility site. Following the start of the procurement phase, general site civil engineering work would begin, focused on rough grading, installation of yard piping, and preparation for structural work. As the general civil work progresses, structural work would commence and include the installation of foundation slabs and concrete or steel structures. Once foundation slabs are complete, equipment deliveries would begin and mechanical installation would commence. As equipment is installed, the electrical work would continue, tying each facility area to the on-site electrical system. After all mechanical and electrical work is complete, the facility would be tested and commissioned.

Pumping Facilities

Pump stations would include the Morena Pump Station, Influent Pump Station, and the North City Pump Station. The Influent Pump Station and North City Pump Station would be constructed within the footprint of a treatment facility. Under the San Vicente Reservoir Alternative, the MTBS would also be constructed and would be located on an undeveloped parcel along the proposed San Vicente Pipeline alignment.

The pumps and ancillary facilities (instrumentation, control, and power supply systems) would be placed within a masonry enclosure to minimize interior noise.

Conveyance Facilities

All pipeline facilities will be located within public ROW and/or publicly owned properties where available corridors exist. Easements will be required at locations where the pipeline crosses controlled access such as MTS and Caltrans facilities. In addition, at various locations the proposed pipelines will cross through private properties. Currently, utility easements are known within the private properties.

Adjustments to the existing easements will be required to provide the appropriate utility easements for the new pipelines.

Open Cut Construction

The majority of the pipeline alignments are anticipated to be constructed using cut-and-cover, or open-cut, construction techniques. Minimum cover will be based on the pipe diameter and purpose of the pipeline. Pipelines will typically follow agency guidelines with 5 to 8 feet of cover, and where feasible, would be constructed below the typical depth of other wet and dry utilities to avoid conflict and potential exposure during future improvements. It is anticipated that excavation will be achievable with typical heavy excavation equipment. Vertical trench walls are anticipated for construction to minimize impacts to surface improvements, traffic flow, and adjacent utilities. Vertical trench walls can be provided by speed shoring, trench boxes, trench shields, driven sheet piles, soldier piles, soil nails, or other forms of shoring depending on local subsurface conditions and depth. Temporary construction easements and staging areas for construction will be determined based on pipeline diameter, recommended trench width, and depth of cover. Work areas for open-cut construction, including required lay-down area for supplies and equipment, would range from 30 to 60 feet wide, depending on depth of the trench and would typically occupy half the roadway width.

Trenchless Construction

Portions of the pipeline alignments will also be constructed using trenchless construction methods such as auger boring/auger jack and bore, drill and blast, microtunneling, or horizontal directional drilling. These methods are typically used in sensitive environmental areas, heavily congested areas or to cross-controlled access freeway and railroad crossings where open cut is not allowed.

The selection and suitability of specific trenchless methods is largely dependent upon the anticipated ground conditions along the alignment; geotechnical reports or geotechnical baseline reports will be prepared where trenchless methods are proposed. Several other design elements should also be considered in assessing appropriate trenchless methods, including pipeline material and diameter, drive length, alignment and grade tolerances, available staging areas, control of groundwater, ground loss, and the potential for heave or settlement and permit requirements for casings in a two-pass installation.

Trenchless methods can be either a "one-pass" or "single-pass" system with the product pipe installed directly in place or "two-pass" with the product pipe installed within a casing pipe that has been installed by a trenchless method. Casings required are anticipated to be a minimum of 12 inches larger than the product pipe (60-inch-diameter casings for 48-inch nominal diameter pipelines) with a minimum 3/4-inch wall thickness per California Department of Transportation requirements.

Auger Boring/Auger Jack and Bore

Auger boring is recommended for short two-pass installations where a casing is required. It is best suited to displaceable, cohesive, and dry soft soils. As the method is typically an open-face operation, it is not generally suitable where groundwater or running soils are present because of raveling or ground loss. For ground containing boulders or hard base rock, contractor access to the cutter face may be required to remove obstacles that cannot be bored through.

The method employs a rotating cutting head attached to the leading end of a series of connected continuous-flight augers (auger chain) to construct a bore hole. A rotating cutter head is attached to the lead auger and can be placed within the casing, set flush with the leading edge or be larger in diameter than the casing pipe and excavate the soil in front of the casing. The auger boring machine uses large hydraulic pistons to advance the casing as the augers are rotated. Spoils are transported back to the drive shaft by the rotation of helical-wound auger flights by muck bucket, excavator, or conveyor.

