The City of
San Diego
Development Services Department
1222 First Avenue, MS-301
San Diego, California 92101
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/concentrate 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, use 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/EIS 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**
Federal Aviation Administration
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
Office of the Mayor
Scott Chadwick
Stacey LoMedico
Paz Gomez
David Graham
Ron Villa
Office of the City Attorney
Shannon Thomas
Christine Leone
*Councilmember Bry, District 1
*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

Public Utilities Department (Applicant)
Halla Razak, Director
John Helmsinski
Amy Dorman
Keli Balo

Planning Department
Jeff Murphy, Director
Myra Herrmann
Kristy Forburger
Alyssa Muto

Development Services Department
Robert Vacchi, Director
Kerry Santoro
Mark Brunette
Helene Deisher

Public Works Department
James Nagelvoort, Director
Carrie Purcell

Economic Development
Russ Gibbon
Jim Davies

Park and Recreation Department
Herman Parker, Director
Chris Zirkle

Fire-Rescue Department
Chief Javier Mainar
Fire and Life Safety Services
Kenneth Barnes, Fire -Rescue Dept Logistics

Police Department
Chief Shelley Zimmerman

Environmental Services Department
Mario Sierra, Director
Darren Greenhalgh
Lisa Wood

Transportation & Storm Water Department
Kris McFadden, Director
Andrew Kleis
Ruth Kolb

Real Estate Assets Department
Cybele Thompson, Director
Barry Slotten

Libraries
*Central Library, Government Documents
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
- Ewilaapaayp 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
UCSD Natural Reserve System
Theresa Quiroz
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
Beeler Canyon Conservancy
Jim Dawe
Mission Trails Regional Park
Scott Andrews
Sandy Wetzel-Smith
Richard Gilb
Joel Young
Barbara Zaragoza
Ted Anasis
Ed Spriggs
McMillin-NTC, LLC
Water Reliability Coalition
Laborers International Union of North America/Local Union 89
Lozeau Drury LLP
Raymond Paulson
Al Lau
Save Everyone's Access
Water Reliability Coalition
Mark Stephens
Kathy Frederick Louv
Kelien Ellis
Bill VanWolven
Metropolitan Water District of Southern California
Murphy Development Company
EMPSi Environmental Management and Planning Solutions, Inc.
North American Development (NADB) / Border Environment Cooperation Commission (BECC)
Roofline Supply & Delivery
Ace Relocation Systems Inc.
Envision Solar International
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
Lockheed Martin Corp
Ingenu
Horizon Tech Center (Management Office)
CoreLogic Credco
Sheila Sannadan
Keith Slater
Adams, Broadwell Joseph and Cardozo
San Diego Team Series
Western Outdoor News
Bass Club of San Diego
San Diego Bassmasters
San Diego Fly Fishers
Golden State Fly Casters
San Diego Anglers
San Diego Rod and Reel Club
San Diego Council of Bass Clubs
Friends of Rollo
Dan Hernandez Sports
American Bass Association West
East County Bait and Tackle
El Cajon Ford Series
Boy Scouts of America
Lake Murray Kiwanis
Anglers Marine
San Diego Stokers
The Sporting Life

Independent Rates Oversight Committee (IROC)
Jeff Justus
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**
Lori Anne Peoples
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
Mark Robak
Jim Peasley, Vice-Chair
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 Coatkeeper
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
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>SECTION</th>
<th>PAGE NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONCLUSIONS</td>
<td></td>
</tr>
<tr>
<td>LIST OF ACRONYMS AND ABBREVIATIONS</td>
<td>ACR-1</td>
</tr>
<tr>
<td>LETTERS OF COMMENT AND RESPONSES</td>
<td>RTC-1</td>
</tr>
<tr>
<td>List of Agencies and Individuals that Commented on the Draft EIR/eis...</td>
<td>RTC-1</td>
</tr>
<tr>
<td>Summary of Changes and Modifications</td>
<td>RTC-3</td>
</tr>
<tr>
<td>ES EXECUTIVE SUMMARY</td>
<td>ES-1</td>
</tr>
<tr>
<td>ES.1 Introduction</td>
<td>ES-1</td>
</tr>
<tr>
<td>ES.2 Background</td>
<td>ES-2</td>
</tr>
<tr>
<td>ES.3 Project Alternatives</td>
<td>ES-2</td>
</tr>
<tr>
<td>ES.4 Impacts Determined to be Significant</td>
<td>ES-3</td>
</tr>
<tr>
<td>ES.5 Effects Not Found to be Significant</td>
<td>ES-19</td>
</tr>
<tr>
<td>ES.6 Areas of Known Controversy</td>
<td>ES-19</td>
</tr>
<tr>
<td>ES.7 Environmentally Superior Alternative</td>
<td>ES-19</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1-1</td>
</tr>
<tr>
<td>1.1 Background</td>
<td>1-2</td>
</tr>
<tr>
<td>1.2 Purpose and Need</td>
<td>1-3</td>
</tr>
<tr>
<td>1.3 Project Objectives</td>
<td>1-4</td>
</tr>
<tr>
<td>1.4 CEQA Requirements</td>
<td>1-4</td>
</tr>
<tr>
<td>1.4.1 Notice of Preparation, Notice of Intent, and Scoping Meetings</td>
<td>1-5</td>
</tr>
<tr>
<td>1.5 EIR/EIS Format</td>
<td>1-6</td>
</tr>
<tr>
<td>1.6 Discretionary Actions and Approvals</td>
<td>1-6</td>
</tr>
<tr>
<td>ENVIRONMENTAL SETTING</td>
<td>2-1</td>
</tr>
<tr>
<td>2.1 Location</td>
<td>2-1</td>
</tr>
<tr>
<td>2.2 Physical Characteristics</td>
<td>2-1</td>
</tr>
<tr>
<td>2.3 Surrounding Land Uses</td>
<td>2-2</td>
</tr>
<tr>
<td>2.4 Project History and Background</td>
<td>2-3</td>
</tr>
<tr>
<td>2.4.1 Existing Facilities, Water Demands, and Wastewater Flows</td>
<td>2-3</td>
</tr>
<tr>
<td>2.4.2 Regulatory Setting</td>
<td>2-10</td>
</tr>
<tr>
<td>2.4.3 Previous Studies and Projects</td>
<td>2-21</td>
</tr>
<tr>
<td>PROJECT DESCRIPTION/ALTERNATIVES</td>
<td>3-1</td>
</tr>
<tr>
<td>3.1 Location of the Project Alternatives</td>
<td>3-1</td>
</tr>
<tr>
<td>3.2 No Project/No Action Alternative</td>
<td>3-1</td>
</tr>
</tbody>
</table>
### North City Project Alternatives

- **3.3 North City Project Alternatives** ................................................................. 3-2
  - **3.3.1 Miramar Reservoir Alternative** .......................................................... 3-4
  - **3.3.2 San Vicente Reservoir Alternative** .................................................... 3-15

### Construction Summary of Alternatives

- **3.4 Construction Summary of Alternatives** ................................................. 3-20
  - **3.4.1 Construction Schedule** ................................................................. 3-20
  - **3.4.2 Construction Hours** ................................................................. 3-20
  - **3.4.3 Construction Methods** ................................................................. 3-21
  - **3.4.4 Construction Equipment** ............................................................... 3-27
  - **3.4.5 Staging and Access** ............................................................... 3-28
  - **3.4.6 Traffic Control Plan** ............................................................... 3-28

### Operation Summary of Alternatives

- **3.5 Operation Summary of Alternatives** ................................................. 3-28
  - **3.5.1 Staffing, Parking, and Security** .................................................... 3-28
  - **3.5.2 Maintenance** ................................................................. 3-30
  - **3.5.3 Energy Requirements** ............................................................... 3-32

### Treatment Process and Maintenance Summary

- **3.6 Treatment Process and Maintenance Summary** ................................ 3-33
  - **3.6.1 Morena Pump Station** ............................................................... 3-34
  - **3.6.2 North City Pure Water Facility** .................................................... 3-34

### Alternatives Considered But Not Carried Forward for Analysis

- **3.7 Alternatives Considered But Not Carried Forward for Analysis** ........ 3-44
  - **3.7.1 Previous Water Supply Alternatives Planning** .......................... 3-44
  - **3.7.2 Current Alternatives Screening** .................................................. 3-51

### History of Project Changes

- **4 HISTORY OF PROJECT CHANGES** ............................................................. 4-1

### Affected Environment/Existing Conditions

- **5 AFFECTED ENVIRONMENT/EXISTING CONDITIONS** ................................. 5.1-1
  - **5.1 Land Use** ......................................................................................... 5.1-1
    - **5.1.1 Introduction** .............................................................................. 5.1-1
    - **5.1.2 Environmental Setting** ............................................................... 5.1-1
    - **5.1.3 Regulatory Framework** .............................................................. 5.1-11
  - **5.2 Aesthetics/Visual Effects and Neighborhood Character** ................. 5.2-1
    - **5.2.1 Introduction** .............................................................................. 5.2-1
    - **5.2.2 Environmental Setting** ............................................................... 5.2-1
    - **5.2.3 Regulatory Framework** .............................................................. 5.2-12
  - **5.3 Air Quality and Odor** ....................................................................... 5.3-1
    - **5.3.1 Introduction** .............................................................................. 5.3-1
    - **5.3.2 Environmental Setting** ............................................................... 5.3-1
    - **5.3.3 Pollutants and Effects** .............................................................. 5.3-4
    - **5.3.4 Regulatory Framework** .............................................................. 5.3-11
  - **5.4 Biological Resources** ....................................................................... 5.4-1
    - **5.4.1 Introduction** .............................................................................. 5.4-1
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.4.2</td>
<td>Environmental Setting</td>
<td>5.4-1</td>
</tr>
<tr>
<td>5.4.3</td>
<td>Regulatory Framework</td>
<td>5.4-69</td>
</tr>
<tr>
<td>5.5</td>
<td>Environmental Justice</td>
<td>5.5-1</td>
</tr>
<tr>
<td>5.5.1</td>
<td>Introduction</td>
<td>5.5-1</td>
</tr>
<tr>
<td>5.5.2</td>
<td>Environmental Setting</td>
<td>5.5-1</td>
</tr>
<tr>
<td>5.5.3</td>
<td>Regulatory Framework</td>
<td>5.5-6</td>
</tr>
<tr>
<td>5.6</td>
<td>Energy</td>
<td>5.6-1</td>
</tr>
<tr>
<td>5.6.1</td>
<td>Introduction</td>
<td>5.6-1</td>
</tr>
<tr>
<td>5.6.2</td>
<td>Environmental Setting</td>
<td>5.6-1</td>
</tr>
<tr>
<td>5.6.3</td>
<td>Regulatory Framework</td>
<td>5.6-5</td>
</tr>
<tr>
<td>5.7</td>
<td>Geology and Soils</td>
<td>5.7-1</td>
</tr>
<tr>
<td>5.7.1</td>
<td>Introduction</td>
<td>5.7-1</td>
</tr>
<tr>
<td>5.7.2</td>
<td>Environmental Setting</td>
<td>5.7-2</td>
</tr>
<tr>
<td>5.7.3</td>
<td>Regulatory Framework</td>
<td>5.7-10</td>
</tr>
<tr>
<td>5.8</td>
<td>Greenhouse Gas Emissions</td>
<td>5.8-1</td>
</tr>
<tr>
<td>5.8.1</td>
<td>Introduction</td>
<td>5.8-1</td>
</tr>
<tr>
<td>5.8.2</td>
<td>Environmental Setting</td>
<td>5.8-1</td>
</tr>
<tr>
<td>5.8.3</td>
<td>Regulatory Framework</td>
<td>5.8-10</td>
</tr>
<tr>
<td>5.9</td>
<td>Health and Safety/Hazards</td>
<td>5.9-1</td>
</tr>
<tr>
<td>5.9.1</td>
<td>Introduction</td>
<td>5.9-1</td>
</tr>
<tr>
<td>5.9.2</td>
<td>Environmental Setting</td>
<td>5.9-1</td>
</tr>
<tr>
<td>5.9.3</td>
<td>Regulatory Framework</td>
<td>5.9-16</td>
</tr>
<tr>
<td>5.10</td>
<td>Historical Resources</td>
<td>5.10-1</td>
</tr>
<tr>
<td>5.10.1</td>
<td>Introduction</td>
<td>5.10-1</td>
</tr>
<tr>
<td>5.10.2</td>
<td>Environmental Setting</td>
<td>5.10-2</td>
</tr>
<tr>
<td>5.10.3</td>
<td>Methodologies</td>
<td>5.10-16</td>
</tr>
<tr>
<td>5.10.4</td>
<td>Survey Results</td>
<td>5.10-19</td>
</tr>
<tr>
<td>5.10.5</td>
<td>Regulatory Framework</td>
<td>5.10-46</td>
</tr>
<tr>
<td>5.11</td>
<td>Hydrology and Water Quality</td>
<td>5.11-1</td>
</tr>
<tr>
<td>5.11.1</td>
<td>Introduction</td>
<td>5.11-1</td>
</tr>
<tr>
<td>5.11.2</td>
<td>Environmental Setting</td>
<td>5.11-1</td>
</tr>
<tr>
<td>5.11.3</td>
<td>Regulatory Framework</td>
<td>5.11-11</td>
</tr>
<tr>
<td>5.12</td>
<td>Noise</td>
<td>5.12-1</td>
</tr>
<tr>
<td>5.12.1</td>
<td>Introduction</td>
<td>5.12-1</td>
</tr>
<tr>
<td>5.12.2</td>
<td>Environmental Setting</td>
<td>5.12-1</td>
</tr>
<tr>
<td>5.12.3</td>
<td>Regulatory Framework</td>
<td>5.12-7</td>
</tr>
<tr>
<td>5.13</td>
<td>Paleontological Resources</td>
<td>5.13-1</td>
</tr>
<tr>
<td>5.13.1</td>
<td>Introduction</td>
<td>5.13-1</td>
</tr>
</tbody>
</table>
### Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.13.2 Environmental Setting</td>
<td>5.13-1</td>
</tr>
<tr>
<td>5.13.3 Regulatory Framework</td>
<td>5.13-9</td>
</tr>
<tr>
<td>5.14 Public Services</td>
<td>5.14-1</td>
</tr>
<tr>
<td>5.14.1 Introduction</td>
<td>5.14-1</td>
</tr>
<tr>
<td>5.14.2 Environmental Setting</td>
<td>5.14-1</td>
</tr>
<tr>
<td>5.14.3 Regulatory Framework</td>
<td>5.14-5</td>
</tr>
<tr>
<td>5.15 Public Utilities</td>
<td>5.15-1</td>
</tr>
<tr>
<td>5.15.1 Introduction</td>
<td>5.15-1</td>
</tr>
<tr>
<td>5.15.2 Environmental Setting</td>
<td>5.15-1</td>
</tr>
<tr>
<td>5.15.3 Regulatory Framework</td>
<td>5.15-3</td>
</tr>
<tr>
<td>5.16 Transportation, Circulation, and Parking</td>
<td>5.16-1</td>
</tr>
<tr>
<td>5.16.1 Introduction</td>
<td>5.16-1</td>
</tr>
<tr>
<td>5.16.2 Environmental Setting</td>
<td>5.16-1</td>
</tr>
<tr>
<td>5.16.3 Regulatory Framework</td>
<td>5.16-26</td>
</tr>
<tr>
<td>5.17 Water Supply</td>
<td>5.17-1</td>
</tr>
<tr>
<td>5.17.1 Introduction</td>
<td>5.17-1</td>
</tr>
<tr>
<td>5.17.2 Environmental Setting</td>
<td>5.17-1</td>
</tr>
<tr>
<td>5.17.3 Regulatory Framework</td>
<td>5.17-5</td>
</tr>
<tr>
<td>5.18 Recreation</td>
<td>5.18-1</td>
</tr>
<tr>
<td>5.18.1 Introduction</td>
<td>5.18-1</td>
</tr>
<tr>
<td>5.18.2 Environmental Setting</td>
<td>5.18-1</td>
</tr>
<tr>
<td>5.18.3 Regulatory Framework</td>
<td>5.18-17</td>
</tr>
<tr>
<td><strong>6 ENVIRONMENTAL ANALYSIS</strong></td>
<td>6.1-1</td>
</tr>
<tr>
<td>6.1 Land Use</td>
<td>6.1-1</td>
</tr>
<tr>
<td>6.1.1 Introduction</td>
<td>6.1-1</td>
</tr>
<tr>
<td>6.1.2 CEQA Thresholds of Significance</td>
<td>6.1-1</td>
</tr>
<tr>
<td>6.1.3 Issue 1</td>
<td>6.1-2</td>
</tr>
<tr>
<td>6.1.4 Issue 2</td>
<td>6.1-23</td>
</tr>
<tr>
<td>6.1.5 Level of Impact after Mitigation</td>
<td>6.1-31</td>
</tr>
<tr>
<td>6.2 Aesthetics/Visual Effects and Neighborhood Character</td>
<td>6.2-1</td>
</tr>
<tr>
<td>6.2.1 Introduction</td>
<td>6.2-1</td>
</tr>
<tr>
<td>6.2.2 CEQA Thresholds of Significance</td>
<td>6.2-1</td>
</tr>
<tr>
<td>6.2.3 Issue 1</td>
<td>6.2-7</td>
</tr>
<tr>
<td>6.2.4 Issue 2</td>
<td>6.2-14</td>
</tr>
<tr>
<td>6.2.5 Issue 3</td>
<td>6.2-26</td>
</tr>
<tr>
<td>6.2.6 Issue 4</td>
<td>6.2-26</td>
</tr>
<tr>
<td>6.2.7 Level of Impact After Mitigation</td>
<td>6.2-31</td>
</tr>
</tbody>
</table>
### Table of Contents

#### Geology and Soils

6.7.1 Introduction .................................................................................. 6.7-1
6.7.2 CEQA Thresholds of Significance ................................................. 6.7-1
6.7.3 Issue 1 ......................................................................................... 6.7-1
6.7.4 Issue 2 ......................................................................................... 6.7-1
6.7.5 Issue 3 ......................................................................................... 6.7-7
6.7.6 Level of Impact after Mitigation ..................................................... 6.7-18

#### Biological Resources

6.4.1 Introduction .................................................................................. 6.4-1
6.4.2 CEQA Thresholds of Significance ................................................. 6.4-2
6.4.3 Issue 1 – Vegetation communities ................................................ 6.4-5
6.4.4 Issue 2 – Jurisdictional Resources ................................................ 6.4-42
6.4.5 Issue 3 – Sensitive Species ........................................................... 6.4-57
6.4.6 Issue 4 – Habitat Linkages/Wildlife Corridors ............................... 6.4-103
6.4.7 Issue 5 – MHPA ........................................................................... 6.4-107
6.4.8 Issue 6 – Land Adjacency Uses ................................................... 6.4-114
6.4.9 Issue 7 – Invasive Species ............................................................ 6.4-122
6.4.10 Level of Impact after Mitigation .................................................. 6.4-124

#### Environmental Justice

6.5.1 Introduction .................................................................................. 6.5-1
6.5.2 CEQA Thresholds of Significance ................................................. 6.5-1
6.5.3 Level of Impact after Mitigation ..................................................... 6.5-6

#### Energy

6.6.1 Introduction .................................................................................. 6.6-1
6.6.2 CEQA Thresholds of Significance ................................................. 6.6-1
6.6.3 Level of Impact after Mitigation ..................................................... 6.6-21

#### Air Quality and Odor

6.3.1 Introduction .................................................................................. 6.3-1
6.3.2 CEQA Thresholds of Significance ................................................. 6.3-1
6.3.3 Issue 1 ......................................................................................... 6.3-5
6.3.4 Issue 2 and Issue 5 ....................................................................... 6.3-8
6.3.5 Issue 3 ......................................................................................... 6.3-38
6.3.6 Issue 4 ......................................................................................... 6.3-51
6.3.7 Level of Impact after Mitigation Summary .................................... 6.3-55

#### Level of Impact after Mitigation

- Issue 1
- Issue 2
- Issue 3
- Issue 4
- Issue 5
- Issue 6
- Issue 7
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.8</td>
<td>Greenhouse Gas Emissions</td>
<td>6.8-1</td>
</tr>
<tr>
<td>6.8.1</td>
<td>Introduction</td>
<td>6.8-1</td>
</tr>
<tr>
<td>6.8.2</td>
<td>CEQA Thresholds of Significance</td>
<td>6.8-1</td>
</tr>
<tr>
<td>6.8.3</td>
<td>Issue 1</td>
<td>6.8-3</td>
</tr>
<tr>
<td>6.8.4</td>
<td>Issue 2</td>
<td>6.8-25</td>
</tr>
<tr>
<td>6.8.5</td>
<td>Level of Impact after Mitigation</td>
<td>6.8-30</td>
</tr>
<tr>
<td>6.9</td>
<td>Health and Safety/Hazards</td>
<td>6.9-1</td>
</tr>
<tr>
<td>6.9.1</td>
<td>Introduction</td>
<td>6.9-1</td>
</tr>
<tr>
<td>6.9.2</td>
<td>CEQA Thresholds of Significance</td>
<td>6.9-1</td>
</tr>
<tr>
<td>6.9.3</td>
<td>Issue 1</td>
<td>6.9-4</td>
</tr>
<tr>
<td>6.9.4</td>
<td>Issue 2</td>
<td>6.9-7</td>
</tr>
<tr>
<td>6.9.5</td>
<td>Issue 3</td>
<td>6.9-14</td>
</tr>
<tr>
<td>6.9.6</td>
<td>Issue 4</td>
<td>6.9-21</td>
</tr>
<tr>
<td>6.9.7</td>
<td>Level of Impact after Mitigation</td>
<td>6.9-26</td>
</tr>
<tr>
<td>6.10</td>
<td>Historical Resources</td>
<td>6.10-1</td>
</tr>
<tr>
<td>6.10.1</td>
<td>Introduction</td>
<td>6.10-1</td>
</tr>
<tr>
<td>6.10.2</td>
<td>Thresholds of Significance</td>
<td>6.10-1</td>
</tr>
<tr>
<td>6.10.3</td>
<td>Issue 1</td>
<td>6.10-1</td>
</tr>
<tr>
<td>6.10.4</td>
<td>Issue 2</td>
<td>6.10-27</td>
</tr>
<tr>
<td>6.10.5</td>
<td>Level of Impact after Mitigation</td>
<td>6.10-29</td>
</tr>
<tr>
<td>6.11</td>
<td>Hydrology and Water Quality</td>
<td>6.11-1</td>
</tr>
<tr>
<td>6.11.1</td>
<td>Introduction</td>
<td>6.11-1</td>
</tr>
<tr>
<td>6.11.2</td>
<td>CEQA Thresholds of Significance</td>
<td>6.11-1</td>
</tr>
<tr>
<td>6.11.3</td>
<td>Issue 1 and Issue 2</td>
<td>6.11-4</td>
</tr>
<tr>
<td>6.11.4</td>
<td>Issue 3</td>
<td>6.11-15</td>
</tr>
<tr>
<td>6.11.5</td>
<td>Level of Impact after Mitigation</td>
<td>6.11-38</td>
</tr>
<tr>
<td>6.12</td>
<td>Noise</td>
<td>6.12-1</td>
</tr>
<tr>
<td>6.12.1</td>
<td>Introduction</td>
<td>6.12-1</td>
</tr>
<tr>
<td>6.12.2</td>
<td>CEQA Thresholds of Significance</td>
<td>6.12-1</td>
</tr>
<tr>
<td>6.12.3</td>
<td>Issue 1</td>
<td>6.12-5</td>
</tr>
<tr>
<td>6.12.4</td>
<td>Level of Impact after Mitigation</td>
<td>6.12-29</td>
</tr>
<tr>
<td>6.13</td>
<td>Paleontological Resources</td>
<td>6.13-1</td>
</tr>
<tr>
<td>6.13.1</td>
<td>Introduction</td>
<td>6.13-1</td>
</tr>
<tr>
<td>6.13.2</td>
<td>CEQA Thresholds of Significance</td>
<td>6.13-1</td>
</tr>
<tr>
<td>6.13.3</td>
<td>Issue 1</td>
<td>6.13-1</td>
</tr>
<tr>
<td>6.13.4</td>
<td>Level of Impact after Mitigation</td>
<td>6.13-16</td>
</tr>
</tbody>
</table>
6.14 Public Services .................................................................................................................. 6.14-1
  6.14.1 Introduction .................................................................................................................. 6.14-1
  6.14.2 CEQA Thresholds of Significance .............................................................................. 6.14-1
  6.14.3 Issue 1 ......................................................................................................................... 6.14-1
  6.14.4 Level of Impact after Mitigation .................................................................................. 6.14-14
6.15 Public Utilities ................................................................................................................... 6.15-1
  6.15.1 Introduction .................................................................................................................. 6.15-1
  6.15.2 CEQA Thresholds of Significance .............................................................................. 6.15-1
  6.15.3 Issue 1 ......................................................................................................................... 6.15-2
  6.15.4 Level of Impact after Mitigation .................................................................................. 6.15-10
6.16 Transportation, Circulation, and Parking ........................................................................ 6.16-1
  6.16.1 Introduction .................................................................................................................. 6.16-1
  6.16.2 CEQA Thresholds of Significance .............................................................................. 6.16-1
  6.16.3 Methodology ............................................................................................................... 6.16-3
  6.16.4 Issue 1 ......................................................................................................................... 6.16-11
  6.16.5 Issue 2 ......................................................................................................................... 6.16-39
  6.16.6 Level of Impact after Mitigation .................................................................................. 6.16-51
6.17 Water Supply ..................................................................................................................... 6.17-1
  6.17.1 Introduction .................................................................................................................. 6.17-1
  6.17.2 CEQA Thresholds of Significance .............................................................................. 6.17-1
  6.17.3 Issue 1 ......................................................................................................................... 6.17-1
  6.17.4 Level of Impact after Mitigation .................................................................................. 6.17-5
6.18 Recreation .......................................................................................................................... 6.18-1
  6.18.1 Introduction .................................................................................................................. 6.18-1
  6.18.2 CEQA Thresholds of Significance .............................................................................. 6.18-1
  6.18.3 Issue 1 ......................................................................................................................... 6.18-1
  6.18.4 Issue 2 ......................................................................................................................... 6.18-7
  6.18.5 Level of Impact after Mitigation .................................................................................. 6.18-10
  6.18.6 Supplementary information Regarding Recreational Resources ................................. 6.18-10