Multiple steering methods are available depending on the drive length and required tolerances. For short drives, unguided machines or water levels for vertical control are commonly used. For longer drives, precise tolerances can be obtained with pilot drilling or front-steer optical guidance systems such as "on-target" proprietary auger boring steering heads.

Two work pits are required for construction: (1) a launching pit, which is the primary work area from which the auger boring machine is launched and the pipe is jacked in behind the machine; and (2) a receiving pit, where the auger boring machine is removed at the completion of the drive. The size of the pits is a function of the auger boring machine selected for the operation, the type and configuration of the jacking frame, and the size and length of pipe being installed. A launching pit approximately 12 to 15 feet wide and 35 to 40 feet long is anticipated based on common industry guidelines.

Microtunneling

Microtunneling is a one- or two-pass method defined as "a remotely controlled, guided, pipe-jacking operation that provides continuous support to the excavation face by applying mechanical or fluid pressure to balance groundwater and earth pressures." Face support and accurate guidance are key features distinguishing this method from auger boring. Microtunneling can be used in a wide variety of ground conditions including granular soils, cohesive soils, and bedrock, either above or below the groundwater table. However, without careful selection of the machine and investigation of the subsurface conditions, large quantities of cobbles or large rocks can block the cutter head and require that a separate rescue pit be constructed to remove the obstacles.

A microtunnel boring machine typically consists of a bi-directional rotating cutter head equipped with cutter teeth, picks, or spades for excavation of soil and a conical-shaped crushing chamber to pulverize cobbles and boulders. During excavation, slurry is pumped to the head and mixed with the soil cuttings. The slurry is then returned to a separation plant in the staging area at the launching pit to remove soil particles. Slurry pressure balanced microtunneling systems enable installations below the water table or in very wet soil without the need for dewatering.

Most microtunneling operations include the following components:

- Hydraulic jacking system to advance the microtunnel boring machine and pipe string
- Closed-loop slurry system to transport the excavated spoils
- Slurry cleaning system to remove the spoil from the slurry water
- Lubrication system to lubricate the exterior of the pipe string during installation
- Guidance system to provide line and grade control
- Electrical supply and distribution system to power equipment
- Crane to hoist pipe sections into the launching pit
- Various trucks and loaders to transport spoil off site

Microtunneling requires launching and receiving shafts, or pits, at the opposite ends of each drive. The launching pit and staging/work area requirements are heavily dependent on the contractor's choice of methods, equipment, and layout. Typical launching pit and work area sizes for the Miramar Pipeline are

approximately 16 feet by 33 feet to 50 feet by 100 feet with an additional working area of 20 to 40 feet wide and 75 to 150 feet long.

Horizontal Directional Drilling

Horizontal directional drilling is a multi-pass method that uses steered drilling technologies to install product pipelines in a curved vertical alignment. This method is suitable for a variety of soil conditions; 2,000-foot drive lengths are common and lengths of up to 6,000 linear feet have been achieved in pipe diameters up to 54 inches to date.

The first pass in horizontal directional drilling drills a pilot hole approximately 2 to 5 inches in diameter along the proposed alignment. Drilling heads come in multiple designs, and selection depends on the subsurface conditions at the proposed depth. Heads have multiple ports to allow injection of drilling fluid and removal of material. Cutting tools allow for steering and excavation of the soil, and mud-motors may be used in rocky soils. The pilot hole is drilled with a surface launched rig with an inclined carriage, typically adjusted at an angle of 8 to 18 degrees with the ground for entrance and 8 to 12 degrees for exit angle.

Once the initial bore hole is complete, a series of passes are made to enlarge or ream the drill hole to the desired diameter. In the final pass, the product pipe is attached to the reamer and pulled back. The product pipe is attached to the reamer with a swivel assembly to ensure that the rotation (torque) applied to the reamer is not transmitted to the pipe. Prior to the pull-back operation, the pipeline is usually assembled to its full length and tested. For steel pipe, welding, weld testing, and field-applied lining and coating is completed. Joints are commonly welded or fused to carry tension during pull-back.

Drilling fluid is pumped through the drill head during the pilot bore, reaming, and pull-back operation. This fluid is a mixture of water and additives (bentonite, polymers, surfactants, etc.) and aids in the removal of drill cuttings, reduces friction against the soil, and stabilizes the bore hole during installation. Drilling fluid should be selected or designed for the site's specific soil and groundwater conditions to prevent inadvertent fluid returns (hydraulic fracture). The best defense against losing fluid to the surface is monitoring drilling fluid pressures and careful drilling fluid design. Mitigation measures also include use of release holes and conductor casings in poor granular soils.