7 CUMULATIVE IMPACTS ........................................................................................................ 7-1
  7.1 Plans and Programs Evaluated for Cumulative Impacts .................................................. 7-2
  7.2 Cumulative Projects ........................................................................................................... 7-5
    7.2.1 East County Advanced Water Purification Program .................................................. 7-6
    7.2.2 Mid-Coast Corridor Transit Project ............................................................................. 7-6
    7.2.3 City of San Diego Capital Improvement Project: AC Water Group 1038 ..................... 7-8
# NORTH CITY PROJECT EIR/EIS

## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2.4</td>
<td>City of San Diego Capital Improvement Project: Morena Water Pipeline</td>
<td>7-8</td>
</tr>
<tr>
<td>7.2.5</td>
<td>North Torrey Pines Living and Learning Neighborhood Project</td>
<td>7-9</td>
</tr>
<tr>
<td>7.2.6</td>
<td>Westfield University Towne Center Revitalization Project</td>
<td>7-10</td>
</tr>
<tr>
<td>7.2.7</td>
<td>Mesa Housing Nuevo West and East Project</td>
<td>7-11</td>
</tr>
<tr>
<td>7.2.8</td>
<td>Carroll Canyon Mixed-Use Project</td>
<td>7-11</td>
</tr>
<tr>
<td>7.2.9</td>
<td>Pipeline Safety and Reliability Project</td>
<td>7-12</td>
</tr>
<tr>
<td>7.3</td>
<td>Cumulative Impact Analysis</td>
<td>7-12</td>
</tr>
<tr>
<td>7.3.1</td>
<td>No Project/No Action Alternative</td>
<td>7-13</td>
</tr>
<tr>
<td>7.3.2</td>
<td>Miramar Reservoir Alternative</td>
<td>7-14</td>
</tr>
<tr>
<td>7.3.3</td>
<td>San Vicente Reservoir Alternative</td>
<td>7-26</td>
</tr>
<tr>
<td>8</td>
<td>EFFECTS NOT FOUND TO BE SIGNIFICANT</td>
<td>8-1</td>
</tr>
<tr>
<td>8.1</td>
<td>Agricultural Resources</td>
<td>8-1</td>
</tr>
<tr>
<td>8.2</td>
<td>Mineral Resources</td>
<td>8-2</td>
</tr>
<tr>
<td>8.3</td>
<td>Population and Housing</td>
<td>8-2</td>
</tr>
<tr>
<td>8.4</td>
<td>Marine Fisheries</td>
<td>8-3</td>
</tr>
<tr>
<td>8.5</td>
<td>Wilderness</td>
<td>8-3</td>
</tr>
<tr>
<td>8.6</td>
<td>Socioeconomic Effects</td>
<td>8-3</td>
</tr>
<tr>
<td>8.7</td>
<td>Indian Trust Assets</td>
<td>8-4</td>
</tr>
<tr>
<td>9</td>
<td>MANDATORY DISCUSSION AREAS</td>
<td>9-1</td>
</tr>
<tr>
<td>9.1</td>
<td>Significant/adverse Effects Which Cannot Be Avoided</td>
<td>9-1</td>
</tr>
<tr>
<td>9.2</td>
<td>Significant Irreversible Environmental Changes that Cannot be Avoided if the North City Project Is Implemented</td>
<td>9-1</td>
</tr>
<tr>
<td>9.3</td>
<td>Growth-Inducing Impacts</td>
<td>9-2</td>
</tr>
<tr>
<td>9.3.1</td>
<td>Growth Catalysts and Constraints</td>
<td>9-4</td>
</tr>
<tr>
<td>9.3.2</td>
<td>Government’s Role Regarding Growth</td>
<td>9-4</td>
</tr>
<tr>
<td>9.3.3</td>
<td>City of San Diego General Plan</td>
<td>9-5</td>
</tr>
<tr>
<td>9.3.4</td>
<td>Existing Water Supplies</td>
<td>9-6</td>
</tr>
<tr>
<td>9.3.5</td>
<td>Regional Planning—Growth Forecasts and Water Demand Projections</td>
<td>9-7</td>
</tr>
<tr>
<td>9.3.6</td>
<td>Urban Water Management Plans</td>
<td>9-9</td>
</tr>
<tr>
<td>9.3.7</td>
<td>Potential Growth-Inducing Impacts</td>
<td>9-10</td>
</tr>
</tbody>
</table>
9.4 Short-Term Use Versus Long-Term Productivity of the Environment ................................................................. 9-11
9.5 Compliance with Applicable Federal Environmental Regulations and Policies ...................................................... 9-11

10 MITIGATION MONITORING AND REPORTING PROGRAM ................. 10-1
10.1 General ................................................................................................................................. 10-1
10.2 Specific MMRP Issue Area Conditions/Requirements ......................... 10-2
  10.2.1 Air Quality ...................................................................................................................... 10-2
  10.2.2 Biological Resources ................................................................................................. 10-4
  10.2.3 Health and Safety/Hazards ....................................................................................... 10-26
  10.2.4 Historical Resources ................................................................................................. 10-29
  10.2.5 Noise .......................................................................................................................... 10-44
  10.2.6 Paleontological Resources ....................................................................................... 10-46
  10.2.7 Public Utilities .......................................................................................................... 10-54
  10.2.8 Transportation, Circulation and Parking ................................................................. 10-55
10.3 Mitigation Summary ........................................................................................................ 10-57

11 REFERENCES CITED ............................................................................................................. 11-1

APPENDICES

A Scoping Letter, NOP/NOI, and NOP Comments
B Air Quality Technical Report
C Biological Resources Report
D1-D5 Geotechnical Reports
E Greenhouse Gas Emissions Analysis
F1 Historical Resources Technical Report
F2 Cultural Resources Inventory Report
G Water Quality Modeling of Miramar Reservoir in Support of Assessment of Nutrients and Productivity
H Noise Technical Report
I North City Project TIS – Realignment of Morena Pipelines and Transportation Impact Study

FIGURES

1-1 Regional Map ...................................................................................................................... 1-9
1-2 Vicinity Map ...................................................................................................................... 1-11
2-1 City of San Diego Potable Water System ........................................................................ 2-33
<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-2</td>
<td>City of San Diego Metropolitan Sewerage System</td>
</tr>
<tr>
<td>2-3</td>
<td>City of San Diego Recycled Water Conveyance System</td>
</tr>
<tr>
<td>3-1</td>
<td>Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>3-2</td>
<td>San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>3-3</td>
<td>Pure Water System Overview—Miramar Reservoir</td>
</tr>
<tr>
<td>3-4</td>
<td>Morena Pump Station Site</td>
</tr>
<tr>
<td>3-5</td>
<td>Morena Pump Station Conceptual Site Layout</td>
</tr>
<tr>
<td>3-6A</td>
<td>Morena Wastewater Forcemain and Brine/Centrate Line Alignment</td>
</tr>
<tr>
<td>3-6B</td>
<td>Morena Wastewater Forcemain and Brine/Centrate Line Alignment</td>
</tr>
<tr>
<td>3-6C</td>
<td>Morena Wastewater Forcemain and Brine/Centrate Line Alignment</td>
</tr>
<tr>
<td>3-7</td>
<td>North City Water Reclamation Plant Expansion Site</td>
</tr>
<tr>
<td>3-8</td>
<td>North City Water Reclamation Plant Expansion Improvements</td>
</tr>
<tr>
<td>3-9</td>
<td>North City Water Reclamation Plant Expansion Conceptual Site Plan</td>
</tr>
<tr>
<td>3-10</td>
<td>North City Pure Water Facility Influent Pump Station and Conveyance Location</td>
</tr>
<tr>
<td>3-11</td>
<td>North City Pure Water Facility Site</td>
</tr>
<tr>
<td>3-12</td>
<td>North City Pure Water Facility – Miramar Reservoir Conceptual Site Layout</td>
</tr>
<tr>
<td>3-13</td>
<td>North City Pump Station Conceptual Site Layout</td>
</tr>
<tr>
<td>3-14A</td>
<td>North City Pure Water Pipeline Alignment</td>
</tr>
<tr>
<td>3-14B</td>
<td>North City Pure Water Pipeline Alignment</td>
</tr>
<tr>
<td>3-15</td>
<td>Pure Water Dechlorination Facility Site</td>
</tr>
<tr>
<td>3-16</td>
<td>Pure Water Dechlorination Facility Conceptual Site Layout</td>
</tr>
<tr>
<td>3-17</td>
<td>North City Renewable Energy Facility Conceptual Site Layout</td>
</tr>
<tr>
<td>3-18</td>
<td>Landfill Gas Pipeline Alignment</td>
</tr>
<tr>
<td>3-19</td>
<td>Metro Biosolids Center Site</td>
</tr>
<tr>
<td>3-20</td>
<td>Metro Biosolids Center Improvements Conceptual Site Layout</td>
</tr>
<tr>
<td>3-21</td>
<td>Miramar Water Treatment Plant and Miramar Reservoir Pump Station Site</td>
</tr>
<tr>
<td>3-22</td>
<td>North City Pure Water Facility – San Vicente Reservoir Conceptual Site Layout</td>
</tr>
<tr>
<td>3-23</td>
<td>Mission Trails Booster Station Site</td>
</tr>
<tr>
<td>3-24</td>
<td>Mission Trails Booster Station Conceptual Site Layout</td>
</tr>
<tr>
<td>3-25A</td>
<td>San Vicente Pure Water Pipeline Alignment</td>
</tr>
<tr>
<td>3-25B</td>
<td>San Vicente Pure Water Pipeline Alignment</td>
</tr>
<tr>
<td>3-25C</td>
<td>San Vicente Pure Water Pipeline Alignment</td>
</tr>
<tr>
<td>3-25D</td>
<td>San Vicente Pure Water Pipeline Alignment</td>
</tr>
<tr>
<td>3-26</td>
<td>San Vicente Reservoir Inlet Terminus Alternatives</td>
</tr>
<tr>
<td>Page</td>
<td>Section</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>3-27</td>
<td>Pure Water System Overview San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>3-28</td>
<td>Pure Water System Overview Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>3-29</td>
<td>Alternative North City Pure Water Facility Sites</td>
</tr>
<tr>
<td>3-30</td>
<td>Morena Wastewater Forcemain and Brine/Centrate Line Alternative Alignments</td>
</tr>
<tr>
<td>3-31A</td>
<td>North City Pure Water Pipeline Alternative Alignments</td>
</tr>
<tr>
<td>3-31B</td>
<td>North City Pure Water Pipeline Alternative Alignments</td>
</tr>
<tr>
<td>3-32A</td>
<td>San Vicente Pure Water Pipeline Alternative Alignments</td>
</tr>
<tr>
<td>3-32B</td>
<td>San Vicente Pure Water Pipeline Alternative Alignments</td>
</tr>
<tr>
<td>5.1-1A</td>
<td>General Plan Land Use Designations</td>
</tr>
<tr>
<td>5.1-1B</td>
<td>General Plan Land Use Designations</td>
</tr>
<tr>
<td>5.1-1C</td>
<td>General Plan Land Use Designations</td>
</tr>
<tr>
<td>5.1-1D</td>
<td>General Plan Land Use Designations</td>
</tr>
<tr>
<td>5.1-2A</td>
<td>Zoning Designations</td>
</tr>
<tr>
<td>5.1-2B</td>
<td>Zoning Designations</td>
</tr>
<tr>
<td>5.1-2C</td>
<td>Zoning Designations</td>
</tr>
<tr>
<td>5.1-2D</td>
<td>Zoning Designations</td>
</tr>
<tr>
<td>5.1-3</td>
<td>Community Plans</td>
</tr>
<tr>
<td>5.1-4A</td>
<td>City of San Diego MHPA</td>
</tr>
<tr>
<td>5.1-4B</td>
<td>County of San Diego MSCP</td>
</tr>
<tr>
<td>5.1-5A</td>
<td>Airport Land Use Compatibility Plan - MCAS Miramar Airport Review Areas</td>
</tr>
<tr>
<td>5.1-5B</td>
<td>Airport Land Use Compatibility Plan - Montgomery Field Airport Review Areas</td>
</tr>
<tr>
<td>5.1-5C</td>
<td>Airport Land Use Compatibility Plan - San Diego International Airport Review Areas</td>
</tr>
<tr>
<td>5.3-1A</td>
<td>Air Quality Sensitive Receptor Locations</td>
</tr>
<tr>
<td>5.3-1B</td>
<td>Air Quality Sensitive Receptor Locations</td>
</tr>
<tr>
<td>5.3-1C</td>
<td>Air Quality Sensitive Receptor Locations</td>
</tr>
<tr>
<td>5.3-1D</td>
<td>Air Quality Sensitive Receptor Locations</td>
</tr>
<tr>
<td>5.4-1A</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1B</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1C</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1D</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>5.4-1E</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1F</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1G</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1H</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1I</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1J</td>
<td>Biological Resources - Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1K</td>
<td>Biological Resources - Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1L</td>
<td>Biological Resources - Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1M</td>
<td>Biological Resources - Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1N</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1O</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1P</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
</tr>
<tr>
<td>5.4-1Q</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1R</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1S</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1T</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1U</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1V</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1W</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1X</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1Y</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1Z</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1AA</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1AB</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1AC</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-1AD</td>
<td>Biological Resources - San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>5.4-2</td>
<td>Core Areas and Habitat Linkages</td>
</tr>
<tr>
<td>5.4-3</td>
<td>Multi-Habitat Planning Area</td>
</tr>
<tr>
<td>5.7-1A</td>
<td>Geologic Maps</td>
</tr>
<tr>
<td>5.7-1B</td>
<td>Geologic Maps</td>
</tr>
</tbody>
</table>
# Table of Contents

5.7-1C Geologic Maps ............................................................................................................. 5.7-17
5.7-1D Geologic Maps ............................................................................................................. 5.7-19

5.9-1 Miramar and San Vicente Reservoir Alternatives - Fire Hazard Areas ............................................................ 5.9-37

5.9-2 Miramar and San Vicente Reservoir Alternatives - Hazardous Materials Sites ............................................................ 5.9-39

5.9-3 MCAS Miramar Installation Restoration Program and Munitions Response Program Sites ............................................................ 5.9-41

5.9-4 Formerly Used Defense Site – Camp Matthews, Range Complex No. 1 ............................................................ 5.9-43

5.9-5 Miramar and San Vicente Reservoir Alternative - Airport Compatibility Map ............................................................ 5.9-45

5.11-1 Regional Hydrology .................................................................................................... 5.11-25

5.11-2 Water Quality Sensitive Areas .................................................................................... 5.11-27

5.12-1 Noise Measurement Locations ..................................................................................... 5.12-17

5.12-2A Noise Sensitive Receptor Locations ........................................................................... 5.12-19

5.12-2B Noise Sensitive Receptor Locations ........................................................................... 5.12-21

5.12-2C Noise Sensitive Receptor Locations ........................................................................... 5.12-23

5.12-2D Noise Sensitive Receptor Locations ........................................................................... 5.12-25

5.13-1A Paleontological Resources Sensitivity ........................................................................ 5.13-13

5.13-1B Paleontological Resources Sensitivity ........................................................................ 5.13-15

5.13-1C Paleontological Resources Sensitivity ........................................................................ 5.13-17

5.13-1D Paleontological Resources Sensitivity ........................................................................ 5.13-19

5.16-1 North City Project Operations Study Area and Existing Traffic Volumes ............................................................ 5.16-31

5.16-2 Morena Pipelines Study Area and Existing Roadway Segment Traffic Volumes ............................................................ 5.16-33

5.16-3 Morena Pipelines Existing Intersection Geometries ...................................................... 5.16-35

5.16-4 Morena Pipelines Existing Intersection Traffic Volumes .................................................. 5.16-37

5.16-5 North City Pipeline Study Area and Existing Traffic Volumes .................................................. 5.16-39

5.16-6 San Vicente Pipeline Study Area and Existing Traffic Volumes .................................................. 5.16-41

5.18-1A Parks and Recreation Facilities .................................................................................. 5.18-26

5.18-1B Parks and Recreation Facilities .................................................................................. 5.18-28

5.18-1C Parks and Recreation Facilities .................................................................................. 5.18-30

5.18-1D Parks and Recreation Facilities .................................................................................. 5.18-32

6.1-1 SANDER Mitigation Site .................................................................................................. 6.1-33

6.2-1 North City Water Reclamation Plant Expansion Components Grading Plan ............................................................ 6.2-33
6.2-2A  North City Pure Water Facility Grading Plan ........................................... 6.2-35
6.2-2B  North City Pure Water Facility Grading Plan ........................................... 6.2-37
6.2-2C  North City Pure Water Facility Grading Plan ........................................... 6.2-39
6.2-2D  North City Pure Water Facility Grading Plan ........................................... 6.2-41
6.2-2E  North City Pure Water Facility Grading Plan ........................................... 6.2-43
6.2-3  Dechlorination Facility Grading Plan ......................................................... 6.2-45
6.2-4A  Morena Pump Station: Architectural Rendering ...................................... 6.2-47
6.2-4B  Morena Pump Station: Architectural Rendering Elevation Views ............. 6.2-49
6.2-4C  Bird’s Eye Perspective of Morena Pump Station (Visual Simulation) ....... 6.2-51
6.2-4D  Bird’s Eye Perspective of Morena Pump Station (Visual Simulation) ....... 6.2-53
6.2-4E  Bird’s Eye Perspective of Morena Pump Station (Visual Simulation) ....... 6.2-55
6.2-5  Morena Pump Station Landscape Plan .................................................... 6.2-57
6.2-6A  Illustrative Perspective of North City Water Reclamation Plant - Existing ........................................................................................................... 6.2-59
6.2-6B  Illustrative Perspective of North City Water Reclamation Plant - Proposed ........................................................................................................... 6.2-61
6.2-7  North City Water Reclamation Plant: Visual Simulation Locations ............ 6.2-63
6.2-8  Viewpoint 1: Looking Northeast from La Jolla Village Drive to North City Water Reclamation Plant ................................................................. 6.2-65
6.2-9  Viewpoint 2: Landscaping Proposed North of Miramar Road near New Equalization Tank at North City Water Reclamation Plant .................. 6.2-67
6.2-10 Viewpoint 3: Looking South from Eastgate Mall to North City Water Reclamation Plant ................................................................. 6.2-69
6.2-11 Viewpoint 4: Looking Southwest from Eastgate Mall to North City Water Reclamation Plant ................................................................. 6.2-71
6.2-12A North City Pure Water Facility - South Elevation: Fencing .................... 6.2-73
6.2-12B North City Pure Water Facility - West and South Elevations: Building Materials ................................................................................................. 6.2-75
6.2-12C North City Pure Water Facility - East and North Elevations: Building Materials ................................................................................................. 6.2-77
6.2-13 North City Pure Water Facility – Miramar Reservoir Landscape Concept Plan ......................................................................................................... 6.2-79
6.2-14 North City Pure Water Facility – Miramar Reservoir: Existing Photos and Visual Simulation Locations ......................................................... 6.2-81
6.2-15 Viewpoint 1: Looking North from South of Eastgate Mall to North City Pure Water Facility Site ............................................................................. 6.2-83
6.2-16 Viewpoint 2: Looking East from Parking Lot Located West of I-805 to North City Pure Water Facility Site ......................................................... 6.2-85
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2-17A</td>
<td>North City Pump Station: West and South Elevations</td>
<td>6.2-87</td>
</tr>
<tr>
<td>6.2-17B</td>
<td>North City Pump Station: East and North Elevations</td>
<td>6.2-89</td>
</tr>
<tr>
<td>6.2-18</td>
<td>Dechlorination Facility Elevations</td>
<td>6.2-91</td>
</tr>
<tr>
<td>6.2-19</td>
<td>Dechlorination Facility Planting Plan</td>
<td>6.2-93</td>
</tr>
<tr>
<td>6.2-20</td>
<td>Visual Simulation of Dechlorination Facility as viewed from Meany Drive</td>
<td>6.2-95</td>
</tr>
<tr>
<td>6.4-1A</td>
<td>Biological Resources Impacts - Miramar Reservoir and San</td>
<td>6.4-126</td>
</tr>
<tr>
<td></td>
<td>Vicente Reservoir Alternatives</td>
<td></td>
</tr>
<tr>
<td>6.4-1B</td>
<td>Biological Resources Impacts - Miramar Reservoir and San</td>
<td>6.4-128</td>
</tr>
<tr>
<td></td>
<td>Vicente Reservoir Alternatives</td>
<td></td>
</tr>
<tr>
<td>6.4-1C</td>
<td>Biological Resources Impacts - Miramar Reservoir and San</td>
<td>6.4-130</td>
</tr>
<tr>
<td></td>
<td>Vicente Reservoir Alternatives</td>
<td></td>
</tr>
<tr>
<td>6.4-1D</td>
<td>Biological Resources Impacts - Miramar Reservoir and San</td>
<td>6.4-132</td>
</tr>
<tr>
<td></td>
<td>Vicente Reservoir Alternatives</td>
<td></td>
</tr>
<tr>
<td>6.4-1E</td>
<td>Biological Resources Impacts - Miramar Reservoir and San</td>
<td>6.4-134</td>
</tr>
<tr>
<td></td>
<td>Vicente Reservoir Alternatives</td>
<td></td>
</tr>
<tr>
<td>6.4-1F</td>
<td>Biological Resources Impacts - Miramar Reservoir and San</td>
<td>6.4-136</td>
</tr>
<tr>
<td></td>
<td>Vicente Reservoir Alternatives</td>
<td></td>
</tr>
<tr>
<td>6.4-1G</td>
<td>Biological Resources Impacts - Miramar Reservoir and San</td>
<td>6.4-138</td>
</tr>
<tr>
<td></td>
<td>Vicente Reservoir Alternatives</td>
<td></td>
</tr>
<tr>
<td>6.4-H</td>
<td>Biological Resources Impacts - Miramar Reservoir and San</td>
<td>6.4-140</td>
</tr>
<tr>
<td></td>
<td>Vicente Reservoir Alternatives</td>
<td></td>
</tr>
<tr>
<td>6.4-1I</td>
<td>Biological Resources Impacts - Miramar Reservoir and San</td>
<td>6.4-142</td>
</tr>
<tr>
<td></td>
<td>Vicente Reservoir Alternatives</td>
<td></td>
</tr>
<tr>
<td>6.4-1J</td>
<td>Biological Resources Impacts - Miramar Reservoir Alternative</td>
<td>6.4-144</td>
</tr>
<tr>
<td>6.4-1K</td>
<td>Biological Resources Impacts - Miramar Reservoir Alternative</td>
<td>6.4-146</td>
</tr>
<tr>
<td>6.4-1L</td>
<td>Biological Resources Impacts - Miramar Reservoir Alternative</td>
<td>6.4-148</td>
</tr>
<tr>
<td>6.4-1M</td>
<td>Biological Resources Impacts - Miramar Reservoir Alternative</td>
<td>6.4-150</td>
</tr>
<tr>
<td>6.4-1N</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
<td>6.4-152</td>
</tr>
<tr>
<td>6.4-1O</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
<td>6.4-154</td>
</tr>
<tr>
<td>6.4-1P</td>
<td>Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives</td>
<td>6.4-156</td>
</tr>
<tr>
<td>6.4-1Q</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-158</td>
</tr>
<tr>
<td>6.4-1R</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-160</td>
</tr>
<tr>
<td>6.4-1S</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-162</td>
</tr>
<tr>
<td>6.4-1T</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-164</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>6.4-1U</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-166</td>
</tr>
<tr>
<td>6.4-1V</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-168</td>
</tr>
<tr>
<td>6.4-1W</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-170</td>
</tr>
<tr>
<td>6.4-1X</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-172</td>
</tr>
<tr>
<td>6.4-1Y</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-174</td>
</tr>
<tr>
<td>6.4-1Z</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-176</td>
</tr>
<tr>
<td>6.4-1AA</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-178</td>
</tr>
<tr>
<td>6.4-1AB</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-180</td>
</tr>
<tr>
<td>6.4-1AC</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-182</td>
</tr>
<tr>
<td>6.4-1AD</td>
<td>Biological Resources Impacts - San Vicente Reservoir Alternative</td>
<td>6.4-184</td>
</tr>
<tr>
<td>6.12-1A</td>
<td>Noise Sensitive Receptor Impacts - Miramar Reservoir Alternative</td>
<td>6.12-31</td>
</tr>
<tr>
<td>6.12-1B</td>
<td>Noise Sensitive Receptor Impacts - Miramar Reservoir Alternative</td>
<td>6.12-33</td>
</tr>
<tr>
<td>6.12-2D</td>
<td>Noise Sensitive Receptor Impacts - San Vicente Reservoir Alternative</td>
<td>6.12-41</td>
</tr>
<tr>
<td>6.12-2E</td>
<td>Noise Sensitive Receptor Impacts - San Vicente Reservoir Alternative</td>
<td>6.12-43</td>
</tr>
<tr>
<td>6.16-1</td>
<td>Near-Term Roadway Traffic Volumes without Construction of Morena Pipelines</td>
<td>6.16-53</td>
</tr>
<tr>
<td>6.16-2</td>
<td>Near-Term Roadway Traffic Volumes with Construction of Morena Pipelines</td>
<td>6.16-55</td>
</tr>
<tr>
<td>6.16-3</td>
<td>Near-Term Intersection Geometries with and without Construction of Morena Pipelines</td>
<td>6.16-57</td>
</tr>
<tr>
<td>6.16-4</td>
<td>Near-Term Intersection Traffic Volumes without Construction of Morena Pipelines</td>
<td>6.16-59</td>
</tr>
<tr>
<td>6.16-5</td>
<td>Near-Term Intersection Traffic Volumes with Construction of Morena Pipelines</td>
<td>6.16-61</td>
</tr>
<tr>
<td>6.16-6</td>
<td>Near-Term Roadway Traffic Volumes without Construction of North City Pipeline</td>
<td>6.16-63</td>
</tr>
<tr>
<td>6.16-7</td>
<td>Near-Term Roadway Traffic Volumes with Construction of North City Pipeline</td>
<td>6.16-65</td>
</tr>
</tbody>
</table>
### TABLES

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Commenters and Comment Letters</td>
</tr>
<tr>
<td>2</td>
<td>Summary of Changes in Final EIR/EIS</td>
</tr>
<tr>
<td>ES-1</td>
<td>Summary of Significant Environmental Impacts</td>
</tr>
<tr>
<td>1-1</td>
<td>Discretionary Actions and Approvals</td>
</tr>
<tr>
<td>2-1</td>
<td>AWPF Demonstration Project Monitoring Results</td>
</tr>
<tr>
<td>2-2</td>
<td>Comparison Summary of Contaminants with Federal and State Drinking Water Standards</td>
</tr>
<tr>
<td>2-3</td>
<td>Summary of Demonstration Project Findings</td>
</tr>
<tr>
<td>3-1</td>
<td>North City Project Components</td>
</tr>
<tr>
<td>3-2</td>
<td>North City Project Construction Schedule</td>
</tr>
<tr>
<td>3-3</td>
<td>Estimated Electricity Consumption for North City Project</td>
</tr>
<tr>
<td>3-4</td>
<td>Initial Alignment Alternatives and Deviations</td>
</tr>
<tr>
<td>5.1-1</td>
<td>North City Project: Jurisdiction of Facilities and Linear Components ...</td>
</tr>
<tr>
<td>5.3-1</td>
<td>SDAB Attainment Classification</td>
</tr>
<tr>
<td>5.3-2</td>
<td>Ambient Air Quality Data</td>
</tr>
<tr>
<td>5.3-3</td>
<td>Frequency of Air Quality Standard Violations</td>
</tr>
<tr>
<td>5.3-4</td>
<td>Ambient Air Quality Standards</td>
</tr>
<tr>
<td>5.4-1</td>
<td>Project Components for Each Alternative</td>
</tr>
<tr>
<td>5.4-2</td>
<td>Vegetation Communities and Land Cover Types Within the Morena Pump Station Study Area</td>
</tr>
<tr>
<td>5.4-3</td>
<td>Jurisdictional Aquatic Resources in the Morena Pump Station Study Area (Acres)</td>
</tr>
<tr>
<td>5.4-4</td>
<td>Vegetation Communities and Land Cover Types Within the Morena Pipelines Study Area</td>
</tr>
<tr>
<td>5.4-5</td>
<td>Jurisdictional Aquatic Resources in the Morena Pipelines Study Area (Acres)</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5.4-6</td>
<td>Vegetation Communities and Land Cover Types in the North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility Study Area</td>
</tr>
<tr>
<td>5.4-7</td>
<td>Jurisdictional Aquatic Resources in the North City Water Reclamation Plant Expansion Study Area (Acres)</td>
</tr>
<tr>
<td>5.4-8</td>
<td>Vegetation Communities and Land Cover Types Within the North City Pure Water Facility and North City Pump Station Study Areas</td>
</tr>
<tr>
<td>5.4-9</td>
<td>Jurisdictional Aquatic Resources in the North City Pure Water Facility Study Area (Acres)</td>
</tr>
<tr>
<td>5.4-10</td>
<td>Vegetation Communities and Land Cover Types within the North City Pipeline Study Area</td>
</tr>
<tr>
<td>5.4-11</td>
<td>Jurisdictional Aquatic Resources in the North City Pipeline Study Area (Acres)</td>
</tr>
<tr>
<td>5.4-12</td>
<td>Vegetation Communities and Land Cover Types Within the Landfill Gas Pipeline Study Area</td>
</tr>
<tr>
<td>5.4-13</td>
<td>Jurisdictional Aquatic Resources in the Landfill Gas Pipeline Study Area (Acres)</td>
</tr>
<tr>
<td>5.4-14</td>
<td>Vegetation Communities and Land Cover Types within the Metro Biosolids Center Study Area</td>
</tr>
<tr>
<td>5.4-15</td>
<td>Jurisdictional Aquatic Resources in the Metro Biosolids Center Study Area (Acres)</td>
</tr>
<tr>
<td>5.4-16</td>
<td>Vegetation Communities and Land Cover Types Within the Miramar Water Treatment Plant Study Area</td>
</tr>
<tr>
<td>5.4-17</td>
<td>Vegetation Communities and Land Cover Types Within the Pure Water Dechlorination Facility Study Area</td>
</tr>
<tr>
<td>5.4-18</td>
<td>Vegetation Communities and Land Cover Types Within the San Vicente Pipeline Study Area</td>
</tr>
<tr>
<td>5.4-19</td>
<td>Jurisdictional Aquatic Resources in the San Vicente Pure Water Pipeline Study Area (Acres)</td>
</tr>
<tr>
<td>5.4-20</td>
<td>Vegetation Communities and Land Cover Types Within the San Vicente Pipeline - TAT Study Area</td>
</tr>
<tr>
<td>5.4-21</td>
<td>Jurisdictional Aquatic Resources in the San Vicente Pipeline - TAT Study Area (Acres)</td>
</tr>
<tr>
<td>5.4-22</td>
<td>Vegetation Communities and Land Cover Types Within the San Vicente Pipeline - IRAT Study Area</td>
</tr>
<tr>
<td>5.4-23</td>
<td>Jurisdictional Aquatic Resources in the San Vicente Pipeline - IRAT Study Area (Acres)</td>
</tr>
<tr>
<td>Page</td>
<td>Section Description</td>
</tr>
<tr>
<td>------</td>
<td>---------------------</td>
</tr>
<tr>
<td>5.4-24</td>
<td>Vegetation Communities and Land Cover Types Within the San Vicente Pipeline - MAT Study Area</td>
</tr>
<tr>
<td>5.4-25</td>
<td>Jurisdictional Aquatic Resources in the San Vicente Pipeline - MAT Study Area (Acres)</td>
</tr>
<tr>
<td>5.4-26</td>
<td>Vegetation Communities and Land Cover Types Within the Mission Trails Booster Station Study Area</td>
</tr>
<tr>
<td>5.4-27</td>
<td>Vegetation Communities and Land Cover Types Within Miramar Reservoir Alternative Study Area</td>
</tr>
<tr>
<td>5.4-28</td>
<td>Jurisdictional Aquatic Resources in the Miramar Reservoir Alternative Study Area (Acres)</td>
</tr>
<tr>
<td>5.4-29</td>
<td>Vegetation Communities and Land Cover Types in San Vicente Reservoir Alternative Study Area</td>
</tr>
<tr>
<td>5.4-30</td>
<td>Jurisdictional Aquatic Resources in the San Vicente Reservoir Alternative Study Area (Acres)</td>
</tr>
<tr>
<td>5.5-1</td>
<td>Population by Race and Ethnicity for Project Area</td>
</tr>
<tr>
<td>5.5-2</td>
<td>Population by Race and Ethnicity for Service Area</td>
</tr>
<tr>
<td>5.5-3</td>
<td>Income by Household for the Project Area</td>
</tr>
<tr>
<td>5.5-4</td>
<td>Income by Household for the Service Area</td>
</tr>
<tr>
<td>5.6-1</td>
<td>Energy Requirements for Water Supply and Treatment in California</td>
</tr>
<tr>
<td>5.8-1</td>
<td>GHG Sources in California</td>
</tr>
<tr>
<td>5.9-1</td>
<td>Listing of Sites within Morena Pump Station and Pipelines Study Area with High Potential Impact</td>
</tr>
<tr>
<td>5.9-2</td>
<td>Listing of Sites within the North City Pipeline Study Area with High Potential Impact</td>
</tr>
<tr>
<td>5.9-3</td>
<td>Listing of Sites within the San Vicente Pipeline Study Area with High Potential Impact</td>
</tr>
<tr>
<td>5.9-4</td>
<td>Safety Compatibility Criteria - MCAS Miramar (Excerpt from Table MIR-2)</td>
</tr>
<tr>
<td>5.10-1</td>
<td>Cultural Resources within the North City Project APE</td>
</tr>
<tr>
<td>5.10-1a</td>
<td>Cultural Resources within the Morena Pipelines APE</td>
</tr>
<tr>
<td>5.10-1b</td>
<td>Cultural Resources within the NCPWF APE</td>
</tr>
<tr>
<td>5.10-1c</td>
<td>Cultural Resources within the LFG Pipeline APE</td>
</tr>
<tr>
<td>5.10-1d</td>
<td>Cultural Resources within the MBC APE</td>
</tr>
<tr>
<td>5.10-1e</td>
<td>Cultural Resources within the North City Pipeline APE</td>
</tr>
<tr>
<td>5.10-1f</td>
<td>Cultural Resources within the Miramar WTP APE</td>
</tr>
<tr>
<td>5.10-1g</td>
<td>Cultural Resources within the San Vicente Pipeline APE</td>
</tr>
<tr>
<td>5.10-1h</td>
<td>Cultural Resources within the San Vicente Pipeline – IRAT APE</td>
</tr>
<tr>
<td>5.10-1i</td>
<td>Cultural Resources within the San Vicente Pipeline – MAT APE</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>5.10-1j</td>
<td>Cultural Resources within the San Vicente Pipeline –TAT APE</td>
</tr>
<tr>
<td>5.11-1</td>
<td>Beneficial Uses of Inland Surface Waters, Lakes, and Reservoirs</td>
</tr>
<tr>
<td>5.11-2</td>
<td>Water Quality Objectives for the North City Project’s</td>
</tr>
<tr>
<td>5.12-1</td>
<td>Typical Sound Levels in the Environment and Industry</td>
</tr>
<tr>
<td>5.12-2</td>
<td>Measured Noise Levels</td>
</tr>
<tr>
<td>5.12-3</td>
<td>City of San Diego Applicable Limits</td>
</tr>
<tr>
<td>5.12-4</td>
<td>City of Santee One-Hour Average Sound Level</td>
</tr>
<tr>
<td>5.12-5</td>
<td>City of Santee Construction Noise Allowance</td>
</tr>
<tr>
<td>5.12-6</td>
<td>Sound Level Limits In Decibels (dBA)</td>
</tr>
<tr>
<td>5.12-7</td>
<td>Maximum Sound Level (Impulsive) Measured at Occupied Property In Decibels (dBA)</td>
</tr>
<tr>
<td>5.13-1</td>
<td>Paleontological Sensitivity of Geological Rock Units Underlying the North City Project APE</td>
</tr>
<tr>
<td>5.13-2</td>
<td>Paleontological Sensitivity of Geological Rock Units Underlying Project Components</td>
</tr>
<tr>
<td>5.13-3</td>
<td>Paleontological Resource Sensitivity Criteria</td>
</tr>
<tr>
<td>5.15-1</td>
<td>Pollutant Limits for Land-Applied Biosolids</td>
</tr>
<tr>
<td>5.16-1</td>
<td>Roadway Segments Work Hours Morena Pipelines</td>
</tr>
<tr>
<td>5.16-2</td>
<td>Morena Pump Station and Pipelines Construction</td>
</tr>
<tr>
<td>5.16-3</td>
<td>Roadway Segments Work Hours North City Pipeline</td>
</tr>
<tr>
<td>5.16-4</td>
<td>Roadway Segments Work Hours San Vicente Pipeline</td>
</tr>
<tr>
<td>5.16-5</td>
<td>Signalized Intersection LOS Criteria</td>
</tr>
<tr>
<td>5.16-6</td>
<td>City of San Diego Roadway Classifications and LOS Standards</td>
</tr>
<tr>
<td>5.16-7</td>
<td>North City Project Operations Existing Conditions Roadway Segment LOS Analysis</td>
</tr>
<tr>
<td>5.16-8</td>
<td>Morena Pipelines Existing Conditions Roadway Segment LOS Analysis</td>
</tr>
<tr>
<td>5.16-9</td>
<td>Morena Pipelines Existing Conditions Intersection LOS Analysis</td>
</tr>
<tr>
<td>5.16-10</td>
<td>North City Pipeline Existing Conditions Roadway Segment LOS Analysis</td>
</tr>
<tr>
<td>5.16-11</td>
<td>San Vicente Pipeline Existing Conditions Roadway Segment LOS Analysis</td>
</tr>
<tr>
<td>5.17-1</td>
<td>SDCWA Water Supply</td>
</tr>
<tr>
<td>6.1-1</td>
<td>Multiple Species Conservation Program Consistency Analysis</td>
</tr>
<tr>
<td>6.3-1</td>
<td>SDAPCD Air Quality Significance Thresholds</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6.3-2</td>
<td>Federal De Minimis Levels</td>
</tr>
<tr>
<td>6.3-3</td>
<td>North City Project Construction Phasing Assumptions</td>
</tr>
<tr>
<td>6.3-4</td>
<td>Estimated Maximum Daily Construction Emissions for the Miramar Reservoir Alternative – Unmitigated</td>
</tr>
<tr>
<td>6.3-5</td>
<td>Estimated Annual Construction Emissions for the Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>6.3-6</td>
<td>Estimated Maximum Daily Construction Emissions for the San Vicente Reservoir Alternative – Unmitigated</td>
</tr>
<tr>
<td>6.3-7</td>
<td>Estimated Annual Construction Emissions for the San Vicente Reservoir Alternative – Unmitigated</td>
</tr>
<tr>
<td>6.3-8</td>
<td>Mitigated Maximum Daily Construction Emissions for the Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>6.3-9</td>
<td>Mitigated Maximum Daily Construction Emissions for the San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>6.3-10</td>
<td>Mitigated Annual Construction Emissions for the San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>6.3-11</td>
<td>Maximum Daily Operational Emissions for Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>6.3-12</td>
<td>Estimated Maximum Annual Operational Emissions for the Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>6.3-13</td>
<td>Estimated Daily Operational Emissions from the San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>6.3-14</td>
<td>Estimated Annual Operational Emissions for the San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>6.3-15</td>
<td>AERMOD Principle Parameters</td>
</tr>
<tr>
<td>6.3-16</td>
<td>Sensitive Receptors and Proximity to Renewable Energy Facility</td>
</tr>
<tr>
<td>6.3-17</td>
<td>Operational HRA Results</td>
</tr>
<tr>
<td>6.3-18</td>
<td>Applicability of Air Quality Mitigation Measures to Project Components</td>
</tr>
<tr>
<td>6.4-1</td>
<td>Summary of Impacts to Vegetation Communities and Land Cover Types within the Miramar Reservoir Alternative Footprint (Acres)</td>
</tr>
<tr>
<td>6.4-2</td>
<td>Summary of Impacts by Project Component for the Miramar Reservoir Alternative (Acres)</td>
</tr>
<tr>
<td>6.4-3</td>
<td>Summary of Impacts to Vegetation Communities and Land Cover Types within the San Vicente Reservoir Alternative Footprint (Acres)</td>
</tr>
<tr>
<td>6.4-4</td>
<td>Summary of Impacts by Project Component for the San Vicente Reservoir Alternative (Acres)</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>6.4-5</td>
<td>Permanent Impacts to Vegetation Communities and Land Cover Types Outside of the MHPA – Miramar Reservoir Alternative (Acres)</td>
</tr>
<tr>
<td>6.4-6</td>
<td>Temporary Impacts to Vegetation Communities and Land Cover Types – Miramar Reservoir Alternative (Acres)</td>
</tr>
<tr>
<td>6.4-7</td>
<td>Permanent Impacts to Vegetation Communities and Land Cover Types Outside of the MHPA – San Vicente Reservoir Alternative (Acres)</td>
</tr>
<tr>
<td>6.4-8</td>
<td>Temporary Impacts to Vegetation Communities and Land Cover Types – San Vicente Reservoir Alternative (Acres)</td>
</tr>
<tr>
<td>6.4-9</td>
<td>Impacts to Jurisdictional Aquatic Resources in the Miramar Reservoir Alternative Footprint (Acres)</td>
</tr>
<tr>
<td>6.4-10</td>
<td>Impacts to Jurisdictional Aquatic Resources in the San Vicente Reservoir Alternative Footprint (Acres)</td>
</tr>
<tr>
<td>6.4-11</td>
<td>Impacts to Sensitive Plant Species within the Miramar Reservoir Alternative Footprint</td>
</tr>
<tr>
<td>6.4-12</td>
<td>Impacts to Sensitive Plant Species within the San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>6.4-13</td>
<td>Compliance with ASMD for Impacts to Covered Wildlife Species</td>
</tr>
<tr>
<td>6.4-14</td>
<td>Compliance with ASMD for Impacts to Covered Wildlife Species</td>
</tr>
<tr>
<td>6.4-15</td>
<td>Multiple Species Conservation Program Consistency Analysis</td>
</tr>
<tr>
<td>6.4-16</td>
<td>Project Consistency Determination with MSCP Land Use Adjacency Guidelines</td>
</tr>
<tr>
<td>6.4-17</td>
<td>Project Consistency Determination with MSCP General Management Directives</td>
</tr>
<tr>
<td>6.4-18</td>
<td>Mitigation Measures Applicable to North City Project Components</td>
</tr>
<tr>
<td>6.6-1</td>
<td>Estimated Electricity Consumption for Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>6.6-2</td>
<td>Miramar Reservoir Alternative Hours of Operation for Construction Equipment</td>
</tr>
<tr>
<td>6.6-3</td>
<td>Construction Equipment Diesel Demand</td>
</tr>
<tr>
<td>6.6-4</td>
<td>Construction Worker Gasoline Demand</td>
</tr>
<tr>
<td>6.6-5</td>
<td>Construction Vendor Diesel Demand</td>
</tr>
<tr>
<td>6.6-6</td>
<td>Construction Haul Diesel Demand</td>
</tr>
<tr>
<td>6.6-7</td>
<td>Mobile Source Gasoline Demand</td>
</tr>
<tr>
<td>6.6-8</td>
<td>Mobile Source Diesel Demand</td>
</tr>
<tr>
<td>6.6-9</td>
<td>Mobile Source Fuel Consumption</td>
</tr>
<tr>
<td>6.6-10</td>
<td>Estimated Electricity Consumption for San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>6.6-11</td>
<td>San Vicente Reservoir Alternative Hours of Operation for Construction Equipment</td>
</tr>
<tr>
<td>6.6-12</td>
<td>Construction Equipment Diesel Demand</td>
</tr>
<tr>
<td>6.6-13</td>
<td>Construction Worker Gasoline Demand</td>
</tr>
<tr>
<td>6.6-14</td>
<td>Construction Vendor Diesel Demand</td>
</tr>
<tr>
<td>6.6-15</td>
<td>Construction Haul Diesel Demand</td>
</tr>
<tr>
<td>6.6-16</td>
<td>Mobile Source Gasoline Demand</td>
</tr>
<tr>
<td>6.6-17</td>
<td>Mobile Source Diesel Demand</td>
</tr>
<tr>
<td>6.6-18</td>
<td>Mobile Source Fuel Consumption</td>
</tr>
<tr>
<td>6.8-1</td>
<td>North City Project Construction Phasing Assumptions</td>
</tr>
<tr>
<td>6.8-2</td>
<td>Estimated Construction GHG Emissions</td>
</tr>
<tr>
<td>6.8-3</td>
<td>Estimated Construction GHG Emissions</td>
</tr>
<tr>
<td>6.8-4</td>
<td>Estimated Annual Mobile Source GHG Emissions for Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>6.8-5</td>
<td>Estimated Annual Electricity Consumption GHG Emissions</td>
</tr>
<tr>
<td>6.8-6</td>
<td>Estimated Annual Wastewater Process and Discharge GHG Emissions for the Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>6.8-7</td>
<td>Estimated Annual Diesel Generators GHG Emissions for the Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>6.8-8</td>
<td>Summary of Estimated Annual GHG Emissions for the Miramar Reservoir Alternative</td>
</tr>
<tr>
<td>6.8-9</td>
<td>Estimated Annual Mobile Source GHG Emissions for the San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>6.8-10</td>
<td>Estimated Annual Electricity Consumption GHG Emissions</td>
</tr>
<tr>
<td>6.8-11</td>
<td>Estimated Annual Wastewater Process and Discharge GHG Emissions for the San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>6.8-12</td>
<td>Estimated Annual Diesel Generators GHG Emissions for the San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>6.8-13</td>
<td>Summary of Estimated Annual GHG Emissions for the San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>6.9-1</td>
<td>Applicability of Health and Safety Mitigation Measures to Project Components</td>
</tr>
<tr>
<td>6.10-1</td>
<td>Cultural Resources within the Miramar Reservoir Alternative Project APE</td>
</tr>
<tr>
<td>6.10-2</td>
<td>Cultural Resources within the San Vicente Pipeline APE</td>
</tr>
<tr>
<td>6.10-3</td>
<td>Impacts and Management Measures – San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6.10-4</td>
<td>Applicability of Historical Resources Mitigation Measures to Project Components</td>
</tr>
<tr>
<td>6.11-1</td>
<td>Storm Water Requirements Applicability for Project Components</td>
</tr>
<tr>
<td>6.11-2</td>
<td>NCPWF 100-Year 6-Hour Stormwater Runoff Volume Comparison</td>
</tr>
<tr>
<td>6.11-3</td>
<td>Eastgate Mall Roadway Improvements 100-Year 6-Hour Stormwater Runoff Volume Comparison</td>
</tr>
<tr>
<td>6.11-4</td>
<td>Existing and Future Water Quality Conditions for Miramar Reservoir</td>
</tr>
<tr>
<td>6.12-1</td>
<td>Construction Equipment Noise Levels</td>
</tr>
<tr>
<td>6.12-2</td>
<td>North City Project Construction Phasing Assumptions</td>
</tr>
<tr>
<td>6.12-3</td>
<td>Construction Noise Summary – Miramar Reservoir Alternative (dBA $L_{eq}$)</td>
</tr>
<tr>
<td>6.12-5</td>
<td>Construction Noise Summary – San Vicente Reservoir Alternative (dBA $L_{eq}$)</td>
</tr>
<tr>
<td>6.12-6</td>
<td>Construction Vibration Summary – San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>6.12-7</td>
<td>Applicability of Utility Conflict Mitigation Measure to Project Components</td>
</tr>
<tr>
<td>6.13-2</td>
<td>Applicability of Paleontological Mitigation Measure to Project Components</td>
</tr>
<tr>
<td>6.15-1</td>
<td>Quantity of Consumables to Be Replaced Yearly</td>
</tr>
<tr>
<td>6.15-2</td>
<td>Applicability of Utility Conflict Mitigation Measure to Project Components</td>
</tr>
<tr>
<td>6.16-1</td>
<td>LOS Threshold for Significant Project Impacts</td>
</tr>
<tr>
<td>6.16-2</td>
<td>Cumulative Projects Trip Generation</td>
</tr>
<tr>
<td>6.16-3</td>
<td>Operations Trip Generation</td>
</tr>
<tr>
<td>6.16-4</td>
<td>North City Pipeline and San Vicente Pipeline Construction Trip Generation</td>
</tr>
<tr>
<td>6.16-5</td>
<td>Morena Pipelines Construction Trip Generation</td>
</tr>
<tr>
<td>6.16-6</td>
<td>Roadway Segment LOS Near-Term Conditions Morena Pipelines Construction Traffic</td>
</tr>
<tr>
<td>6.16-7</td>
<td>Summary of Roadway Segment Impact Duration Morena Pipelines</td>
</tr>
<tr>
<td>6.16-8</td>
<td>Intersection LOS Near-Term Conditions Morena Pipelines Construction Traffic</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>6.16-9</td>
<td>Roadway Segment LOS Near-Term Conditions North City Pipeline</td>
</tr>
<tr>
<td></td>
<td>Construction Traffic</td>
</tr>
<tr>
<td>6.16-10</td>
<td>Summary of Impact Duration North City Pipeline</td>
</tr>
<tr>
<td>6.16-11</td>
<td>Roadway Segment LOS Near-Term Conditions San Vicente Pipeline</td>
</tr>
<tr>
<td></td>
<td>Construction Traffic</td>
</tr>
<tr>
<td>6.16-12</td>
<td>Summary of Impact Duration San Vicente Pipeline</td>
</tr>
<tr>
<td>6.16-13</td>
<td>Roadway Segment LOS Existing Conditions North City</td>
</tr>
<tr>
<td></td>
<td>Project Operations</td>
</tr>
<tr>
<td>6.16-14</td>
<td>Roadway Segment LOS Near-Term Conditions North City</td>
</tr>
<tr>
<td></td>
<td>Project Operations</td>
</tr>
<tr>
<td>6.16-15</td>
<td>Roadway Segment LOS Horizon Year Conditions North City</td>
</tr>
<tr>
<td></td>
<td>Project Operations</td>
</tr>
<tr>
<td>6.16-16</td>
<td>Project Parking</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>6.16-17</td>
<td>Applicability of Transportation, Circulation, and Parking</td>
</tr>
<tr>
<td></td>
<td>Mitigation Measure to Project Components</td>
</tr>
<tr>
<td>7-1</td>
<td>Plans and Programs Used for the Cumulative Analysis</td>
</tr>
<tr>
<td>7-2</td>
<td>Cumulative Impacts Comparison of Alternatives</td>
</tr>
<tr>
<td>9-1</td>
<td>Compliance with Applicable Federal Environmental Regulation and Policies</td>
</tr>
<tr>
<td>10-1</td>
<td>Summary of Mitigation Measures</td>
</tr>
<tr>
<td>10-2</td>
<td>Mitigation Measures – Morena Pump Station</td>
</tr>
<tr>
<td>10-3</td>
<td>Mitigation Measures – Morena Wastewater Forcemain and Brine/Centrate Line</td>
</tr>
<tr>
<td>10-4</td>
<td>Mitigation Measures – North City Water Reclamation Plant Expansion</td>
</tr>
<tr>
<td>10-5</td>
<td>Mitigation Measures – North City Pure Water Facility Influent Pump Station</td>
</tr>
<tr>
<td>10-6</td>
<td>Mitigation Measures – North City Pure Water Pump Station</td>
</tr>
<tr>
<td>10-7</td>
<td>Mitigation Measures – North City Renewable Energy Facility</td>
</tr>
<tr>
<td>10-8</td>
<td>Mitigation Measures – Landfill Gas Pipeline</td>
</tr>
<tr>
<td>10-9</td>
<td>Mitigation Measures – Metro Biosolids Center Improvements</td>
</tr>
<tr>
<td>10-10</td>
<td>Mitigation Measures – North City Pure Water Facility-Miramar Reservoir and San Vicente Reservoir</td>
</tr>
<tr>
<td>10-11</td>
<td>Mitigation Measures – North City Pure Water Pipeline</td>
</tr>
<tr>
<td>10-12</td>