Supporting equipment such as a drilling mud recycling system, shale shaker, mud cleaner, centrifugal pump, mud tanks, etc., is needed to assist horizontal directional drilling and complete the work.

Subaqueous Construction

The "float-and-sink" method is recommended to install the subaqueous discharge pipeline at the bottom of Miramar Reservoir. The HDPE pipe segments will be butt-fused at the Miramar Reservoir parking lot and on a barge. Once fused, the pipe will be towed into position along the Miramar Reservoir surface. As the pipe is floated, pre-cast concrete ballast blocks will be connected to the positively buoyant pipeline at regular intervals. Precast concrete ballast blocks such as single piece blocks held in place by stainless-steel strapping and bolts or two-piece concrete blocks will depend on the evaluation of installation condition, depth, and service conditions such as anticipated wave action, current movements, and bottom topography. Trenching and backfilling other than at the shoreline and reservoir entry are not anticipated for construction. Once the pipe is towed into position at the surface, water is allowed to fill the pipe in a controlled fashion, causing it to sink to the reservoir bottom. During the operation, the position of the pipe is monitored to place the pipe in the correct alignment.

Landfill Gas Pipeline

The approximately 15,882-linear-foot LFG Pipeline would be constructed using a combination of open cut and trenchless methods. Approximately 13,577 linear feet will be constructed using open trench methods. Limits of work for open cut construction would range from 40 to 60 feet with a 4-foot-wide open trench. Approximately 2,305 linear feet would be constructed using trenchless methods; launching and receiving pits for each trenchless section would measure approximately 8 feet by 15 feet. Access to the LFG Pipeline would be via existing access roads, and all staging and equipment would be located in previously disturbed areas.

San Vicente Reservoir Inlet Terminus Alternatives

For the San Vicente Pipeline - TAT, the tunnel and tunnel boring machine portal sites would be located at the end of the San Vicente Pipeline alignment near the City's maintenance yard. The tunnel is approximately 5,400 linear feet in a straight horizontal alignment at an approximate 5.4% (3-degree) grade. Excavation is anticipated to be completed by a single tunnel boring machine with an entry portal at the lower downstream end and exit portal in the canyon area above at the

designed discharge point near elevation 798. A 60-inch-diamater steel pipe would be installed within the tunnel, and the space between the tunnel and pipe would be backfilled with grout and the pipeline interior coated with cement mortar. Intermediate access along the alignment is not anticipated based on the existing terrain along the tunnel alignment.

The San Vicente Reservoir - IRAT would be constructed using the open cut methods described above until reaching the reservoir's shoreline. An approximately 10,000-linear-foot subaqueous pipeline constructed of HDPE would then convey water across the San Vicente Reservoir, exiting up the far bank where it would connect to the same discharge structure as proposed for the San Vicente Pipeline - TAT. The subaqueous pipeline would be weighted to ensure it remains on the San Vicente Reservoir bottom in its final position.

The San Vicente Pipeline - MAT would be constructed using the same open cut methods described above until reaching the western shore of the San Vicente Reservoir, where it would discharge into the reservoir.

3.4.4 CONSTRUCTION EQUIPMENT

For facility construction, grading and excavation equipment, heavy-duty trucks, cranes, generators, bulldozers, compactors, welders, rollers, saws, and pumps are anticipated. Pile driving is not anticipated.

For pump station construction, it is anticipated that the equipment will consist of a bulldozer, an excavator, a grader, a crane, a concrete pump, dewatering pumps, two dump trucks, two pick-up trucks, a generator, and a welding machine.

Construction equipment for pipelines would typically include pickup and utility trucks, excavators, loaders, compactors/rollers, welding machines, asphalt/concrete saw, and pipe fusion machines. Specialized equipment would be required for trenchless construction portions as described above under Section 3.4.3.

Construction Personnel

It is assumed that multiple crews of approximately eight members each would be working simultaneously on each pipeline alignment. Specialty crews would work solely on the trenchless segments using specialized equipment. In addition, separate crews would construct the treatment facilities and pump stations; it is anticipated that a single crew would be responsible for construction of each facility.

3.4.5 STAGING AND ACCESS

Staging areas for facilities and pump stations would be located within the facility footprints.