<td>Mitigation Measures – Pure Water Dechlorination Facility</td>
</tr>
<tr>
<td>10-13</td>
<td>Mitigation Measures – Miramar Water Treatment Plant Improvements</td>
</tr>
</tbody>
</table>
10-14 Mitigation Measures – San Vicente Reservoir Pure Water Pipeline ........7-71
10-15 Mitigation Measures – Mission Trails Booster Station............................7-80
<table>
<thead>
<tr>
<th>Acronym/Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>µg/L</td>
<td>micrograms per Liter</td>
</tr>
<tr>
<td>µg/m³</td>
<td>micrograms per cubic meter</td>
</tr>
<tr>
<td>1,2,3-TCP</td>
<td>1,2,3-trichloropropane</td>
</tr>
<tr>
<td>AADF</td>
<td>annual average daily flow</td>
</tr>
<tr>
<td>AB</td>
<td>Assembly Bill</td>
</tr>
<tr>
<td>ACOE</td>
<td>U.S. Army Corps of Engineers</td>
</tr>
<tr>
<td>ADC</td>
<td>alternative daily cover</td>
</tr>
<tr>
<td>ADD</td>
<td>Assistant Deputy Director</td>
</tr>
<tr>
<td>ADMRT</td>
<td>Air Dispersion Modeling and Risk Tool</td>
</tr>
<tr>
<td>ADRP</td>
<td>Archaeological Data Recovery Program</td>
</tr>
<tr>
<td>ADT</td>
<td>Average Daily Traffic</td>
</tr>
<tr>
<td>AF</td>
<td>acre-feet</td>
</tr>
<tr>
<td>AFY</td>
<td>acre-feet per year</td>
</tr>
<tr>
<td>AIA</td>
<td>Airport Influence Area</td>
</tr>
<tr>
<td>AICUZ</td>
<td>Air Installations Compatible Use Zone</td>
</tr>
<tr>
<td>ALUC</td>
<td>Airport Land Use Commission</td>
</tr>
<tr>
<td>ALUCP</td>
<td>Airport Land Use Compatibility Plan</td>
</tr>
<tr>
<td>AME</td>
<td>Archaeological Monitoring Exhibit</td>
</tr>
<tr>
<td>AMSL</td>
<td>above mean sea level</td>
</tr>
<tr>
<td>APE</td>
<td>area of potential effect</td>
</tr>
<tr>
<td>APN</td>
<td>Assessor's Parcel Number</td>
</tr>
<tr>
<td>APZ</td>
<td>Accident Potential Zone</td>
</tr>
<tr>
<td>ASMD</td>
<td>area-specific management directive</td>
</tr>
<tr>
<td>Assembly</td>
<td>City of San Diego Assembly on Water Reuse</td>
</tr>
<tr>
<td>AST</td>
<td>aboveground storage tank</td>
</tr>
<tr>
<td>AWPF</td>
<td>advanced water purification facility</td>
</tr>
<tr>
<td>BAC</td>
<td>biological activated carbon filtration</td>
</tr>
<tr>
<td>BAU</td>
<td>Business-as-Usual</td>
</tr>
<tr>
<td>BCEM</td>
<td>Biological Construction Mitigation/Monitoring Exhibit</td>
</tr>
<tr>
<td>BEP</td>
<td>business emergency plan</td>
</tr>
<tr>
<td>BI</td>
<td>Building Inspector</td>
</tr>
<tr>
<td>BLM</td>
<td>Bureau of Land Management</td>
</tr>
<tr>
<td>BMP</td>
<td>best management practice</td>
</tr>
<tr>
<td>CAA</td>
<td>Clean Air Act</td>
</tr>
<tr>
<td>CAAQS</td>
<td>California Ambient Air Quality Standards</td>
</tr>
<tr>
<td>CalARP</td>
<td>California Accidental Release Program</td>
</tr>
<tr>
<td>CalEEMod</td>
<td>California Emissions Estimator Model</td>
</tr>
<tr>
<td>CALGreen</td>
<td>California Green Building Standards</td>
</tr>
<tr>
<td>Cal/OSHA</td>
<td>California Occupational Health and Safety Administration</td>
</tr>
<tr>
<td>CalRecycle</td>
<td>California Department of Resources Recycling and Recovery</td>
</tr>
<tr>
<td>Acronym/Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Caltrans</td>
<td>California Department of Transportation</td>
</tr>
<tr>
<td>CAP</td>
<td>Climate Action Plan</td>
</tr>
<tr>
<td>CARB</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>CBC</td>
<td>California Building Code</td>
</tr>
<tr>
<td>CCA</td>
<td>California Coastal Act</td>
</tr>
<tr>
<td>CCC</td>
<td>California Coastal Commission</td>
</tr>
<tr>
<td>CCR</td>
<td>California Code of Regulations</td>
</tr>
<tr>
<td>CDFW</td>
<td>California Department of Fish and Wildlife</td>
</tr>
<tr>
<td>CDP</td>
<td>coastal development permit</td>
</tr>
<tr>
<td>CDPH</td>
<td>California Department of Public Health</td>
</tr>
<tr>
<td>CEC</td>
<td>California Energy Commission</td>
</tr>
<tr>
<td>CECs</td>
<td>contaminants of emerging concern</td>
</tr>
<tr>
<td>CEQA</td>
<td>California Environmental Quality Act</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
</tr>
<tr>
<td>CESA</td>
<td>California Endangered Species Act</td>
</tr>
<tr>
<td>CFC</td>
<td>chlorofluorocarbon</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CH₄</td>
<td>methane</td>
</tr>
<tr>
<td>CHSP</td>
<td>Community Health and Safety Plan</td>
</tr>
<tr>
<td>CIP</td>
<td>clean-in-place</td>
</tr>
<tr>
<td>City</td>
<td>City of San Diego</td>
</tr>
<tr>
<td>CLTL</td>
<td>controlled left-turn lane</td>
</tr>
<tr>
<td>CM</td>
<td>Construction Manager</td>
</tr>
<tr>
<td>CMP</td>
<td>Congestion Management Program</td>
</tr>
<tr>
<td>CMU</td>
<td>concrete masonry unit</td>
</tr>
<tr>
<td>CNEL</td>
<td>community noise equivalent level</td>
</tr>
<tr>
<td>CNPS</td>
<td>California Native Plant Society</td>
</tr>
<tr>
<td>CNRA</td>
<td>California Natural Resources Agency</td>
</tr>
<tr>
<td>CO</td>
<td>carbon monoxide</td>
</tr>
<tr>
<td>CO₂</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td>CO₂E</td>
<td>carbon dioxide equivalent</td>
</tr>
<tr>
<td>CPUC</td>
<td>California Public Utilities Commission</td>
</tr>
<tr>
<td>CREC</td>
<td>Controlled Recognized Environmental Condition</td>
</tr>
<tr>
<td>CRHR</td>
<td>California Register of Historical Resources</td>
</tr>
<tr>
<td>CRPR</td>
<td>California Rare Plant Rank</td>
</tr>
<tr>
<td>CRMTP</td>
<td>Cultural Resources Monitoring and Treatment Plan</td>
</tr>
<tr>
<td>CWA</td>
<td>Clean Water Act</td>
</tr>
<tr>
<td>CWSRF</td>
<td>Clean Water State Revolving Fund</td>
</tr>
<tr>
<td>dB</td>
<td>decibel</td>
</tr>
<tr>
<td>dBA</td>
<td>A-weighted decibel</td>
</tr>
<tr>
<td>DCS</td>
<td>Distributed Control System</td>
</tr>
<tr>
<td>DDW</td>
<td>Division of Drinking Water</td>
</tr>
<tr>
<td>Acronym/Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Dechlorination Facility</td>
<td>Pure Water Dechlorination Facility</td>
</tr>
<tr>
<td>DEH</td>
<td>Department of Environmental Health</td>
</tr>
<tr>
<td>DIT</td>
<td>direct integrity testing</td>
</tr>
<tr>
<td>DO</td>
<td>dissolved oxygen</td>
</tr>
<tr>
<td>DPM</td>
<td>diesel particulate matter</td>
</tr>
<tr>
<td>DSOD</td>
<td>Division of Safety of Dams</td>
</tr>
<tr>
<td>DTSC</td>
<td>Department of Toxic Substances Control</td>
</tr>
<tr>
<td>EB</td>
<td>eastbound</td>
</tr>
<tr>
<td>ECAWPP</td>
<td>East County Advanced Water Purification Program</td>
</tr>
<tr>
<td>EFM</td>
<td>enhanced flux maintenance</td>
</tr>
<tr>
<td>EIR</td>
<td>Environmental Impact Report</td>
</tr>
<tr>
<td>EIS</td>
<td>Environmental Impact Statement</td>
</tr>
<tr>
<td>EO</td>
<td>Executive Order</td>
</tr>
<tr>
<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>EQ</td>
<td>equalization</td>
</tr>
<tr>
<td>ESA</td>
<td>Environmental Site Assessment</td>
</tr>
<tr>
<td>ESL</td>
<td>Environmentally Sensitive Lands</td>
</tr>
<tr>
<td>FAA</td>
<td>Federal Aviation Administration</td>
</tr>
<tr>
<td>FeCl₂</td>
<td>ferrous chloride</td>
</tr>
<tr>
<td>FESA</td>
<td>federal Endangered Species Act</td>
</tr>
<tr>
<td>FHWA</td>
<td>Federal Highway Administration</td>
</tr>
<tr>
<td>GAC</td>
<td>granular activated carbon</td>
</tr>
<tr>
<td>GC</td>
<td>Grading Contractor</td>
</tr>
<tr>
<td>GHG</td>
<td>greenhouse gas</td>
</tr>
<tr>
<td>GIS</td>
<td>geographic information system</td>
</tr>
<tr>
<td>gpm</td>
<td>gallons per minute</td>
</tr>
<tr>
<td>GPS</td>
<td>Global Positioning System</td>
</tr>
<tr>
<td>GWP</td>
<td>global warming potential</td>
</tr>
<tr>
<td>HAPs</td>
<td>hazardous air pollutants</td>
</tr>
<tr>
<td>HCFC</td>
<td>hydrochlorofluorocarbon</td>
</tr>
<tr>
<td>HCM</td>
<td>Highway Capacity Manual</td>
</tr>
<tr>
<td>HDPE</td>
<td>high-density polyethylene</td>
</tr>
<tr>
<td>HFC</td>
<td>hydrofluorocarbon</td>
</tr>
<tr>
<td>HP</td>
<td>horsepower</td>
</tr>
<tr>
<td>HRA</td>
<td>Health Risk Assessment</td>
</tr>
<tr>
<td>HREC</td>
<td>Historic Recognized Environmental Condition</td>
</tr>
<tr>
<td>HRG</td>
<td>Historical Resources Guidelines</td>
</tr>
<tr>
<td>I-</td>
<td>Interstate</td>
</tr>
<tr>
<td>IAP</td>
<td>Independent Advisory Panel</td>
</tr>
<tr>
<td>IBC</td>
<td>International Building Code</td>
</tr>
<tr>
<td>ICE</td>
<td>internal combustion engine</td>
</tr>
<tr>
<td>Acronym/Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>INRMP</td>
<td>Integrated Natural Resources Management Plan</td>
</tr>
<tr>
<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
</tr>
<tr>
<td>IRAT</td>
<td>In-Reservoir Alternative Terminus</td>
</tr>
<tr>
<td>IR</td>
<td>Installation Restoration</td>
</tr>
<tr>
<td>IRP</td>
<td>Integrated Water Resources Plan</td>
</tr>
<tr>
<td>ISTEA</td>
<td>International Surface Transportation Efficiency Act of 1991</td>
</tr>
<tr>
<td>kWh</td>
<td>kilowatt hour</td>
</tr>
<tr>
<td>LAS</td>
<td>Landscape Architecture Section</td>
</tr>
<tr>
<td>lb/d</td>
<td>pounds per day</td>
</tr>
<tr>
<td>LCD</td>
<td>Landscape Construction Documents</td>
</tr>
<tr>
<td>LCP</td>
<td>Local Coastal Program</td>
</tr>
<tr>
<td>LDC</td>
<td>Land Development Code</td>
</tr>
<tr>
<td>L_{eq}</td>
<td>equivalent sound level</td>
</tr>
<tr>
<td>LF</td>
<td>linear feet</td>
</tr>
<tr>
<td>LFG</td>
<td>landfill gas</td>
</tr>
<tr>
<td>LFG Pipeline</td>
<td>Landfill Gas Pipeline</td>
</tr>
<tr>
<td>LID</td>
<td>low-impact development</td>
</tr>
<tr>
<td>L_{max}</td>
<td>maximum sound level</td>
</tr>
<tr>
<td>LOS</td>
<td>Level of Service</td>
</tr>
<tr>
<td>LOX</td>
<td>liquid oxygen</td>
</tr>
<tr>
<td>LRWRP</td>
<td>Long-Range Water Resources Plan</td>
</tr>
<tr>
<td>LUST</td>
<td>leaking underground storage tank</td>
</tr>
<tr>
<td>MA</td>
<td>Management Area</td>
</tr>
<tr>
<td>MAT</td>
<td>Marina Alternative Terminus</td>
</tr>
<tr>
<td>MBC</td>
<td>Metro Biosolids Center</td>
</tr>
<tr>
<td>MBTA</td>
<td>Migratory Bird Treaty Act</td>
</tr>
<tr>
<td>MCAS</td>
<td>Marine Corps Air Station</td>
</tr>
<tr>
<td>MCCTP</td>
<td>Mid-Coast Corridor Transit Project</td>
</tr>
<tr>
<td>MCL</td>
<td>maximum contaminant level</td>
</tr>
<tr>
<td>MEC</td>
<td>munitions and explosives of concern</td>
</tr>
<tr>
<td>MEIR</td>
<td>Maximally Exposed Individual Resident</td>
</tr>
<tr>
<td>MEIW</td>
<td>Maximally Exposed Individual Worker</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>Metropolitan Water District of Southern California</td>
</tr>
<tr>
<td>Metro System</td>
<td>Metropolitan Sewerage System</td>
</tr>
<tr>
<td>MF</td>
<td>membrane filtration</td>
</tr>
<tr>
<td>mg/L</td>
<td>milligrams per liter</td>
</tr>
<tr>
<td>MG</td>
<td>million gallons</td>
</tr>
<tr>
<td>MGD</td>
<td>million gallons per day</td>
</tr>
<tr>
<td>MHPA</td>
<td>Multi-Habitat Planning Area</td>
</tr>
<tr>
<td>ml</td>
<td>milliliter</td>
</tr>
<tr>
<td>MLD</td>
<td>Most Likely Descendant</td>
</tr>
<tr>
<td>MM</td>
<td>mitigation measure</td>
</tr>
<tr>
<td>Acronym/Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>MMC</td>
<td>Mitigation Monitoring Coordination</td>
</tr>
<tr>
<td>MMRP</td>
<td>Mitigation Monitoring and Reporting Program</td>
</tr>
<tr>
<td>MMT</td>
<td>million metric tons</td>
</tr>
<tr>
<td>Morena Pipelines</td>
<td>Morena Wastewater Forcemain and Brine/Centrate Line</td>
</tr>
<tr>
<td>mpg</td>
<td>miles per gallon</td>
</tr>
<tr>
<td>mph</td>
<td>miles per hour</td>
</tr>
<tr>
<td>MR</td>
<td>Miramar Reservoir</td>
</tr>
<tr>
<td>MRP</td>
<td>Munitions Response Program</td>
</tr>
<tr>
<td>MRZ</td>
<td>Mineral Resource Zone</td>
</tr>
<tr>
<td>MS4</td>
<td>municipal separate storm sewer system</td>
</tr>
<tr>
<td>MSCP</td>
<td>Multiple Species Conservation Program</td>
</tr>
<tr>
<td>MT</td>
<td>metric ton</td>
</tr>
<tr>
<td>MT CO$_2$E</td>
<td>metric tons carbon dioxide equivalent</td>
</tr>
<tr>
<td>MTBE</td>
<td>methyl tertiary butyl ether</td>
</tr>
<tr>
<td>MTBS</td>
<td>Mission Trails Booster Station</td>
</tr>
<tr>
<td>MTS</td>
<td>Metropolitan Transit System</td>
</tr>
<tr>
<td>MT/yr</td>
<td>metric tons per year</td>
</tr>
<tr>
<td>MW</td>
<td>megawatts</td>
</tr>
<tr>
<td>N$_2$O</td>
<td>nitrous oxide</td>
</tr>
<tr>
<td>NAAQS</td>
<td>National Ambient Air Quality Standards</td>
</tr>
<tr>
<td>NAHC</td>
<td>Native American Heritage Commission</td>
</tr>
<tr>
<td>NB</td>
<td>northbound</td>
</tr>
<tr>
<td>NCPWF</td>
<td>North City Pure Water Facility</td>
</tr>
<tr>
<td>NCPWF-MR</td>
<td>North City Pure Water Facility-Miramar Reservoir</td>
</tr>
<tr>
<td>NCPWF-SVR</td>
<td>North City Pure Water Facility-San Vicente Reservoir</td>
</tr>
<tr>
<td>NCTD</td>
<td>North County Transit District</td>
</tr>
<tr>
<td>NCWRP</td>
<td>North City Water Reclamation Plant</td>
</tr>
<tr>
<td>NDMA</td>
<td>N-Nitrosodimethylamine</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
</tr>
<tr>
<td>NHPA</td>
<td>National Historic Preservation Act</td>
</tr>
<tr>
<td>NHTSA</td>
<td>National Highway Traffic Safety Administration</td>
</tr>
<tr>
<td>NO$_2$</td>
<td>nitrogen dioxide</td>
</tr>
<tr>
<td>NOP</td>
<td>Notice of Preparation</td>
</tr>
<tr>
<td>North City Pipeline</td>
<td>North City Pure Water Pipeline</td>
</tr>
<tr>
<td>North City Pump Station</td>
<td>North City Pure Water Pump Station</td>
</tr>
<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>NPR</td>
<td>non-potable reuse</td>
</tr>
<tr>
<td>NRHP</td>
<td>National Register of Historic Places</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>operations and maintenance</td>
</tr>
<tr>
<td>O$_3$</td>
<td>ozone</td>
</tr>
<tr>
<td>OPLA–PRP</td>
<td>Omnibus Public Lands Act-Paleontological Resources Preservation</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Health and Safety Administration</td>
</tr>
<tr>
<td>Acronym/Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>OSPF</td>
<td>other seasonally ponded feature</td>
</tr>
<tr>
<td>Pb</td>
<td>lead</td>
</tr>
<tr>
<td>ppb</td>
<td>parts per billion</td>
</tr>
<tr>
<td>PDP</td>
<td>priority development project</td>
</tr>
<tr>
<td>PEA</td>
<td>anionic polymer</td>
</tr>
<tr>
<td>PFC</td>
<td>perfluorocarbon</td>
</tr>
<tr>
<td>PG&amp;E</td>
<td>Pacific Gas and Electric</td>
</tr>
<tr>
<td>PI</td>
<td>Principal Investigator</td>
</tr>
<tr>
<td>PLOO</td>
<td>Point Loma Ocean Outfall</td>
</tr>
<tr>
<td>PLRCP</td>
<td>Point Loma Reinforced Concrete Pipe</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>particulate matter less than 2.5 microns</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>particulate matter less than 10 microns</td>
</tr>
<tr>
<td>Point Loma WWTP</td>
<td>Point Loma Wastewater Treatment Plant</td>
</tr>
<tr>
<td>ppb</td>
<td>parts per billion</td>
</tr>
<tr>
<td>PPV</td>
<td>peak particle velocity</td>
</tr>
<tr>
<td>PQB</td>
<td>Principal Qualified Biologist</td>
</tr>
<tr>
<td>Project</td>
<td>North City Project</td>
</tr>
<tr>
<td>psi</td>
<td>pounds per square inch</td>
</tr>
<tr>
<td>PWS</td>
<td>public water system</td>
</tr>
<tr>
<td>RAQS</td>
<td>Regional Air Quality Strategy</td>
</tr>
<tr>
<td>RCP</td>
<td>reinforced concrete pipe</td>
</tr>
<tr>
<td>RE</td>
<td>Resident Engineer</td>
</tr>
<tr>
<td>Reclamation</td>
<td>Bureau of Reclamation</td>
</tr>
<tr>
<td>REL</td>
<td>reference exposure level</td>
</tr>
<tr>
<td>RIC</td>
<td>Revegetation Installation Contractor</td>
</tr>
<tr>
<td>RMC</td>
<td>Revegetation Maintenance Contractor</td>
</tr>
<tr>
<td>RO</td>
<td>reverse osmosis</td>
</tr>
<tr>
<td>ROP</td>
<td>reverse osmosis permeate</td>
</tr>
<tr>
<td>ROW</td>
<td>right-of-way</td>
</tr>
<tr>
<td>RPS</td>
<td>Renewables Portfolio Standard</td>
</tr>
<tr>
<td>RTP/SCS</td>
<td>Regional Transportation Plan/Sustainable Communities Strategy</td>
</tr>
<tr>
<td>RW</td>
<td>recycled water</td>
</tr>
<tr>
<td>RWQCB</td>
<td>Regional Water Quality Control Board</td>
</tr>
<tr>
<td>SANDAG</td>
<td>San Diego Association of Governments</td>
</tr>
<tr>
<td>SanGIS</td>
<td>San Diego Geographic Information Source</td>
</tr>
<tr>
<td>San Vicente Pipeline</td>
<td>San Vicente Pure Water Pipeline</td>
</tr>
<tr>
<td>San Vicente Pipeline - Repurposed 36-inch Recycled Water Line</td>
<td>36-inch recycled water pipeline</td>
</tr>
<tr>
<td>San Vicente Pipeline – TAT</td>
<td>San Vicente Pipeline – Tunnel Alternative Terminus</td>
</tr>
<tr>
<td>San Vicente Pipeline – IRAT</td>
<td>San Vicente Pipeline – In-Reservoir Alternative Terminus</td>
</tr>
<tr>
<td>San Vicente Pipeline – MAT</td>
<td>San Vicente Pipeline – Marina Alternative Terminus</td>
</tr>
<tr>
<td>Acronym/Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>SB</td>
<td>Senate Bill</td>
</tr>
<tr>
<td>SB</td>
<td>southbound</td>
</tr>
<tr>
<td>SBOO</td>
<td>South Bay Ocean Outfall</td>
</tr>
<tr>
<td>SBWRP</td>
<td>South Bay Water Reclamation Plant</td>
</tr>
<tr>
<td>SDAB</td>
<td>San Diego Air Basin</td>
</tr>
<tr>
<td>SDCWA</td>
<td>San Diego County Water Authority</td>
</tr>
<tr>
<td>SDFD</td>
<td>San Diego Fire-Rescue Department</td>
</tr>
<tr>
<td>SDG&amp;E</td>
<td>San Diego Gas &amp; Electric</td>
</tr>
<tr>
<td>SDIA</td>
<td>San Diego International Airport</td>
</tr>
<tr>
<td>SDNHM</td>
<td>San Diego Natural History Museum</td>
</tr>
<tr>
<td>SDPD</td>
<td>San Diego Police Department</td>
</tr>
<tr>
<td>SDRHR</td>
<td>San Diego Register of Historic Resources</td>
</tr>
<tr>
<td>SDWA</td>
<td>Safe Drinking Water Act</td>
</tr>
<tr>
<td>sf</td>
<td>square feet</td>
</tr>
<tr>
<td>SHC</td>
<td>sodium hypochlorite</td>
</tr>
<tr>
<td>SIP</td>
<td>State Implementation Policy</td>
</tr>
<tr>
<td>SO₂</td>
<td>sulfur dioxide</td>
</tr>
<tr>
<td>SoCalGas</td>
<td>Southern California Gas</td>
</tr>
<tr>
<td>SR</td>
<td>State Route</td>
</tr>
<tr>
<td>SRTP</td>
<td>Scripps Ranch Technology Park</td>
</tr>
<tr>
<td>SSC</td>
<td>Species of Special Concern</td>
</tr>
<tr>
<td>STP</td>
<td>shovel test pit</td>
</tr>
<tr>
<td>STU</td>
<td>shovel test unit</td>
</tr>
<tr>
<td>SVR</td>
<td>San Vicente Reservoir</td>
</tr>
<tr>
<td>SWPPP</td>
<td>stormwater pollution prevention plan</td>
</tr>
<tr>
<td>SWRCB</td>
<td>State Water Resources Control Board</td>
</tr>
<tr>
<td>TAC</td>
<td>toxic air contaminant</td>
</tr>
<tr>
<td>TAT</td>
<td>Tunnel Alternative Terminus</td>
</tr>
<tr>
<td>TCP</td>
<td>traffic control plan</td>
</tr>
<tr>
<td>TDS</td>
<td>total dissolved solids</td>
</tr>
<tr>
<td>TEA-21</td>
<td>Transportation Equity Act for the 21st Century</td>
</tr>
<tr>
<td>TMDL</td>
<td>total maximum daily load</td>
</tr>
<tr>
<td>TOC</td>
<td>total organic carbon</td>
</tr>
<tr>
<td>TP</td>
<td>total phosphorus</td>
</tr>
<tr>
<td>TSS</td>
<td>total suspended solids</td>
</tr>
<tr>
<td>TT</td>
<td>treatment technique</td>
</tr>
<tr>
<td>UCPG</td>
<td>University Community Planning Group</td>
</tr>
<tr>
<td>UCSD</td>
<td>University of California – San Diego</td>
</tr>
<tr>
<td>UF</td>
<td>ultrafiltration</td>
</tr>
<tr>
<td>USDA</td>
<td>U.S. Department of Agriculture</td>
</tr>
<tr>
<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>UST</td>
<td>underground storage tank</td>
</tr>
</tbody>
</table>
# ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym/Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>UV/AOP</td>
<td>ultraviolet/advanced oxidation process</td>
</tr>
<tr>
<td>UWMP</td>
<td>Urban Water Management Plan</td>
</tr>
<tr>
<td>UXO</td>
<td>unexploded ordnance</td>
</tr>
<tr>
<td>VA</td>
<td>Veteran's Administration</td>
</tr>
<tr>
<td>V/C</td>
<td>Volume to Capacity Ratio</td>
</tr>
<tr>
<td>VdB</td>
<td>velocity decibel</td>
</tr>
<tr>
<td>VMT</td>
<td>vehicle miles traveled</td>
</tr>
<tr>
<td>VOC</td>
<td>volatile organic compound</td>
</tr>
<tr>
<td>VPHCP</td>
<td>Vernal Pool Habitat Conservation Plan</td>
</tr>
<tr>
<td>WB</td>
<td>westbound</td>
</tr>
<tr>
<td>WDR</td>
<td>waste discharge requirement</td>
</tr>
<tr>
<td>WL</td>
<td>California Watch List</td>
</tr>
<tr>
<td>WQIP</td>
<td>water quality improvement plan</td>
</tr>
<tr>
<td>WTP</td>
<td>Water Treatment Plant</td>
</tr>
<tr>
<td>WWTP</td>
<td>Wastewater Treatment Plant</td>
</tr>
</tbody>
</table>
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>
<thead>
<tr>
<th>Comment Letter</th>
<th>Date Received</th>
<th>Commenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>11/8/2017</td>
<td>State Clearinghouse, Scott Morgan</td>
</tr>
<tr>
<td>B2</td>
<td>9/27/2017</td>
<td>California Department of Transportation (Caltrans), Keri Robinson</td>
</tr>
<tr>
<td>B3</td>
<td>11/8/2017</td>
<td>State Clearinghouse, Scott Morgan</td>
</tr>
<tr>
<td>B4</td>
<td>11/7/2017</td>
<td>Department of Toxic Substances Control, Johnson P. Abraham</td>
</tr>
<tr>
<td>B5</td>
<td>11/21/2017</td>
<td>State Clearinghouse, Scott Morgan</td>
</tr>
<tr>
<td>B6</td>
<td>11/20/2017</td>
<td>California Department of Fish and Wildlife, Scott Cantrell</td>
</tr>
<tr>
<td>B7</td>
<td>11/22/2017</td>
<td>State Clearinghouse, Scott Morgan</td>
</tr>
<tr>
<td>B8</td>
<td>11/21/2017</td>
<td>State Water Resources Control Board, Carina Grove</td>
</tr>
<tr>
<td>B9</td>
<td>9/14/2017</td>
<td>California Department of Conservation, Crina Chan</td>
</tr>
<tr>
<td>C1</td>
<td>11/2/2017</td>
<td>San Diego Association of Governments, Katie Hentrich</td>
</tr>
<tr>
<td>C2</td>
<td>11/7/2017</td>
<td>County of San Diego, Eric Lardy</td>
</tr>
<tr>
<td>C3</td>
<td>11/8/2017</td>
<td>Scripps Ranch Planning Group</td>
</tr>
<tr>
<td>C4</td>
<td>11/14/2017</td>
<td>University Community Planning Group, Janay Kruger</td>
</tr>
<tr>
<td>C5</td>
<td>11/15/2017</td>
<td>University City Community Association, Barry Bernstein</td>
</tr>
<tr>
<td>C6</td>
<td>11/21/2017</td>
<td>SDG&amp;E, Richard Quasarano</td>
</tr>
<tr>
<td>C7</td>
<td>11/21/2017</td>
<td>Padre Dam Municipal Water District, Albert C. Lau</td>
</tr>
<tr>
<td>C8</td>
<td>11/21/2017</td>
<td>City of Santee, Melanie Kush</td>
</tr>
</tbody>
</table>
### Table 1

**Commenters and Comment Letters**

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

<table>
<thead>
<tr>
<th>Comment Letter</th>
<th>Date Received</th>
<th>Commenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIS-E</td>
<td>12/22/2017</td>
<td>Louis Rodolico</td>
</tr>
<tr>
<td>EIS-F</td>
<td>1/3/2018</td>
<td>Katie Rodolico</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Location in Final EIR/EIS</th>
<th>Type of Clarification or Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page 3-54</td>
<td>Minor text revision</td>
</tr>
<tr>
<td>Figures 3-1 and 3-2</td>
<td>Minor alignment revision</td>
</tr>
<tr>
<td>Figures 3-4 through 3-7</td>
<td>Minor alignment revision</td>
</tr>
<tr>
<td>Figures 3-14A through 3-16</td>
<td>Minor alignment revision</td>
</tr>
<tr>
<td>Figures 3-18</td>
<td>Minor alignment revision</td>
</tr>
<tr>
<td>Figures 3-21</td>
<td>Minor alignment revision</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Location in Final EIR/EIS</th>
<th>Type of Clarification or Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page 5.4-44</td>
<td>Plant species text revision</td>
</tr>
<tr>
<td>Table 5.4-27</td>
<td>Acreage revision</td>
</tr>
<tr>
<td>Pages 5.4-49 through 5.4-50</td>
<td>Reference and plant species text revision</td>
</tr>
<tr>
<td>Table 5.4-29</td>
<td>Acreage revision</td>
</tr>
<tr>
<td>Pages 5.4-57 through 5.4-58</td>
<td>Reference and plant species text revision</td>
</tr>
<tr>
<td>Page 5.4-66</td>
<td>Regulatory setting deletion</td>
</tr>
<tr>
<td>Page 5.4-68</td>
<td>Regulatory setting deletion</td>
</tr>
<tr>
<td>Page 5.4-72</td>
<td>Reference revision</td>
</tr>
<tr>
<td>Pages 5.4-75 through 5.4-77</td>
<td>Reference and regulatory setting revision</td>
</tr>
<tr>
<td>Figures 5.4-1A through 5.4-1P</td>
<td>Minor alignment revision</td>
</tr>
</tbody>
</table>

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**

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

<table>
<thead>
<tr>
<th>Location in Final EIR/EIS</th>
<th>Type of Clarification or Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 6.4-11</td>
<td>Plant species revision</td>
</tr>
<tr>
<td>Pages 6.4-64 through 6.4-67</td>
<td>Impact discussion deletion and revision</td>
</tr>
<tr>
<td>Table 6.4-12</td>
<td>Plant species revision</td>
</tr>
<tr>
<td>Pages 6.4-73 through 6.4-74</td>
<td>Pond turtle and limnology revision</td>
</tr>
<tr>
<td>Page 6.4-76</td>
<td>Impact discussion revision</td>
</tr>
<tr>
<td>Page 6.4-81</td>
<td>Mitigation revision</td>
</tr>
<tr>
<td>Pages 6.4-87 through 88</td>
<td>Mitigation revision</td>
</tr>
<tr>
<td>Table 6.4-13</td>
<td>Impact discussion revision</td>
</tr>
<tr>
<td>Pages 6.4-93 through 6.4-94</td>
<td>Mitigation discussion revision</td>
</tr>
<tr>
<td>Table 6.4-14</td>
<td>Impact discussion revision</td>
</tr>
<tr>
<td>Pages 6.4-98 through 6.4-100</td>
<td>Mitigation and impact discussion revision</td>
</tr>
<tr>
<td>Tables 6.4-15 through 6.4-17</td>
<td>Mitigation discussion revision</td>
</tr>
<tr>
<td>Pages 6.4-114 through 6.4-117</td>
<td>Mitigation discussion and plan compliance revision</td>
</tr>
<tr>
<td>Table 6.4-18</td>
<td>Mitigation applicability revision</td>
</tr>
<tr>
<td>Figures 6.4-1A through 6.4-1P</td>
<td>Minor alignment revision</td>
</tr>
</tbody>
</table>

**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

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

<table>
<thead>
<tr>
<th>Location in Final EIR/EIS</th>
<th>Type of Clarification or Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chapter 9 – Mandatory Discussion Areas</strong></td>
<td></td>
</tr>
<tr>
<td>Table 9-1</td>
<td>Applicable regulation revision</td>
</tr>
<tr>
<td><strong>Chapter 10 – Mitigation Monitoring and Reporting Program</strong></td>
<td></td>
</tr>
<tr>
<td>Page 10-11</td>
<td>Mitigation revision</td>
</tr>
<tr>
<td>Pages 10-17 through 10-18</td>
<td>Mitigation revision</td>
</tr>
<tr>
<td>Pages 10-21 through 10-25</td>
<td>Mitigation revision</td>
</tr>
<tr>
<td>Tables 10-1 through 10-15</td>
<td>Mitigation revision</td>
</tr>
<tr>
<td><strong>Chapter 11 – References Cited</strong></td>
<td></td>
</tr>
<tr>
<td>Throughout</td>
<td>Reference revision</td>
</tr>
</tbody>
</table>
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.
### NORTH CITY PROJECT EIR/EIS

#### RESPONSE TO COMMENTS

**Document Details Report**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title</td>
<td>Pure Water San Diego Program, North City Project (PTU No. 49621)</td>
</tr>
<tr>
<td>Lead Agency</td>
<td>San Diego, City and County</td>
</tr>
<tr>
<td>Type</td>
<td>CEIR/DEIR</td>
</tr>
<tr>
<td>Description</td>
<td>Note: Review for Lead Agency</td>
</tr>
</tbody>
</table>

A dual development permit and EIR/DEIR for the project. Overall, the four water programs will ultimately produce 38,000 GFD of treated well water, including a 20-year and 20-year renewal of the currently dual-purpose South Pacific Ocean. The program will be implemented in phases, over the next 20 years, with the first phase scheduled for completion in 2021.

**Lead Agency Contact**

<table>
<thead>
<tr>
<th>Name</th>
<th>Stan Brandt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency</td>
<td>City of San Diego</td>
</tr>
<tr>
<td>Phone</td>
<td>(619) 840-0235</td>
</tr>
<tr>
<td>Email</td>
<td>nil</td>
</tr>
<tr>
<td>Address</td>
<td>2022 First Avenue, MS-201</td>
</tr>
<tr>
<td>City</td>
<td>San Diego</td>
</tr>
<tr>
<td>State</td>
<td>CA</td>
</tr>
<tr>
<td>Zip</td>
<td>92101</td>
</tr>
</tbody>
</table>

**Project Location**

<table>
<thead>
<tr>
<th>County</th>
<th>San Diego</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>San Diego</td>
</tr>
<tr>
<td>Region</td>
<td></td>
</tr>
</tbody>
</table>

**Proprietors:**

- **Highways:** L A V, M C M, E R, B A, 16
- **Airports:** R C A, W M A
- **Interstates:** I 10, I 115
- **Railroads:** M S S, M S D
- **Ways:** Pacific Ocean, San Diego River, Miramar Reservoir

**Project Description:**

- **Cumulative Effects:** Other Issues: Air Quality, Noise, Biological, Physical, Cultural

**Project Status:**

- **Date Received:** 03/17/2017
- **Start of Review:** 03/20/2017
- **End of Review:** 11/15/2017

**Note:** Issues in data fields result from insufficient information provided by lead agency.
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.
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.
November 7, 2017

M. Mark Brunetta
Senior Environmental Planner
City of San Diego Development Services Center
1220 First Avenue, ME 011
San Diego, California 92101
M. Mark.Brunetta@san-diego.gov

DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR PURE WATER SAN DIEGO PROGRAM, NORTH CITY PROJECT (BCHP 271680108)

Dear Mr. Brunetta,

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 discharge 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/enhancements, lead-based paints or products, mercury, and asbestos containing materials (ACMs) should be addressed in accordance with all applicable and relevant laws and regulations.
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 proximate to the Formerly Used Defense Site (FUDS) listed in the United States Department of Defense (DoD) chemical and biological defense site list. The FUDS is believed to contain munitions and explosives, as well as hazardous substances, which are considered hazardous materials as defined in section 25200 of the California Health and Safety Code. DTSC recommends assessment and/or investigation be conducted at the project site to assess potential impacts from the nearby FUDS.

6. DTSC recommends evaluation, if necessary, of onsite areas with current or historical PCB-containing transformers.

7. The EIR states, “All these sites either have LUSTs and/or ASTs, and have remediation LUSTs and/or ASTs, and have documented LUSTs and/or ASTs and/or hazardous areas. Some of these sites also have documented migration, environmental site investigations, mitigations, and cleanups.” The EIR indicates that at least one area of the project site has a contaminated area.

   a. Identify the regulatory agency(ies) overseeing the investigation of areas of documented sitelines and their proximity to the project area.
   b. If soil/groundwater within the project area is impacted, then DTSC recommends evaluation of potential vapor intrusion risks associated with such contamination.
   c. DTSC is unable to assess 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, “Finelines continued as part of the North City Project would primarily be located within roadway rights-of-way. Until the mid-1980s, gasoline and other fuels were stored in and delivered to above-street level tanks. Small leaks of fuel were emitted from car exhaust and settled on the roads adjacent to freeways and roads, which has resulted in a buildup of fuel in stationary fuel tanks.” DTSC recommends assessment/analysis of the site to confirm that no lead contamination is present in soil adjacent to major roads.
Mr. Mark Brunette  
November 7, 2017  

Page 5  

0. Rainfed meadows and all fields are commonly expected due to application of chemicals, fuels, and herbicides, and use of pastures and herbicides along the tracks for weed control. If the project site is at or nearby tracks, DTSC recommends assessment and remediation as necessary to confirm that no residual contamination exists with regard to remediation.

10. If soil contamination is suspected or observed in the project area, then excavated soil should be sampled prior to export and disposal. If the soil is contaminated, it should be disposed of properly in accordance and compliance 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 sampling should be conducted to ensure 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 NP 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) 464-5380 or email at Johnson.Abraham@dtsc.ca.gov.

Sincerely,

Johnson A. Abraham  
Project Manager  
Bioavailability and School Evaluation Branch  
Bioavailability and Environmental Restoration Program  

[Signature]

cc: See next page.
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.

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.

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.
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).

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.
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.”

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. |
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).

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.

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
<table>
<thead>
<tr>
<th>B4-16</th>
<th>Comment noted.</th>
</tr>
</thead>
</table>

“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.
Mr. Mark Brunetto  
November 7, 2017  
Page 4

cc: Governor’s Office of Planning and Research (via e-mail)  
State Clearinghouse  
P.O. Box 2944  
Sacramento, California 95812-3044  
State Clears@planning.ca.gov

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

Mr. Shahr Hadadi, Chief (via e-mail)  
Schools Evaluation and Brownfields Cleanup  
Brownfields and Environmental Restoration Program - Cypress  
Sharh.Hadadi@ctsc.ca.gov

CEQA# 2016081016

February 2018  
B4-13  
9420-04
INTENTIONALLY LEFT BLANK
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.
Dear Mr. Brunelle,

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Draft Environmental Impact Report (EIR) 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. We appreciate the opportunity to provide comments regarding those aspects of the Project that the Department, by law, may be required to consider and/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 for all people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1832; Pub. Resources Code, § 2170; CEQA Guidelines § 15360.4, subd. (a)). The Department, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, salamanders, and habitats necessary for biologically significant populations of those species. (Cf. Fish & G. Code, § 1832.) It is also a policy of this State to preserve and enhance black bear habitat (Fish & G. Code, Chapter 7.3, § 1710 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, § 21999; CEQA Guidelines, § 15062). 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 direct and specified regulatory authority. (Fish & G. Code, §§ 1300 et seq.) Likewise, for 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 (CEPA) (Fish & G. Code, § 2595 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 Natural Community Conservation Plan (NCCP) for the Plan (NCCP). 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
North City Project EIR/EIS
Response to Comments

February 2018 B5-3 9420-04

Mark Brudnick, Senior Environmental Planner
City of San Diego Development Services Department
November 08, 2017
Page 2 of 19

The North City Project includes a variety of facilities located throughout the northern coastal areas of San Diego County. Project facilities are proposed in the North City geographic area. A new potable 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 Encinitas, the community of Lakeside, and other areas of unincorporated San Diego County, and federal lands within Marine Corps Air Station Miramar. Portions of the North City Project area fall within the City's MSCP and Multi-Hazard Planning Area (MHPA).

The new North City Pure Water Facility (NCPF) would be located adjacent to the existing North City Water Reclamation Plant (NCWRF) site located at Eastlake and Interstate 505. The NCPF would be located on an undeveloped site north of Eastlake Mall. The North City Pure Water Pump Station (NCWPS) would be located on the currently undeveloped site. Serra Canyon is located immediately north of the NCWPS site.