Pipeline staging areas will be located within developed parking lots or other developed and disturbed areas to minimize traffic and road disruptions and would move frequently as construction progresses along the alignment. No new access roads would be needed. Staging areas for open cut construction would generally range from 30 feet to 60 feet wide. Staging areas for trenchless construction would range from 20 feet by 50 feet up to 100 feet by 150 feet.

A jacking pit would be constructed at the beginning of each trenchless pipeline segment and a receiving pit would be constructed at the end of each segment.

3.4.6 TRAFFIC CONTROL PLAN

The City would prepare traffic control plans for pipeline construction to specifically address construction traffic within the City's public rights-of-way. The traffic control plans would include provisions for construction times, control plans for allowance of bicyclists, pedestrians, and bus access throughout construction. The traffic control plans would also include provisions to ensure emergency vehicle passage at all times, and include signage and flaggers when necessary to allow the heavy equipment to utilize surrounding streets. The traffic control plans would include provisions for coordinating with local school hours and emergency service providers regarding construction times.

3.5 OPERATION SUMMARY OF ALTERNATIVES

3.5.1 STAFFING, PARKING, AND SECURITY

Staffing

A maximum of 60 new full-time employees would be required for operation of the entire North City Project, including 15 new full-time employees at the NCWRP and 45 at the NCPWF.

The NCPWF would include an O&M building on site. Approximately 45 new workers are anticipated to be required for operation, including a staff of approximately 12 researchers. These staff would be provided by the City. The facilities would be staffed in shifts 24 hours per day. A fully automated control

system would allow for remote monitoring. Pumping facilities would operate 24 hours per day. No permanent staff would be required, and monitoring would occur remotely. City staff would routinely visit the pump station for maintenance and monitoring activities.

Parking

The Morena Pump Station is considered an unmanned facility. To anticipate O&M needs, five parking stalls will be located within the site. Relocation and addition of parking at the NCWRP is also anticipated. There is existing parking at MBC and Miramar WTP, and no new parking spaces would be provided. No new parking would be provided at the MTBS or along any of the pipeline alignments.

Approximately 82 parking spaces would be provided for staff and visitors at the NCPWF-MR, and approximately 92 parking spaces would be provided at the NCPWF-SVR, in addition to the existing parking at the NCWRP. Pedestrian access between NCWRP and NCPWF will be via a potentially signalized intersection and pedestrian crosswalk at the intersection of Eastgate Mall and Eastgate Drive. The proposed main entrance is located west of the North City Pump Station and east of the O&M building. The emergency access is located in the southwest corner of the property or west of the O&M building. Parking at the NCPWF would include space for the North City Pump Station, which is located on the same site.

Security

Pump stations not collocated with the NCWRP or NCPWF, as well as the dechlorination facility, would be fully fenced and would include exterior lighting for security purposes. Security lighting will be activated through motion detection and will remain active for a minimum duration of 4 hours during the nighttime hours. Security lighting will have a manual override activated by O&M personnel in the event site activities exceed the 4-hour lighting pre-programmed limit.

Site security at the NCWRP would remain similar to existing conditions, including on-site security guards, cameras, and a secure entrance. Security lighting would be provided around new equipment/structures, as necessary. For the NCPWF, security lighting on the exterior of structures, paths, and the entrance would be provided as necessary. The main entrance would include a secure access via a guard shack at the entrance and the perimeter of the facility would be fully fenced.

3.5.2 MAINTENANCE

Morena Pump Station and Pipelines

The Morena Pump Station will operate 24 hours per day, 7 days a week. The pump station will not have any full-time personnel for general operation purposes. O&M personnel will be on site at regular intervals for the removal of collected screenings and delivery of materials. Pump stations are designed with one redundant pump so that peak flows can be achieved even with one pump out of service for maintenance or repair. In the unlikely case of pipe failure, the NCPWF would be shut down until the pipe is repaired. In the event the NCPWF is shut down for any purpose, the Morena Pump Station will also be shut down and go into a by-pass mode directing flows to the Point Loma WWTP.

Regular maintenance of conveyance facilities would be required to ensure that adequate flow is maintained. Permanent access along pipeline alignments would allow for inspection and maintenance. Operation and maintenance of the conveyance facilities would consist of routine patrolling, emergency repair, exercising valves, repair and maintenance, inspections, and periodic pipeline dewatering to allow for interior inspections or repairs. Flows would also be maintained via cleansing and flushing activities with a variety of tools. Video inspections would be performed on selected sections of pipelines when necessary. O&M activities also include no-dig rehabilitations such as epoxy coatings, polyurethane coatings, slip liners, and cured-in-place resin compound liners. Maintenance for elements of the proposed conveyance facilities would include activities similar to those performed throughout the existing water and wastewater system, such as exercising valves.