Upgrades would occur at the existing NCWRF to maintain sufficient tertiary influent for the NCPF, as well as to connect the existing treatment line with the proposed tertiary 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 NCWRF, from there, purified water would be conveyed to the Miramar Reservoir or San Vicente Reservoir, where it would blend with imported water and delivered to the community. 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:

Morrosa Pump Station and Pipelines
The Morrosa Pump Station and Wastewater Recirculation System are proposed to deliver a maximum flow of 107 MDG of raw wastewater to the NCWRF, expanding the NCWRF’s production capacity from 30 MDG to 50 MDG in (dry) weather conditions.

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

North City Pure Water Facility - Influent Pump Station and Conveyance
The NCPF influent pump station would be constructed at the NCWRF and would convey tertiary effluent from the NCWRF to the NCPF. The NCPF influent pump station would have a maximum capacity of 45.3 MDG to enable the NCPF to produce a maximum of 34 MDG of purified water after accounting for recycle and other streams.

North City Pure Water Facility - Miramar Reservoir Alternative
This new NCPF, under the Miramar Reservoir Alternative (NCPF-MR) would be located on the eastern slopes of the San Diego Mountains, adjacent to the Miramar Reservoir. The NCPF-MR would produce 20 MGD of effluent water, including 1.6 MDG of tertiary effluent. The NCPF-MR would produce an annual average 309 mg/L (SAD) of purified water. A secondary Tertiary treatment facility would be constructed at the NCWPS to reduce the TSS and soluble solids concentration of the treated secondary effluent to 1,000 milligrams per liter.
North City Project EIR/EIS
RESPONSE TO COMMENTS

Mark Burnette, Senior Environmental Planner
City of San Diego Development Services Department

February 2018 B5-4 9420-04

North City Pure Water Construction System
The North City Pure Water Construction System would transport product water from the NPWS-118 to the Reservoir where it would be mixed with water from the North City Reservoir and receive additional treatment at the North City Wastewater Treatment Plant. The North City Pure Water System consists of the North City Pure Water Pump Station (North City Pump Station), North City Pipeline, and the Pure Water Desalination Facility.

North City Renewable Energy Facility
A new North City Renewable Energy Facility would be constructed in order to provide power to the expanded NPWS and North City Pump Station. The new pumping station would have a capacity of 4.3 MGD of next generation capacity. The 3 MW of existing plant generation capacity already at the MCAG/Reservoir site would be replaced.

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 pipeline would be extended from the existing Miramar Landfill north along the western end of the MCAG Reservoir property to the NPWS site.

Metro Reservoir Center (MRC) Improvements
The MRC site is currently developed with biosolids treatment facilities. MRC is located adjacent to the Miramar Reservoir. The MCAG Reservoir would be updated to accept increased biosolids thereby reducing the quantity of biosolids sent to the Point Loma Wastewater Treatment Plant.

Miramar Wastewater Treatment Plant Improvements
Under the Miramar Reservoir Alternative, an additional discharge into the Miramar Reservoir would be pumped via the existing Miramar Reservoir Pump Station to the Miramar Wastewater Treatment Plant for treatment and eventual discharge. Miramar Reservoir would receive approximately 30 MGD AAFD of purified water on a continuous basis. The Miramar Reservoir Pump Station would have to operate at roughly 30 MGD AAFD to maintain the flow balance in the reservoir.

North City Pure Water Facility
San Vicente Reservoir Alternative
The new NPWS under the San Vicente Reservoir Alternative (NPWS-215) would be located on the western 12-acre area south of I-5 and north of the NPWS. The NPWS-215 would produce 31.4 MGD AAFD of purified water. A portion of the purified water would be returned to the NPWS 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 39 miles (63.4 kilometers) of pipeline. The San Vicente Pipeline and Pump Stations would be located on the southeast corner of the NPWS site and would be the same as described 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 7 MGD and a maximum daily flow of 38 MGD.

The San Vicente Reservoir Alternative comprises three alternative pipeline terminal options:
1. San Vicente Pipeline - Tunnel Alternative Terminal,
2. San Vicente Pipeline - In-Reservoir Alternative Terminal, and
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.

P鲈 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 tasked with managing. There are clear benefits to the Project, including increased water storage capacity, reduced water usage, and contributions to surface and groundwater conservation including maintaining surface water flows for habitat and wildlife resources. However, we are also committed to identify potential impacts and collaborative efforts 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 DPEF's analysis that the San Vicente Reservoir Alternative has the potential to conflict with an applicable conservation plan (EIR, p. 6.1.4)—specifically, the alternative would conflict with the City SAP, including the Environmentally Sensitive Lands (ESL) regulations and BMPs, and would impact MPHA lands, wetlands, and CAY SAP Conservation Lands. Of the alternatives identified by the DPEF, the San Vicente Reservoir Alternative would result in the greatest (18.80 acres of temporary and 3.03 acres of permanent) impacts to MPHA, introduce impacts to undisturbed habitat, impact a greater number of vegetation communities, and would require the construction of a new access road (DPEF, p. 6.4-1). Therefore, pursuant to the City SAP section 1.4.2 and CESA Guidelines (81004), the San Vicente Reservoir Alternative is not representative of a design that maximizes avoidance and minimization measures to protect the environment (MPHA) and should not be certified in lieu of alternatives with fewer impacts to biological resources and City SAP.

Avoidance of Impacts

Impacts to City MPHA, including southern willow scrub habitat supporting CESA and federal Endangered Species Act (ESA) listed and endangered selected native wildlife (Coho Salmon, and California Valley Elk), could be minimized under the San Vicente Alternative. Figure 5.6-1R illustrates impacts to City MPHA and southern willow scrub surrounding lead ballet vine and California Valley Elk winter, where the San Vicente pipeline alignment crosses Interstate 15, south of Clairemont Mesa Boulevard. The alignment includes travel lanes between that interchange (400 ft locations) within southern willow scrub habitat. The DPEF does not discuss avoiding those impacts by shifting the trenchless construction alignment north within the area negated as non-vegetated channels. An alternative alignment could reduce impacts to MPHA, City wetlands, and CESA/ESA endangered species. Although the DPEF demonstrating how these impacts are unavoidable, all reasonable steps to comply with the City’s SAP and adopted local habitat conservation plans have not been taken for the San Vicente Reservoir Alternative.
NORTH CITY PROJECT EIR/EIS
RESPONSE TO COMMENTS

Pure Project Consistency with City of San Diego NSCP SAP

Impacts to MHPA

In addition to identifying the number of MHPA acres impacted by each alternative, Table ES-1 (DEIR, p. ES-10) should also identify how many linear feet would be adjacent to MHPA for each Project alternative. Project description and introduction of non-native species and invasive species. Edge effects and fragmentation are detrimental to several ecosystem health. An rough approximation (surfaced) and invariable of trenchless construction areas indicate that the Mifflin Reserve Alternative is adjacent to approximately 2,153 linear feet (approximately 34 miles) of MHPA, whereas the San Vicente Reserve Alternative is adjacent to approximately 37,723 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, contact, 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 in contact forest edge areas. Table ES-1 (DEIR, p. ES-10) should identify the number of linear feet of non-native species and non-trees listed below within areas of undisturbed habitat. Linear feet adjacent to native habitat 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 these hazards could react in habitat areas. When evaluating the Pure Project’s potential to expose people or property to wildfire hazards, including fire, Table ES-1 (DEIR, p. ES-10) identifies that both the Mifflin and San Vicente Reserve Alternatives could result in the following impacts: “Engine powered mowing and brush clearing in close proximity to areas adjacent to or within currently unswept areas. However, Table ES-10 does not identify the extent of the Pure Project’s construction and operation could introduce within the landscape. The Pure Project would construct fire features (e.g., firebreaks) and plan for the implementation of fire breaks to areas within areas of previously established habitats. Wildfire frequency and duration could increase due to climate change.” Westling et al, 2006) indicates wildfire has due to wildfires. There is a potentially significant impact associated with the Pure Project’s attempt mitigation. Possibility of firebreaks and linear feet adjacent to or within established habitat are quantified in the analysis 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 indicating the limits of work, existing right-of-way, and where applicable, the limits of previously disturbed/developed lands and/or native vegetation. According to the DEIR’s laydown areas for open-cut construction, including required laydown area for explosives and equipment, would range from 30 to 60 feet wide, depending on depth of the trench and would typically occupy half the roadway with.” (DEIR, p. 3-11) To avoid impacts to sensitive habitats, trench widths should be minimized and, when feasible, trenchless construction methods...
should be utilized. The DEIR should include a figure overlaid with the biological resources

decking the locations of key-areas, construction yards, and thorough-lavering

trees and to (e.g., vegetation and nesting sites).

Maintenance Right-of-Way Access:
The DEIR should indicate how impacts to habitat along the right-of-way (ROW) would be

mitigated. For example, if the habitat impacts occur within the ROW, they should be

mitigated as a permanent impact plan that "regular maintenance of overpass 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 Consumer Wells:
The SyVista's Research Alternative would result in impacts to City SAP Consumer Wells.

Under that alternative the loss of City SAP Consumer Wells should be deducted from the net

number of preserved and available public mitigation bank credits. The City MSCP Annual Report

should reflect the costs and credits of publicly available Consumer mitigation credits.

Consumer Wells...contain valuable ecological resources and have each been identified as a

core ecological resource area. These lands total 10,452 acres and are commonly referred to as

the Consumer Wells because they are considered essential building blocks for creating a

stable wildlife presence system." (DEIR, p. 4-79). Additionally, the DEIR should evaluate the

Project for consistency with Statewide Standards, section 10 of the Comprehensive Planning

Agreement limiting all temporary and permanent impacts..."...necessary associated with

acquired water pipeline from the North City Wastewater Treatment Plant into the reservoir..." (City 1996).

BSCP 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 Areas. The proposed Project is a significant threat to the protection of sensitive/biological resources which, if first or fragmented, could not be replaced or mitigated elsewhere." (County 1999). The DEIR should address the Project's role within the City's BAP (see section 1.4.2.4) and County MSCP given the intended relationship between the two. In

consideration of the relationship, the DEIR should also evaluate how the location of the North

City Pure Water Facility is consistent with section 1.4.2.6 of the County's BAP. In part, City BAP

section 1.4.2.6 states, "Construction and maintenance activities in wildlife corridors must

avoid significant disruption of wildlife species. 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 ESAs: Essential Public Projects (EPP) design process. According to City Municipal Code

section 143.01.01 "Impacts to biological resources are assessed by City staff through the
CEQA review process, and through review of the project's consistency with the EIS regulations, the Biology Guidelines (City 2002), and with the City's MISP Subarea Plan (City 2014) Conformance with the City's EIS and Biology Guidelines is integral in implementing the City's policies and regulations. The project is subject to the provisions of the EIR/EIS. The North City PRP includes a range of development projects within the Subarea which are subject to the CITY OF SAN DIEGO'S joint MISP Plan (City 1991) sections 10. The Pure Project would impact EIS-defined wetland resources, therefore the City is pursuing a deviation from the City's EIS regulations via an ERP.

In accordance with the 2017 City Biology Guidelines (p. 22) when an ERP exemption to the City EIS, regulations is utilized “the proposed project will include at least one alternative, both practicable and implementable, fully described and analyzed in an appropriate CEQA document. Alternatives to the proposed project shall be comprehensively included in the CEQA document when technically feasible. If an alternative is not technically feasible to analyze, this decision shall be documented. Alternatives must include the following: 1) a net project alternative; 2) a wetlands avoidance alternative, including an analysis of alternative non-impact alternatives; and 3) an appropriate range of alternative wetland impact minimization alternatives” (City Biology Guidelines, p. 23). Although the DERP states that “The North City PRP is consistent with the requirements of the City of San Diego MISP Subarea Plan and San Diego Municipal Code. Land Development Code—Biology Guidelines.” [DERP, p. 6-34] the DERP only analyses a wetlands minimization alternative (Mineral Reservoir Alternative), the San Ysidro Reservoir Alternative, and a no Project Alternative. The DERP does not analyze a wetlands avoidance alternative. According to the DERP, “(4) Wetlands Avoidance Alternative has been thoroughly visited 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 ERP/EIS.” (DERP, p. 6-30) When utilizing the EIR/EIS deviation, City Biology Guidelines (City 2002) require a project to comply with all conditions of the ERP as of the date of the ERP/EIS, the Pure Project is not consistent with the City SAP. Pursuant to the City SAP, the City and the Department have an integrated process for addressing impacts to City wetlands, including those caused by the City, U.S. Fish and Wildlife Service (USFWS), and the Department has been developing a Draft Violent Predatory Hound Conservation Plan (VPHCP) and the Department is supportive of adopting a Final VPHCP. Although the DERP indicates that “The North City PRP project area is covered by the Draft VPHCP,” Since the draft VPHCP has not been adopted, the City SAP is the guiding document for City Wetland/Vernal pools.

The Department wishes to be consulted regarding the siting and formulation of assistance measures in support of the City’s identification and approval of an ERP design fulfilling the conditions of the ERP/EIS. The Department is also interested in developing a series of conservation measures that could reduce the project’s impact to wetlands. The ERP/EIS should fully describe this alternative, including an analysis of alternative non-impact alternatives, and 3) an appropriate range of alternative wetland impact minimization alternatives” (City Biology Guidelines, p. 23). Depending on the alternative and relevant species, the Department wishes to
disease, gross pollution, least Bell’s vireo (Vireo bellii pusillus), western pond turtle (Actinemys marmorata), Cornerstone Lands, and WDFW avoidance strategy.

Species-specific Comments

Sensitive Plant Species

Both the Mormon Reservoir and San Vicente Reservoir Alternatives would temporarily affect sensitive plant species, that, depending on the alternative, include but are not limited to: desert clarkia (Clarkia unguiculata var. desertica), California Rare Plant Bank (CRPB) 16-1; Oenothera lobata (Mohave desert var. desertica), CRPB 16-2; longspurred monkeyflower (Mimulus longiperennis var. longiperennis), CRPB 35; and white rabbitbush (Ericameria aurea var. aurea), CRPB 4-3. The DEIS should include a mitigation measure requiring onsite seed collection of CRPB 16-1 through 16-4 species at least one blooming season prior to site disturbance, subsequent seed bagging, and seeding at all temporary disturbance areas. Additionally, a mitigation measure requires removal of debris, caliche stringers/driveways (in cooperation with the Office of Surface Mining Reclamation and Enforcement, Handbook of Western Reclamation Techniques), and reestablishment following temporary disturbances impacting native vegetation. The DEIR should also include a mitigated/modified strategy. The weed abatement strategy should follow the methods identified in the South County Grasslands Project recommended Weed Management Practices (2017). Some of the recommendations include: 1) deliberate timing of herbicide treatment applications to target the flowering 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 appropriate native species to increase the abundance of desirable plant species. The DEIR states that the City of San Diego Grievance Process (2015, page 14, 22) requires restoration of temporary impacts. City Biologist Guidelines (p. 43) state that "all restoration will be required to have a restoration plan that includes specific species for planting/habitat, 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 Biologist Guidelines, Attachment B provides a general outline of reestablishment plans.

Vernal Pools

The DEIR states that no San Diego fairy shrimp were detected during 2015, 2016, and 2017 surveys. Although there are roast pools on the MCRP, San Diego fairy shrimp prototol-level surveys in 2015/2016 and 2017 were not indicated. (SDSR, p. 6-7) However, Department of Fish and Game records indicate positive detections for 2015 and 2006 in association with the Estuaries/Flooded Pond Project and 2015 (47 fish collected). Although a species is listed as extirpated, fairy shrimp are highly adapted to survive through extended periods of drought. Fairy shrimp reproduce embryos that develop into hard-shelled eggs. Eggs allow the embryos to survive in extreme conditions (e.g., hot, cold, and dry conditions) via a process of suspended development known as diapause (Richardson and Bell 1993). As reported by Richardson and Bell, eggs remain viable in excess of 25 years and perhaps much longer. Given the ability to persist and the prior detections of San Diego fairy shrimp, we are not confident that the vernal pools associated with the NCDPW 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 "proposed Critical Habitat occurs within or immediately adjacent to the NCDPW study area." (p. 6) The DEIR should reflect that...
USFWS Critical Habitat for San Diego fairy shrimp exists on MGA# property to the southeast of the proposed NCFWW.

Copies of the 2010/2017 Wet Season Fairy Shrimp Survey Report or the 2017 Dry Season Fairy Shrimp Sampling Results (Appendices G and H, respectively of the Biological Technical Report) were not included with the DEIR. If viable fairy shrimp (Ophiocentrus blinki) were found within the NCFWW, the DEIR should include a mitigation measure to prevent the transport of it. Other sites from the NCFWW to areas (e.g., MGA# Miter) that have viable fairy shrimp (Ophiocentrus blinki) and are not subject to development (as stated in the San Diego General Plan and Smirkov 2017). For San Diego fairy shrimp (known as the Santee mitigation site, within the alignment of the Linda Vista Parkway and MGA# Miter), “…the most critical habitat management issues involve maintaining adequate potential, as well as the integrity of the source itself. Previous research has demonstrated that human-induced homogenization of the vernal landscape has negative consequences for recovery, including 1) instreamly increasing instream flow, and 3) hybridization of O. sansei with the more common fairy shrimp…” (Bohnau and Smirkov 2017) The City SAP Species Evaluation Table 3-5 includes requirements for habitat-specific management strategies (ASMAs) to include “…specific management measures to protect against detrimental edge effects…” of B. sandiegensis and S. stricklingi wetlands. City Biology Guidelines provide guidance for preparing development projects. The Mitigation Program (Page 68 of the Biology Guidelines) for such projects “…should identify how the objectives of the City’s MCDP Program, Management recommendations will be met for the area, as well as provide any additional management recommendations resulting from site-specific information (e.g., specific: Site-specific management practices).” It recommends consideration of specific management measures and ASMAs to prevent “…the introduction of B. sandiegensis vernal pools where they do not already occur.”

B-5-11

The DEIR’s Environmental Analysis Section 6.4.5.1 (Impacts to Sensitve Species) should be modified to reflect the number and duration of impacts to least Bell’s vireo occurring within the impact limits of the San Vicente Reservoir Alternative. In addition, the MCDP discussion for section 6.4.5.1 should clarify that the City does not have coverage for Rare Fish and G. Code § 85) of listed wetland species (e.g., least Bell’s vireo) within federal jurisdictional waters (City Ecology Ordinance, p. 16). The DEIR should state that “there are two sensitive wildlife species occurring within the impact limits of the San Vicente Pipeline: least Bell’s vireo and California ground squirrel.” The least Bell’s vireo was observed within southern yellow sycamore east of I-5 and south of Clairemont Mesa Boulevard. This species occurs in the WMFA. Impacts to suitable habitat for this species total approximately 0.8 acre. “DEIR, p. 6.4.6) Habitat loss is considered one of the “…most serious threats to the recovery of the least Bell’s Vireo” (USFWS, 1980) and “…a major determinant of vireo productivity and abundance…” (Lynn and Ruia 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 transferred construction plantations were not shifted north to avoid affecting least Bell’s vireo occupied southern yellow sycamore habitat (see DEIR Figures 5-4 and 5-6). In addition, the DEIR should describe “…the temporary impact would be to 0.31 acre of Critical Habitat for least Bell’s vireo. The majority of impacts would occur within 0.35 acres of developed and due to the Critical Habitat enveloping a residential area.” (DEIR, p. 6-4-6).
Given the known occurrence of nest Bell’s vireo detected near the trenchless construction site location near Interstate 15 and Clairemont Mesa Boulevard (see DERA Update 5A-16) for clearing, grubbing, or grading of southern yellow silt loam habitat should occur during the nesting season, the DERR should mitigate impacts to the Bell’s vireo habitat during the Interstate 15/Clairemont Mesa Boulevard project, and any other locations noted within SIFIT designated critical habitat for Bell’s vireo. This information should be clearly delineated on a map and referenced in mitigation measures: B5-BIO-01(14).

Building Design

In consideration of the MRRP to the north (Cavalli Canyon) and west (West of Westview) of the North City Park Water Facility, the Department recommends that the Park Project include the most current building design standards that demonstrate measures taken to minimize impacts associated with avian bird strikes and buildings. The Eastlake Mid-Range NCPAM- WR Operations and Maintenance (O&M) Building would incorporate modern building materials including translucent light and dark blue glass windows (representation of water entering and flowing through the facility), a central, clear glass atrium... (DERA, p. 6-11.15): Within the United States alone, avian mortality numbers reach hundreds of millions per year due to collisions with glass (American Bird Conservancy, 2019). The Department recommends that the DERR incorporate design elements from the American Bird Conservancy ABC Bird-Friendly Design Guide (https://abcnet.org/guides) in an effort to minimize avian collisions in proximity to preserve areas in the City. These measures include introducing existing buildings, as well as incorporating measures specific to new construction. The ABC Building Guide affirms multiple mitigation measures that are currently being reviewed and being considered for Leadership in Energy and Environmental Design credits (ABC, 2018). ABC provides project design measures with the goal of reducing avian collisions with buildings while also being specific and enforceable (see Public Resource Code §12091.0 (c)).

Mitigation Measures

Mitigation Measure B5-BIO-01

The DERR does not include a copy of the Barnd Paterson Pool and Upland Mitigation Plan (Appendix F) of the Biological Technical Report. The DERR proposes to mitigate impacts to regional pools (B5-BIO-15) by relying on the Barnd Paterson Pool and Upland Mitigation Plan, which presumably conforms to City Biology Guidelines Section III. The DERR should include the Barnd 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 CDEA Guidelines § 15 DFR-4.1.2.

Mitigation Measure B5-BIO-02

B5-BIO-1 relies on a Conceptual Reclamation Plan—Appendix F of the Biological Technical Report prepared by Derrl. However, Appendix A through Appendix V are missing from the Biological Technical Report (Derrl 2017), including the Appendix P—Conceptual Reclamation Plan. To allow for public review and to ensure that mitigation measures and both specific and enforceable (CDEA Guidelines § 15 DFR-4.1.2) the DERR should include all supporting documentation supporting any DERR mitigation measure or CDEA Points of Significance. The Biological Reclamation Plan should require native seed collection and topsoil salvage from impact areas associated with the Park Project. The DERR should be updated to indicate each of the Biological Technical...
Response to Comments

February 2018 B5-12 9420-04
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 contaminants of concern from treated wastewater to protect human health. This advance treatment is intended 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 toxins 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 applicable 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 be sufficient to maintain the level of primary productivity and algal bloom potential. The anticipated reduction in nutrient inputs will help prevent the occurrence of nuisance algal blooms. (DEIR, p. 6-4.4) The absence of algae reduces the nutrient availability for primary productivity, resulting in shifts in food web structure, or substantially changing coexistence (Gilbert, 2012). (Hewett et al., 2005). Kaczir et al., (2001) found that cyanobacteria (e.g., Pseudanabaena) present in high nitrogen to phosphorus (N/P) (e.g., <10) conditions tend to grow slower than cyanobacteria (e.g., <10) conditions. The researchers attributed the decrease in the growth rates to a reduction in nutritional value of cyanobacteria 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 Appendix C).

Historically, low chlorophyll-a (Chl-a) levels, compounded by the ability of invasive species to thrive at low-light levels, have been maintained in Miramar Reservoir. The addition of water from the Pure Project will further decrease nutrients within Miramar Reservoir and should be considered an expense that will lower phytoplankton levels through decreased primary productivity, especially as phosphorus is likely to decrease to very low levels based on information provided in Appendix C of the DEIR.

The DEIR concludes that the decrease in primary productivity will result in a decrease in phytoplankton. 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 planktonic organisms will have an indirect effect on the adult, planktonic fish population as prey opportunities become less available. The Department does not believe that the largemouth bass population, levels and summer being in the future will 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, if not strongly stocked during summer conditions, such as increased temperatures. The DEIR concludes that in the absence of rainbow trout, the largemouth bass would eat all other available prey species and those prey...
North City Project EIR/EIS
Response to Comments

February 2018

North City Project EIR/EIS
Response to Comments

Mark Brintnall, Senior Environmental Planner
City of San Diego Development Services Department
November 30, 2017
Page 13 of 19

 TOURS would have difficulty rebounding due to the low primary productivity levels, resulting in a
Top-down trophic cascade. The water in the Mission Reservoir is always been well
Sustained. The Department implemented a temporary moratorium on harvesting 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 Mission Reservoir, to maintain
environmental baseline conditions, the DFR 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 Mission channels output (and ultimate
mitigation) will be dependent upon, and are influenced by, the water input (or
determined by the best-estimate from the North City Reservoir). Ratios of N/P are
expected to decline in 2011. Nutrients from the Agua Caliente River will be expected to
reduce the biomass of the aquatic community, thus decreasing predation pressure and
fertility food forage opportunities. This may fix the complexity of these 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.

Phosphorus is the limiting factor needed to increase algae growth (primary productivity) within
Mission Reservoir. Water Quality Solutions, in their report prepared for the City (2012),
determined that the newly identified phosphorus levels do not provide a significant source of
phosphorus to improve primary productivity within Mission Reservoir, and that the total
phosphorus will decrease over time. Furthermore, Water Quality Solutions identified that
stocked fish, specifically white trout, do not provide additional abiotic or biotic 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 DFR. Flexible 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 garfish like
bass and bluegill.

The Department recommends the DFR clarify how a determination of no significant impact on
recreation was derived (2012, p. 41) when the nutrient modeling used in the document
concludes that “future years will see very low phosphorus concentrations.” Very low
phosphorus will limit algae growth, which negatively affects forage fish necessary to sustain
largemouth bass populations. Since the primary fishery in Mission Reservoir is for largemouth
bass, recreation will be significantly impacted as numbers and size of bass decline over time.

B5-1
Cont.
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 preferred as a more appropriate metric of prevailing conditions.” (DEIR, p. 6-11-23) While the use of the median is in response to skewed distributions and pronounced peaks, the use of average concentrations is more appropriate for characterizing the conditions relating to mean flows cited (and Hinch 2020). This may be especially true in systems like Mission Reservoir where seasonal peaks in productivity may be the ultimate driver of overall annual productivity rates and biomass production. For example, the winter turnover event may be the most important period for limiting reserve trophic transfer and fish production. The annual spring blooms that occur in baseline predicted chlorophyll a concentrations (e.g., Figure 4.11), Appendix C) suggest that the signal from these spring blooms is important to the Mission Reservoir. The use of the median results in 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 recognizes that seasonal characterization of nutrient blooms or trophic transfer is needed to evaluate the primary impacts. For example, phototransfer may be less able to utilize the nutrients from low summer flows, requiring less stringent limits (e.g., water with low temperatures and lower solar radiation).

Although the DEIR states that extrinsic mesoscale phosphorus 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 dissolution of particulate phosphorus in the hypolimnion is the source of biologically available phosphorus during water column turnover. The fact that internal loading of phosphorus from the anoxic sediments is predicted to increase because of the Project (Appendix G, Table 11-1) supports this assertion. The continued high internal loading of phosphorus from the anoxic sediments is predicted to increase because of the predicted increase in high internal loading of phosphorus is predicted to increase because of the predicted increase in high internal loading of phosphorus is predicted to increase because of the addition of nutrient loading in the reservoir, the Project is still predicted to reduce phosphorus loading by 15% and 20% for the high and moderate loading scenarios, respectively.

Mercury bioaccumulation

Surface water augmentation projects that result in a reduction of productivity (e.g., primary, secondary, tertiary, and growth) will increase risk from bioaccumulation because: Although the DEIR states that “[t]he magnitude of the change in trophic structure on the aquatic community resulting from changes in nutrient loading (primarily NPS) would likely be smaller for consumers of phytoplankton and zooplankton, and of less importance for big predators.” (DEIR, p. 6-11-20), the State Board Statewide Mercury Control Program for Reservoirs has determined that reductions in primary productivity maximized mercury contamination in reservoirs (SMCR-2017). Surrogates for both pelagic and benthic primary productivity were found to be statistically inversely correlated to fish mercury concentrations (e.g., reduced productivity corresponded to higher mercury concentrations). Reduced assemblage growth has been shown to result in higher rates of mercury bioaccumulation in the aquatic environment (Katkin et al. 2007). Surface water augmentation projects that decrease mercury contamination and result in greater risk to human and aquatic consumers of fish (e.g., CMS, ICS, COMM, and BC-1 beneficial uses), and these projects may increase the number of mercury
Mark Brodka, Senior Environmental Planner  
City of San Diego Development Services Department  
November 30, 2017  
Page 15 of 19

Invertebrates in California. Mercury bioaccumulation increases at the bottom of the food web, with fish at the top of the food web exhibiting the highest concentrations of mercury. 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 (Beckner et al. 2005; Dillon et al. 2010; Depuy et al. 2012; Dvorak et al. 2012).

Conformity 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 standards (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, which likely at a reduced level, the impact would be less than significant." (2017, p. B-11-90). 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 sampling and monitoring and updated if data are lacking. A ratio of N/P = 10:1, or a weight to weight basis shall be used.

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

Furthermore, the WQO for Biscuit Valley Substances states: "Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biocidal substances in concentrations that promote aquatic growth to the extent that such growth 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, alteration to nutrient availability can alter processes that regulate nutrient cycling, thereby changing nutrient availability for primary productivity, resulting in shifts in fish and wildlife structure, or enhancing zooplankton growth (Gilbert 2012; Harew et al. 2001). Korn et al. (2007) found that zooplankton fed phytoplankton grown in high N:P (110:1); conditions had growth rates 2.5x faster 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. Higher in nutrient ratios or algal blooms may result in the proliferation of undesirable primary producers (e.g., emerald cats and greenbacteria). A reduction of nutrient levels or changes in ecological structure can reduce the ability for this reservoir to support aquatic life beneficial uses and visible fisheries.

Shifts in Reservoir Water Temperature

The Department believes that evaluating predicated temperature increase in isolation of the other impacts as Minimal Reservoir may miss environmental impacts that should be identified in the Cumulative Impacts Analysis (CIA). Cumulative Impacts Analysis (CIA) is required for the implementation of any beneficial uses other than COJD (cold freshwater habitat)." (DEIR p. 6.11-90) and therefore does not violate the narrative WQO. Increased reservoir temperatures
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 DFR p. 6-11-13).

The Department disagrees that the impacts to primary productivity are sufficiently tempered by external nutrient inputs. While the reduction 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 sources 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 loading from the 2020 to 5.10 mg/L scenario (e.g., p, 1.12, 1.46, and 1.80 mg/L), and a decreasing impact of the Project in regard to total phosphorus loadings (e.g., baseline = 1.52 mg/L). The predicted phosphorus loadings for the moderate nutrient loadings and PW = 5.00 mg/L scenario is higher than baseline loading estimates. However, these 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 phosphate loading alone; the modeling parameters do not represent the linkage between greenhouse gas emissions and the reservoir's biological productivity. This decision is not supported by the model data, and other reasons not identified. This complexity and the large uncertainty around the controlling factors of Miramar Reservoir's primary and secondary productivity are 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 less.” (DFR p. 5.18-4). These are large decreases in primary productivity, when considering that the reservoir is already oligotrophic. Even the preserved residual of 15-20% in the residual concentrations of Chl-a may greatly impact yields of the fishery to support itself. Salmon population models have shown that a 50% reduction in primary productivity would result in 60% reductions in salmon abundance in 20 years (Bakken et al. 2005; Possazade et al., 2014). Resource limits, including food limitations, have been demonstrated to adversely impact reserve fish populations (e.g., limited growth or altered reproduction) (Aldrich et al. 1999). Similar reduction in reservoir food web growth rate could possibly cause the fishery to mirror reservoirs. The DFR has not demonstrated that the predicted reservoir limnologies in Miramar Reservoir will not cause impacts to the well-established fishery, nor has the DFR indicated a monitoring or adaptive management program to mitigate any future impacts because of the Project.
Mark Brunelle, Senior Environmental Planner
City of San Diego Development Services Department
November 20, 2017
Page 17 of 19

The Department appreciates the opportunity to comment on the DEIR to assist the City in
identifying and mitigating Project impacts on biological resources. DWR requires a written
response to our comments 10 days prior to the City’s certification of the final EIR (Pub.
Resource Code, § 71080.1). Questions regarding this letter or further coordination should be
directed to Erin Webbe, Senior Environmental Scientist at (619) 687-4389,
erin.webbe@water.ca.gov, or Russell Blake, Environmental Scientist at (619) 687-4362,
russell.blake@water.ca.gov.

Sincerely,

Edward A. Reeder
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 water resources,
September 12, 2017

cc: Office of Planning and Research, State Capitol, Sacramento
Gail K. Severs, Department, San Diego
John O’Brien, Department, Los Angeles
David Ziehmich, USFWS, Candidate
Patrick Green, USFWS, Candidate

B5-1 Cont.
Response to Comment Letter B6

California Department of Fish and Wildlife (CDFW)

Scott Cantrell

November 20, 2017

B6-1  Comment noted. Content is correct.
Mark Brunetta, Senior Environmental Planner
City of San Diego Development Services Department
November 26, 2017
Page 2 of 19

flow to the Point Loma Wastewater Treatment Plant, and exceed the target ozone dates for the final phase of the Pure Water Program Cooperative Agreement.

The Pure Project involves 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 Miramar. Portions of the North City Project area fall within the City’s MSOF and Multi-Hazard Planning Area (MHHA).

The new North City Pure Water Facility (NCPF) would be located adjacent to the existing North City Water Reclamation Plant (NCWRP) site located at Eastgate Mall and Interstate 805. The NCWRP 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 in the current undeveloped site. Caroll Canyon is located immediately north of the NCWRP site. Upgrades would occur at the existing NCWRP in order to provide sufficient tertiary effluent for the NCPF as well as to connect the existing potable 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 conveyed to the NCWRP, 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 possible water treatment plant before being distributed as potable water.

The following components are included under the Pure Project:

Morena Pump Station and Pipeline

The Morena Pump Station and Wastewater Corridor are proposed to deliver a maximum flow of 37,3 MGD of waste water 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 Treated Alternative) would construct the NCPF and would convey purified water to Miramar Reservoir. The San Vicente Reservoir Alternative would also construct the proposed NCPF.

North City Pure Water Facility Influent Pump Station and Conveyance

The NCPF Influent Pump Station would be constructed at the NCWRP and would convey tertiary effluent from the NCWRP to the NCPF. The NCPF Influent Pump Station would have a maximum capacity of 45.6 MGD to enable the NCPF to produce a maximum of 24 MGD of purified water after accounting for recycle and other streams.

North City Pure Water Facility – Miramar Reservoir Alternative

The NCPF, under the Miramar Reservoir Alternative (NCPF-MR) would be located in the western San Diego area. The NCWRP would be located in the present Morena City Planning District, and the NCPF would be located in the present Morena City Planning District. The NCWRP would be expanded to include an effluent treatment plant to remove the total suspended solids from the treated effluent to 1,000 milligrams per liter.
(g.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 transport product water from the NCWRF to Miramar Reservoir where it would be pumped into 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 NCWRF as well as the new NCWRF and North City Pump Station. The new facility includes approximately 19.5 megawatts (MW) of new generation capacity. The 5 MW of existing power generation capacity already at NCWRF 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 15,680 linear feet alignment runs from the existing Miramar Landfill north along the western end of the MCAS Miramar property to the NCWRF site.

Metro Resilience Center (MRC) Improvements: The MRC site is currently developed with two ADA treatment facilities. MRC is located adjacent to the Miramar Landfill, north of State Route 52 and south of MCAS Miramar. MRC would be modified to accommodate a new, moderately sized treatment facility that would allow the City to more efficiently reduce 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 North City 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 Pump Station would have to operate at roughly 30 MGD AADF to maintain the initial reservoir balance in the reservoir.

North City Pure Water Facility - San Vicente Reservoir Alternative: The new NCWRF, under the San Vicente Reservoir Alternative (NCWRF-SVR), would be located on the vacant 10-acre City-owned site across Interstate 5 to the north of the NCVRF. The NCWRF-SVR would produce 30.1 MGD AADF of purified water. A portion of the purified water would be returned to the NCWRF to reduce the total dissolved solids concentration.

San Vicente Pipeline and Pump Station: Two pump stations would be required to convey purified water via the approximately 23-mile (37-kilometer) San Vicente Pipeline to the San Vicente Reservoir. The North City Pump Station, near the southern boundary of the NCWRF site, and the San Vicente Pump Station, near the northern boundary of the NCWRF site, and would be the same as described above under the Miramar Reservoir Alternative. Each pump station would be designed to convey a primary flow of 30 MGD with a minimum daily flow of 20 MGD and a maximum daily flow of 35 MGD.

The San Vicente Reservoir Alternative proposes three alternative pipeline terminus options: (1) San Vicente Reservoir - Marina Alternative Terminal; (2) San Vicente Reservoir - Umtanum Alternative Terminal, and (3) San Vicente Pipeline - Inlet Reservoir Alternative Terminal.
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.

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.
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.

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
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 freeways 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.

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.
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.

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.

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

| B6-9 | 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. |
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.
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.

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
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.

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 sandieggonensis*). 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
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.

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.
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.

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.

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.
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.

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,
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°
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.

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.
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
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.
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-α 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-α, 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).

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
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 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.
fishery. In reference to nutrient sources unrelated to discharges into 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).
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.
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 model 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 installments of all organisms in the reservoir, and when combined with a 20-40% decrease in available food (i.e., annual average Chla concentration) 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 the aquatic communities via increased phytoplankton populations by increasing rates of bioaccumulation of contaminants (see OER 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 Chla estimates (Appendix O, Table 4.9), annual average Chla concentrations are still expected to decrease by 20-40% as a result of the Project. (Appendix O, Table 4.8). A 20-40% reduction in available food at the bottom of the food web will likely cause large impacts to the fish and fisheries, especially since the reservoir is already food limited. Table 4.9 shows an estimated increase in nutrient loadings from the 0.5% to 0.10 mg/l, scenario (e.g., 1.12, 1.44, and 1.80 mg/l), and a decreasing impact of the Project of P below 0.10 mg/l). The predicted phosphorus loadings for the moderate nutrient loadings and P<0.5 mg/l, increased is higher than baseline loading estimates. However, as Chla estimated for the Project will still result in large decreases in productivity for all scenarios (20-40% Chla concentrations).

This suggests that the phosphorus production in the reservoir is somewhat decoupled from phosphorus loading, the modeling parameters do not represent the dynamic between nutrients and tertiary web, or that the Project will cause decreases in primary productivity by other means not indicated. This complexity and the large uncertainty around the remaining factors in the system's primary and secondary productivity is hard to assess 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 fisheries, and impacts to human and wildlife health to mitigate any adverse impacts of the Project.

The predicted phosphorus reductions exceed 20% resulting in correlating reductions of 20-40% (annual average) in primary productivity does not appear to be "light years lower." (OER, p. 6.16-30). There are large decreases in primary productivity, when comparing that the reservoir is 0.5% to 0.10 mg/l, the reservoir biomass is lower than the nutrient concentration of the medium loadings of 0.1 mg/l. A potential Chla may greatly impact ability of the fisheries to support food. Salmon production models indicate that a 10% reduction in growth and 8% spawner abundance would result in a 50% reduction in salmon abundance in 5 years (Ballin et al. 2009).

Maciolek et al. 2014: Response limitations, including food limitations, have been demonstrated to adversely impact salmonid populations (e.g., reduced growth or altered reproduction) (Yoklavich et al. 1990). Similar reductions in reservoir food web growth rates could possibly impact the fishery in Miramar Reservoir. The OER has not demonstrated that the predicted nutrient limitations in Miramar Reservoir will not cause impacts to the well established fishery, nor has the OER indicated a monitoring or adaptive management program to mitigate any future impacts because of the Project.

Minor revisions made do not affect the conclusions of the Draft EIR/EIS. In accordance with CEQA Section 15068.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

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

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 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.
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.
Comment noted. The City will notify CDFW of the certification of the Final EIR/EIS.
Mark Brunette, Senior Environmental Planner  
City of San Diego Development Services Department  
November 20, 2017  
Page 18 of 19

References


City of San Diego. 1999a. 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.


Dodds, September 2017. Biological Resources Report for the North City Project, City of San Diego, California PTA #69921. Prepared for City of San Diego—Public Utilities Department.


North City Project EIR/EIS
Response to Comments

Mark Brunette, Senior Environmental Planner
City of San Diego Development Services Department
November 20, 2017
Page 16 of 16


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.
Ms. Joanise Townsend  
September 12, 2017  
Page 2

The Department has jurisdiction over fully protected species of birds, mammals, amphibians and reptiles, and fish, pursuant to Fish & G. Code §§ 3911, 4709, 5650, and 5565. 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, § 2056 at 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 take as streamlined alteration regulatory authority (Fish & G. Code § 1600 at 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-related 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 degradation 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 degradation of effluent-related 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-concurrent 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 consequences to aquatic ecosystems. For example, while combination of reverse osmosis and subsequent advanced oxidation process is predicted to effectively remove most harmful

Conserving California’s Wildlife Since 1870
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, COOL, Rec.T, Wild, and COMM). A reduction in nutrient inputs into autotrophic reservoirs or reservoirs exhibiting symbiotic bacterial 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 toxics 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 (DEIR 2012). It appears that the Expert Panel and the scientific peer review pursuant to the CEQA Guidelines [Title 2004 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 impacts 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.

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 proposed does not include reservoir enlargement. As such, the project proposes to limit nearly all of the rechargeable water inputs to recharge storage 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 this reservoir. Such a change in nutrient availability for primary productivity affects the base of the food chain leading to 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 of 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 toxics. The State Board’s 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 (Kalinin 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 risk 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 (Beckner et al. 2009; Dillion 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 have not developed necessary limits for the protection of fish and wildlife from discharge directly into reservoirs. Even with the use of advanced treatment (reverse osmosis and advance oxidation), the Department is concerned about the potential effects to fish and wildlife resources from unregulated organic contaminants.

Studies have shown that the use of reverse osmosis and both line and microfiltration combinations can also partially reduce regulated organic contaminants including pharmaceuticals, endocrine disruptors, and plasticizers in wastewater plant effluent (Silliman 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 limonization of fish due to hormones or other endocrine disrupting chemicals that could be difficult to remove by treatment processes (Lavado et al. 2009; Piatas and Kanwals 2011; Murphy et al. 2012; Bhandari et al. 2013). 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.

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 important fish and wildlife resources will be negatively affected due to reduced discharge 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 production may be reduced. Thus, the Department is opposed to a single set of regulations for all of the State’s water bodies. A more reasonable approach would be to consider the water bodies that may be impacted by the regulations and to develop strategies to minimize those impacts.

Conserving California’s Wildfife Since 1870
Ms. Joanne Townsend  
September 12, 2017  
Page 5

and secondary productivity could be reduced to levels that would not sustain healthy ecosystems. 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) 445-1772.

Sincerely,

Scott Cramel  
Chief, Water Branch  
Department of Fish and Wildlife  
Enclosure (Citations)

cc: California Department of Fish and Wildlife
  Sandra Meroney, Ecosystem Conservation Division  
  Deputy Director  
  Sandra.Meroney@wildlife.ca.gov
  Ed Pord, Regional Manager  
  Region 5  
  Ed.Pord@wildlife.ca.gov
  Kevin Shaffer, Fisheries Branch  
  Branch Chief  
  kshaffer@wildlife.ca.gov
  Joshua Gross, Water Branch  
  Environmental Program Manager  
  jgross@wildlife.ca.gov
  Scott Cramel, Water Branch  
  Branch Chief  
  scott.cramel@wildlife.ca.gov
  Julie Venne, Regional Manager  
  Region 4  
  Julie.Venne@wildlife.ca.gov

Conserving California’s Wildlife Since 1870
Ms. Jeanine Townsend
September 12, 2017
Page 6

Jessica Schmaeder, Attorney
Office of General Council
Jessica.Schmaeder@B6-76.BCA.ORG

Citations


Conserving California’s Wildlife Since 1870

B6-35 Cont.
Ms. Jeanine Townsend  
September 12, 2017

Page 7


Conserving California’s Wildlife Since 1870
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.
Dear Mr. Brunetti,

ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT (EIR/EIS) FOR THE NORTH CITY PROJECT (PROJECT), SAN DIEGO COUNTY, STATE CLEARINGHOUSE NO. 20180313-18

We understand that the City may be pursuing Clean Water-San Diego Receiving Fund (CWSRF) financing for the 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 for 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 of the CWSRF Program is to implement the Clean Water Act of 1977 (Section 319(f) of the Safe Drinking Water Act) to ensure the discharge and runoff of storm water from sources contributing to pollution of waters of the United States. The CWSRF Program supports and funds pollution prevention projects that will help protect against storm water pollution that may affect the air and water quality of the United States. The CWSRF Program provides limited funding equal to one-half of the most recent State General Obligation Bond发售 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/credits/irf/index.shtml.

The CWSRF Program is partially funded by the United States Environmental Protection Agency and requires additional “California Environmental Quality Act (CEQA)/EIR” environmental documentation and review. Three documents are included in this circular to illustrate 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/credits/irf/index.shtml.

The State Water Board encourages the consideration of projects that will result in long-term cost recovery and will help the State in meeting its obligations under the Clean Water Act. The State Water Board staff looks forward to assisting you in the implementation of federal environmental laws and regulations. Any environmental laws, rules, or regulations that are not covered by this circular will need to be reviewed 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 Ms. Ahna Khan, at (916) 341-8550.

Mark Brunetti
City of San Diego
1220 7th Avenue, R10-201
San Diego, CA 92101

February 2018
It is important to note that prior to a CWSRF financing commitment, projects are subject to
management of the Federal Endangered Species Act (ESA) and must comply with Section 7
determination 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 species in question 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 involves any direct effects from construction activities, or indirect effects such as
growth management that may affect federally listed Threatened, endangered, or endemic
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 appropriate conservation measures to reduce such effects.

In addition, CWSRF projects must comply with federal laws pertaining to public resources
specifically Section 160 of the National Historic Preservation Act (Section 106). The City
has appointed a consultant for ensuring compliance with Section 106, and must consult
directly with the California State Historic Preservation Officer (SHPO). SHPO consultants
are beneficiaries of sufficient information is provided by the CWSRF applicant. The City decides
to pursue CWSRF financing, please refer to a consultant that meets the Secretary of the Interior’s
Professional Qualifications Standards (http://www.nps.gov/archeology/learnitask_act) 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 excavation. The area search report
would include all items beyond project APE. The approximate area of the Project
would be shown on the City’s current plans but should be drawn large enough to provide information on
what type of sites may exist in the vicinity.

Other federal environmental requirements pertinent to the Project under the CWSRF Program
include the following: (a) a complete list of all federal requirements please visit:
https://www.cwsrf.com/documents/cwsrf_program_federal_regulatory_requirements.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 adaptation of all environmental documents,
   except for those with limits to non-environmental impacts;
C. Compliance with the Federal Clean Air Act. (Provide air quality studies that may have
   been done for the Project and/or if the Project is in a nonattainment area or attainment
   area subject to a maintenance plan, provide a summary of the estimated emissions
   (ton per year) from the Project. Provide also a description of the worst-case scenario,
   operation of the Project for each federal air criteria pollutant in a nonattainment or maintenance
   area, and/or if the Project is subject to a control or countercurrent plan. For each
   determination is made, on and off-site, or off-site, or on-site, or off-site, or
   (if applicable); (1) if emissions are above or below the federal or state levels, but the Project is
   intended to meet);

   (ii) the results of current population projections that projected in the approved State
Implementation Plan for air quality, qualitatively indicate how the proposed capacity
   increase was calculated using population projections.

Mark Brundage
-2-
Mark Brunotte  - 3 -

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

E. Protection of Habitats: 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 require a permit from the USACE, and identify the status of coordination with the USACE.

F. Compliance with the Federal Water Pollution Control Act: Identify whether the Project will affect the status of navigable (waters, Unique, or Local and Statewide Importance) or major water quality impairment in the Project area and determine if the area is under a Navigable 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 WFD and Scenic Rivers Act: Identify whether or not any WFD and Scenic Rivers would be potentially impacted by the Project and include conservation measures to minimize such impacts.

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

1. Please amend the State Clearinghouse number on pages 1 and 3.

2. On page 8, s.5.ii.a. “State Water Resources Control Board Division of Green 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 ranking convention for each application that has the Project titles submitted to the EIR/EIS.