North City Water Reclamation Plant and Influent Pump Station

The NCWRP and Influent Pump Station will operate 24 hours a day 7 days a week.

Operation and maintenance of the facility would consist of routine patrolling, emergency repair, exercising valves, repair, maintenance, and inspection. O&M will be conducted similar to operation of the existing NCWRP, with additional staff provided to support the increased flow and expanded treatment processes.

A schedule will be developed for routine maintenance, but the treatment processes have built-in monitoring and controls as well as standby equipment. Maintenance would be performed on a routine schedule, and repairs would be

conducted as needed. Large equipment such as a crane may be used to replace pumps or other appurtenances.

The pumping facility would operate 24 hours per day. Monitoring would occur through the control system and routine site patrolling for the pump station collocated with the treatment facility.

North City Pure Water Facility and North City Pump Station

The NCPWF and North City Pump Station will operate 24 hours a day 7 days a week, and the NCPWF will be staffed full-time, two shifts per day.

O&M of the facility would consist of routine patrolling, emergency repair, exercising valves, repair, maintenance, and inspection. O&M procedures and protocols is based on the Demonstration Project for each process. A schedule will be developed for routine maintenance, but the treatment processes (MF, RO, etc.) have built in failsafe technology and equipment standby. Maintenance or repairs would only be required if, for example, there are substantial fluxes in the MF system. A crane will be used to remove and replace pumps. Other appurtenances within the North City Pump Station will be removed and replaced using the facility's proposed bridge crane.

North City Pure Water Conveyance System

Pumping facilities would operate 24 hours per day. No permanent staff would be required, and monitoring would occur remotely. City staff would routinely visit pump stations that are not collocated with a treatment facility for maintenance and additional monitoring activities.

Regular maintenance would be required to assure that adequate flow is maintained. Permanent easements along pipeline alignments would allow access for inspection and maintenance. O&M of the conveyance facilities would consist of routine patrolling, emergency repair, exercising valves, repair and maintenance, inspections, and periodic pipeline dewatering to allow for interior inspections or repairs. Flows would also be maintained via cleansing and flushing activities with a variety of tools. Video inspections would be performed on selected sections of pipelines when necessary. O&M activities also include no-dig rehabilitations such as epoxy coatings, polyurethane coatings, slip liners, and cured-in-place resin compound liners. Maintenance for elements of the proposed conveyance facilities would include activities similar to those performed throughout the existing water and wastewater system, with the exception that City divers will maintain the subaqueous pipeline.

San Vicente Pure Water Pipeline and Pump Stations

Pumping facilities would operate 24 hours per day. No permanent staff would be required, and monitoring would occur remotely. City staff would routinely visit the MTBS for maintenance and additional monitoring activities.

Regular maintenance would be required to assure that adequate flow is maintained. Permanent easements along pipeline alignments would allow access for inspection and maintenance. Operation and maintenance of the conveyance facilities would consist of routine patrolling, emergency repair, exercising valves, repair and maintenance, inspections, and periodic pipeline dewatering to allow for interior inspections or repairs. Flows would also be maintained via cleansing and flushing activities with a variety of tools. Video inspections would be performed on selected sections of pipelines when necessary. O&M activities also include no-dig rehabilitations such as epoxy coatings, polyurethane coatings, slip liners, and cured-in-place resin compound liners. Maintenance for elements of the proposed conveyance facilities would include activities similar to those performed throughout the existing water and wastewater system.

3.5.3 ENERGY REQUIREMENTS

Table 3-3 summarizes the energy requirements by component for each Project Alternative.

Table 3-3
Estimated Electricity Consumption for North City Project

Project Component	Estimated Energy Use (kWh/year)
Miramar Reservoir Alternative	
Morena Pump Station	25,458,000
NCWRP Expansion	32,498,000
NCPWF Influent Pump Station	3,942,000
NCPWF	42,209,000
North City Pump Station	19,230,000
North City Renewable Energy Facility (building usage)	2,628,000
MBC Upgrades	15,884,000
Dechlorination Facility	44,000
Miramar WTP Improvements	586,000
Reduction in Collection System and Wastewater Treatment	(15,598,000)
Total Miramar Reservoir Alternative	**126,881,000**