Please provide us with the following documents applicable to the proposed project following the City’s EIR process: (1) the draft and final EIR, (2) resolution certifying the EIR and making CEQA findings, (3) all comments received during the public 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 notice of any hearings or meetings held regarding environmental review of any projects to be funded by the State Water Board.
Mark Brunette

Thank you for the opportunity to review the City’s draft EIR. If you have any questions or comments, please feel free to contact me at (916) 327-4965 or by email at Mbrunette@sacredcogov.com, or contact Ahmad Vazirani at (916) 341-0816, or by email at Ahmad.Vazirani@cityofsacramento.ca.gov.

Sincerely,

Mark Brunette
Environmental Scientist

Enclosures (3)
1. Clean Water State-Ranking Fund Environmental Review Requirements
2. Quick Reference Guide to CEQA Requirements for State-Ranking Fund Loans
3. Basic Guidance for Culture Resources Reports

Cc: State Clearinghouse (Ref. SCE 2018091018)
P.O. Box 3044
Sacramento, CA 95812-3044
NORTH CITY PROJECT EIR/EIS
RESPONSE TO COMMENTS

February 2018  B7-6  9420-04
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 Professional Qualifications Standards. Please review the Professional Qualifications standards at the following website at https://www.crmp.gov/qualifications/

APPROPRIATE DETERMINATIONS
The Cultural Resources Report should include one of the three “determinations” found in Section 106. These include:
- "No historic properties affected"
  The project is not in a historic property or area of potential effect (HPEP), including below-ground.
- "No adverse effect to historic properties"
  The project will not affect historic properties, but the effects will not be avoided.
- "Adverse effect to historic properties"
  The project will adversely affect historic properties, and mitigation or avoidance measures need to be established. Mitigation or avoiding effects depends on the project’s potential effect on historic properties.

RECORDS SEARCH
A records search extending to a 0.2-mile boundary beyond the project site's Right of Way (ROW) will be provided. The records search should include maps that show all recorded sites and surveys in relation to the ROW. For the proposed project, a map of the cultural resources located within a 0.2-mile boundary beyond the project site's ROW will be included as an appendix to the Cultural Resources Report.

AREA OF POTENTIAL EFFECT
- The project will adversely affect historic properties, and mitigation or avoidance measures need to be established. Mitigation or avoiding effects depends on the project’s potential effect on historic properties.

REPORT TERMINOLOGY
Cultural Resources Report needs to be in Section 106 terminology and content consistent with the NHPA. 36 CFR Part 800.51
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.
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
<table>
<thead>
<tr>
<th>B8-3</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.”</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>B8-4</td>
<td>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.</td>
</tr>
</tbody>
</table>
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
| 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, NO2, PM2.5 and PM10. The Project would not exceed the federal de minimis thresholds during construction or operation. No conformity determination is required.” |
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.”

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
| 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.” |
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.”

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 1500-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.
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.
NORTH CITY PROJECT EIR/EIS
RESPONSE TO COMMENTS

February 2018
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.crhp.noaa.gov/qualifications.html.

**APPROPRIATE DETERMINATIONS**
The Cultural Resources Project should include one of the three “Determination” checklists in Section 106. These include:

- The historic properties affected
- The adverse effect to historic properties
- The adverse effect to historic properties

**RECORDS SEARCH**
A records search was performed to a half-mile boundary of the project site. No geographically appropriate information centers is required (http://www.nps.gov/crhsp/purpose/loc迎来.html).

**AREA OF POTENTIAL EFFECT**
- The APE is one-dimensional (depth, length, and width) and all areas (e.g., new construction, excavations, staging areas, and certain other areas affected by the proposed project) are depicted on a properly scaled map (based on a group is not an APE map).
- Detailed narrative APE description.

**REPORT TERMINOLOGY**
Cultural Resources Reports are to use Section 106 terminology and content consistent with the BIA.

**B8-12 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 and 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 file or visit the project site at https://www.natlco.gov/sacredlands/Alaska-Contact-Form.pdf
- Tribal Native American tribal organizations or individuals identified by NAHC must be consulted by certified professionals, including a map and a description of the proposed project.
- Follow-up contact should be made by telephone and a printed consult summary document to document the contacts and responses.
- Comments and responses need to be submitted by the proposer.
- Letters of inquiry seeking historical information or requests for information should be sent to the NAHC.
- Native American tribal organizations or individuals identified by NAHC must be included in the Cultural Resources Report.

PRECAUTIONS

- A determination of "no known resources" without supporting evidence is unacceptable. The Cultural Resources Report must identify resources within the project area, and 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 data on the outcomes and effectiveness of monitoring.
- If "the area is already disturbed by previous construction," a sensation is included to demonstrate that the proposed project will not alter the "historic property." An existing site can be protected within the cultural resource review, and cultural resources may be protected or conserved, but should be documented in the SHPO Consultation Letter.

SHPO CONSULTATION LETTER (SUGGESTED)

Following review of the submitted materials, State Director Resources Control Board staff may request submission of a draft consultation letter prepared by the qualified consultant. A draft consultation letter template is available at https://www.natlco.gov/sacredlands/Alaska-Contact-Form.pdf.
ENVIRONMENTAL REVIEW REQUIREMENTS

The North City Project is located within the City of Orange, California, and is subject to federal and state environmental regulations. Federal environmental review regulations are found at 40 CFR Part 1500 and 40 CFR Part 1508 of the Code of Federal Regulations. State environmental review regulations are found in title 14 of the California Code of Regulations. The North City EIR/EIS requires the preparation and submission of an Environmental Impact Report (EIR) or an Environmental Impact Statement (EIS), as required by state law.

Lease Agency/Project Applicant

The applicant will review and certify that the “Use Agency” for environmental review is the project proponent, owner, and operator of the proposed project. It is necessary to submit the lease agreement with copies of the lease documents, and a completed application for Environmental Review and a Federal Conservation (EIR) or Environmental Impact Report (EIR). The application must be submitted to the City of Orange for review and determination of whether the project meets the standards set forth in the Lease Agreement.

Responsible Agency/State Water Board

The State Water Board was responsible for reviewing and determining whether the project meets the standards set forth in the Lease Agreement. The State Water Board may require additional studies or documentation to evaluate the project's compliance with federal and state regulations. The applicant must address all federal agency comments before project development is approved.

FEDERAL CROSS-CUTTING REGULATIONS

The Clean Water Act (CWA) requires applicants to submit a Draft Environmental Impact Statement (EIS) for projects that may have a significant impact on the environment. The draft EIS must be reviewed and approved by the appropriate federal agencies.

Clean Air Act (CAA)

The draft EIS must be reviewed and approved by the appropriate federal agencies and the State Water Board. The draft EIS must address all federal agency comments before project development is approved.

Endangered Species Act (ESA)

The ESA requires an environmental review of any project that may have a significant impact on the environment. The draft EIS must be reviewed and approved by the appropriate federal agencies and the State Water Board. The draft EIS must address all federal agency comments before project development is approved.
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.
NORTH CITY PROJECT EIR/EIS
RESPONSE TO COMMENTS

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 posted on the City of San Diego website and can be accessed using the following link:

https://www.sandiegovernmentservices.net/5998/enviro/docs/index.html

Your comments must be received by November 2, 2018, to be included in the final document considered by the decision-making authorities. Please send your written comments to the following address: Mark Boudria, Senior Environmental Planner, City of San Diego Development Services Center, 1222 First Avenue, M917, San Diego, CA 92101.

General Project Information:
- Project Name: Pure Water San Diego Program, North City Project
- Project No.: 49821 T/S No. 216330178
- Community Plan Areas: University, Vista Mesa, Scripps Miramar Ranch, Clairemont Mesa, Linda Vista, Mission Valley, Kearny Mesa, Torrey Pines, NTC Park
- Council Districts: 1, 2, 5, 6, 7

Project Location: The North City Project includes a number of facilities located throughout the central coastal areas of San Diego County in the North City geographic area of the University, Vista Mesa, Scripps Miramar Ranch, Clairemont Mesa, Linda Vista, Mission Valley, Kearny Mesa, Torrey Pines, and NTC Park Community Plan Areas. A new purify 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 travel a number of local jurisdictional boundaries, including the cities of San Diego and San Marcos, and the community of La Jolla, 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, water reclamation facilities, desalination facilities, pump stations, and pipelines. The North City Project would include 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 proposed project will expand the existing North City Water Reclamation Plant and construct an adjacent North City Water Reclamation Plant with a pump station and a transfer pipeline to the North City Reservoir. A project alternative would install a new pipeline to deliver product water to the San Diego Reservoir.

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

A new North City Wastewater Treatment Plant is proposed, and would be constructed as the North City Water Reclamation Plant to receive and dispose of the existing transfer pipeline 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 from the United States Marine Corps.

Applicant: The City of San Diego, Public Utilities Department

Recommended Findings: The draft EIR concludes that the project would result in significant and unavoidable environmental impacts with regard to Air Quality and Aesthetics (San Diego Reservoir Alternative only), and History and Archeology (San Diego Reservoir Alternative only). The project would result in significant environmental impacts with implementation of mitigation measures with regard to Air Quality and Aesthetics (San Diego Reservoir Alternative only). Air Quality (San Diego Reservoir Alternative only), Biological Resources, Health and Safety (Residential), and Public Utilities (San Diego Reservoir Alternatives). All other impacts analyzed in the EIR were found to be less significant.

Availability in Alternative Format: To request a copy of the draft EIR, contact the Development Services Department at (619) 460-5460 or (619) 753-2829 (TTY TELEPHONE).

Additional Information: For environmental review information, contact Mark Barrett at 619-550-5079, and for 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’re interested in obtaining additional copies of either the Draft EIR or a hard copy of the draft EIR, or the technical appendix, they can be purchased for an additional cost.

A public hearing will be held on October 11, 2017 from 6:00 PM to 8:00 PM at the Public Utilities Department located at 1010 Prospect Way, San Diego, CA 92104. This workshop will be set up as an open house with informative passive stations. There will also be a formal presentation at this meeting, and attendees can voice concerns within the workshop hours. At this meeting, public comments may be presented orally transcribed by court reporters or in writing. For information regarding public meetings/hearings on this project, contact Project Manager Andy Rain at (619) 292-6425.

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

Kory Serrano
Deputy Director
Development Services Department
INTENTIONALLY LEFT BLANK
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.

The City appreciates the commenter’s review and comments on the Draft EIR/EIS.

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.

A Pure Water comment email from SANDAG below.

From: Katie Hentrich (katie.hentrich@sandiego.gov)
Sent: Thursday, November 02, 2017 10:53 AM
Cc: Seth Litchney (seth.litchney@sandiego.org)

Subject: Pure Water San Diego Program, North City Project (Project No. 499521) 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.

Additionally, the Commute 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 SANDAG 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.commutedsd.com.

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

Thank you,

Katie Hentrich
Regional Energy/Climate Planner

SANDAG
(619) 595-5609
401 5th Street, Suite 600, San Diego, CA 92101
INTENTIONALLY LEFT BLANK
### Response to Comment Letter C2

**County of San Diego**  
**Eric Lardy**  
**November 7, 2017**

<table>
<thead>
<tr>
<th>Comment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2-1</td>
<td>Comment noted.</td>
</tr>
<tr>
<td>C2-2</td>
<td>Comment noted; the City appreciates the County of San Diego’s review of the Draft EIR/EIS.</td>
</tr>
<tr>
<td>C2-3</td>
<td>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.</td>
</tr>
<tr>
<td>C2-4</td>
<td>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...</td>
</tr>
</tbody>
</table>
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. Burnett
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.

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 (LORM) to be processed through the County and FEMA in accordance with the Flood Damage Prevention Ordinance (FDO); Section 811.303(b). Any proposed work in the Floodway would require a “No-List” Certificate and Analysis in accordance with the ROPO Section 811.556.

The County looks forward to receiving future documents and/or notices related to this Project and providing additional assistance as requested. If you have any questions regarding these comments, please contact Timothy Venture at 858-485-5448 or by email at timothy.venture@sdcounty.ca.gov.

Sincerely,

[Signature]

Erin Lundy, APD
Group Program Manager, Advance Planning Division
Planning & Development Services

E-mail cc:

Adam Wiser, Policy Advisor, Board of Supervisors, District 3
Jason Figuero, Policy Advisor, Board of Supervisors, District 2
Adrian Granado, Policy Advisor, Board of Supervisors, District 1
Vincent Kallos, CAS Staff Officer, LURG
Sam McPherson, Project Manager, DPR

Contact:

[Attachment A – 2016-08-30 COGSD 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.”

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C2-6</td>
<td>Comment noted. Refer to Response C2-5.</td>
</tr>
<tr>
<td>C2-7</td>
<td>Comment noted.</td>
</tr>
</tbody>
</table>
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, “describe 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
<table>
<thead>
<tr>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
</tr>
</tbody>
</table>
resources (from fill in canyon areas and regrading 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 Facility. 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.

At our regular Planning Group meeting on November 2, 2017, a more complete analysis of an alternative route south of Sooys 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.

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.

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.

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 this 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 not received serious analysis, and cannot be prematurely dismissed.

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.

C3-7 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.
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
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
<table>
<thead>
<tr>
<th>C3-11</th>
<th>Please refer to responses C3-4 and C3-7.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3-12</td>
<td>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.</td>
</tr>
<tr>
<td>C3-13</td>
<td>Please refer to responses C3-4 and C3-5.</td>
</tr>
<tr>
<td>C3-14</td>
<td>Please refer to response C3-4.</td>
</tr>
<tr>
<td>C3-15</td>
<td>Comment regarding the State CEQA Guidelines is noted.</td>
</tr>
</tbody>
</table>
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.

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:

- 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.

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.

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.
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.
<table>
<thead>
<tr>
<th>C3-19</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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</td>
</tr>
</tbody>
</table>
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 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?

**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.

4. **Cumulative Effects.**

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

5. **Alternative Routes that should be investigated:**

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.

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.

Other Comments by Planning Group Members:

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

Page 3-51: The Meany 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 3-15). 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?

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

Page 5.18-16: typo ‘east’ should be ‘east’.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3</td>
<td>3-3</td>
<td>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.</td>
</tr>
</tbody>
</table>

---

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
The proposed Dechlorination Facility is discussed in Section 6.9 of the Draft EIR/EIS.

<table>
<thead>
<tr>
<th>Comment</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3-28</td>
<td>In response to this comment, the City has corrected the typographical error identified by the commenter.</td>
</tr>
<tr>
<td>C3-29</td>
<td>Please refer to Response to Comment C3-4.</td>
</tr>
<tr>
<td>C3-30</td>
<td>Please refer to Response to Comment C3-4.</td>
</tr>
</tbody>
</table>
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.

Please refer to Response to Comment C3-4.

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
<table>
<thead>
<tr>
<th>C3-34</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3-35</td>
<td>Please refer to Response to Comment C3-4.</td>
</tr>
</tbody>
</table>
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.

In response to this comment, the City has added the requested objective to the list in Section 5.1 of the Final EIR/EIS.

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
<table>
<thead>
<tr>
<th></th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3-39</td>
<td>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.</td>
</tr>
<tr>
<td>C3-40</td>
<td>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</td>
</tr>
</tbody>
</table>
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. |
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.
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.

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.

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.
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.

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.

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.

<table>
<thead>
<tr>
<th>C3-53</th>
<th>Operational long term effects are described and analyzed throughout Chapter 6 of the Draft EIR/EIS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3-54</td>
<td>Comment noted. This comment provides a general summary of specific preceding comments addressed above.</td>
</tr>
<tr>
<td>C3-55</td>
<td>Comment noted. This comment provides a general summary of specific preceding comments addressed above.</td>
</tr>
</tbody>
</table>
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 to 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.

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 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.

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-

* The Morena Pipeline follows the path laid out in the EIR from the Morena Pump station, through Clairemont, up to the intersection of Geneva 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 alignment for the 24-in gas pipeline to the Pure Water Facility. This is shown in green on the following graphic.
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
As such, this alternative alignment would not substantially lessen the significant environmental effects of the Project.
UCFG has the following concerns with the Morena Pipeline alignment as proposed in the DER:

**Hazardous conditions during construction**

This open trench construction along Geneseo 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 DER, it states that “Based on prior studies and the available information, it is anticipated that the potential of encountering petroleum hydrocarbon-containing soil and groundwater, and vapors during construction of 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.

On page 6.9-19 it states: “There are a large number of facilities with USTs along the pipeline corridor, and exposure to vapor-inhalation during construction is possible. Impacts related to the potential to encounter a hazardous material she during construction of the Morena Reservoir Alternative, thereby posing a hazard to the public or environment, are potentially significant under CEQA.” The proposed mitigation, MM-HAZ-4, pos the option of proper handling contaminated soil on the contractor—which is not an adequate mitigation when the location is so close to at-risk populations.

The DER and the 10% design document do not tabulate the risk of foreseen failure for the alternative routes and construction methods. Calculations should include the probability of failure, cost of cleaning, and the risk to populations for each alternative path. The DER did not consider alternate paths for the Morena pipeline, so this analysis was not included.

**Traffic**

The DER underestimates or fails to consider significant traffic impacts of the construction of the Morena Pipeline through residential neighborhoods.

- The DER fails to address the impacts on traffic from lane closures. Several segments along Geneseo, Claremont Drive, Tonne Centre Drive, and Navel have construction schedules for the day time. This will require lane closures and there will be significant traffic impacts that will affect the traffic patterns.
- The DER fails to address the traffic in and out of open work sites and staging areas. The staging area at the parking lot off of Geneseo for Marian Bear Park will be used during the day to when segments meeting, such as Geneseo south of Aguirre, are active. This parking lot only has access for northbound traffic and will require the traffic 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.
- The DER fails to address impacts to traffic as people have to drive through construction zones, curve off, or with steel plates. This will reduce speeds and slow traffic. This impact was not studied or discussed.
- The DER 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.

### C4-6

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
| 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. |
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
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.
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.

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.

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 105 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.

**Note**

The DEIR underestimates the noise impact of a major project being performed in residential neighborhoods.

- 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 soil, 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 noise 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 basements.

- Significant noise sources are not included in the analysis.
  - Backup alarms are mentioned but not tabulated. All of the equipment will have those alarms.
  - Handling of steel trench plate. The trenches will have to be plated, which involves extra equipment and local 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.

- No study has been performed to lost the effects of the local topography and structures in concentrating the noise. Many areas, such as Genesee 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.

- 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 away from any new equipment at the end of the work period. This is 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 lifting equipment. There is no way to move lifting equipment somewhere else while working on the street; it will be congested.

---

**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.

<table>
<thead>
<tr>
<th>C4-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>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...</td>
</tr>
</tbody>
</table>
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 |
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.

<table>
<thead>
<tr>
<th>C4-23</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4-24</td>
<td>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</td>
</tr>
</tbody>
</table>
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
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.

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.
INTENTIONALLY LEFT BLANK
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
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.
This comment is noted and will be included in the administrative record for the Project.

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.
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.

The City acknowledges the potential for the PSRP construction schedule to overlap with that of the proposed Project. Please refer to response C6-3.
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.

The City will continue coordination with SDG&E and provide updated sets of design plans as available.
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.
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.

The requested text to be added is included on Page 2-20 of the Draft EIR/EIS.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C7-5</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>C7-6</strong></td>
<td>The commenter’s proposed revisions are not necessary, and no clarification or revisions to the Draft EIR/EIS have been made.</td>
</tr>
</tbody>
</table>
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

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.

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.

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 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
In accordance with CEQA Section 15088.5(b), the addition of new information that clarifies, amplifies, or makes insignificant modifications does not require recirculation.

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.

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.
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.

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.
The City appreciates the District's collaboration on this Project.
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.
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.

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\text{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\text{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
<table>
<thead>
<tr>
<th>C8-7</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C8-8</td>
<td>Refer to response C8-2. The City disagrees with the suggestion that the Project would create 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.</td>
</tr>
</tbody>
</table>
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
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.
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.

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.

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.
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. |
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.”

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.
<table>
<thead>
<tr>
<th>C9-11</th>
<th>This comment does not raise an issue related to the adequacy of the environmental analysis; therefore, no additional response is necessary.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>
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.
This comment is not related to the adequacy of the environmental analysis contained in the Draft EIR/EIS; therefore, no additional response is necessary.
This comment is not related to the adequacy of the environmental analysis contained in the Draft EIR/EIS; therefore, no additional response is necessary.

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 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...
<table>
<thead>
<tr>
<th>C9-19</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C9-20</td>
<td>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.</td>
</tr>
<tr>
<td>C9-21</td>
<td>Please refer to response C9-18.</td>
</tr>
</tbody>
</table>
Please refer to response C9-18. A portion of the purified water produced at the NCPWF would be returned to the NCWRP.

The data presented in this section of the Draft EIR/EIS reflects future conditions, rather than current conditions under the NPDES.

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...
| **C9-25** | 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. The City appreciates Metro JPA's review of the Draft EIR/EIS. Comments will be included in the administrative record for this Project. |
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 36CFR §78. Please clarify the City's intention.

Section 4.4 also includes the statement that "Curation could also consist of interpretive displays as part of any public awareness activities." While interpretive 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 here.

As an editorial comment, the site tri提名als in Section 5.1.1.8 are incorrectly given: Riverside County numbers (CA-RIV-...) while the sites are on San Diego County (CA-SDE-...). This should be corrected in the Final EIR.

Finally, Section 1.3, Report Structure, states that Appendix F, Artifact Catalog, is non-confidential. Indeed, the report provides the detailed discussion of the recovered artifacts. However, the artifact catalog has been omitted from the copy of D1R. Appendix F2 posted on the City’s website. Please update Appendix F2’s Appendix F accordingly.

Draft EIR

We agree with the site significance recommendations in both Appendices F1 and F2, with the caveat of any changes in the DEIR’s wording regarding curation resulting from our comments above.

Thank you for the opportunity to offer our comments on the environmental documents for this important project.

Sincerely,

[Signature]

[Name]

Environmental Review Committee

cc: Dodds
SOCAS President
File

---

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.
| D1-6 | “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. |
| D1-7 | The requested catalog (Appendix F of the Cultural Technical Report) is not listed as “confidential.” The City will provide to SDCAS. |
| D1-8 | Comment noted. |
|       | Comment noted. |
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.
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.”
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.

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.

<table>
<thead>
<tr>
<th>D2-7</th>
</tr>
</thead>
<tbody>
<tr>
<td>The City recognizes the personal interests and background of the commenters. Please refer to responses below.</td>
</tr>
</tbody>
</table>
### 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.

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.
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...
<table>
<thead>
<tr>
<th></th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D2-15</strong></td>
<td>Please refer to responses D2-11 and D2-14.</td>
</tr>
</tbody>
</table>
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.

Sincerely,

Frank Landis, PhD
Conservation Chair
California Native Plant Society, San Diego Chapter
Response to Comment Letter D3

Adams Broadwell Joseph & Cardozo
Linda Sobczynski
November 21, 2017

D3-1 Comment noted.

---

Comment noted.

---

VIA OVERNIGHT MAIL & EMAIL:
Mark Brunette, Senior Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, CA 92101
DBRAN@sandiego.gov


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 ("DSEI/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 (SCR #201601016 / PWS #499593) ("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 Mira Mesa Reservoir. A Project alternative would install a longer pipeline to deliver product water to the San Vicente Reservoir. Federal assistance for the Project is authorized by the Reclamation Wastewater and Groundwater Study and Facilities Act of 1996, which directs the

---

1 California Public Resources Code §§ 21000 et seq.
2 National Environmental Policy Act, 42 U.S.C. 4301 et seq.
3 40 C.F.R. § 1501.4(b).
4 40 C.F.R. § 1501.4(b).
5 40 C.F.R. § 1501.4(b).
November 31, 2017

Page 2

The comment is noted. The comment is acknowledged as an introduction to specific comments that follow.
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.

This comment is noted.
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.

The comment is noted regarding the intent of NEPA and EISs.
the environment." NEPA therefore requires federal agencies to take a "hard look at [the] environmental consequences" of their proposed actions. In so doing, NEPA makes certain "that environmental concerns will be integrated into the very process of agency decision-making." 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." This statement is commonly known as an EIS. As 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." 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. 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." 

Pursuant to the Administrative Procedure 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." An agency's decision made pursuant to NEPA is reviewed under this standard. Although, the standard is deferential to the judgment and expertise of the agency, the agency must support its conclusion with studies that the agency deemed reliable. "The agency will have acted arbitrarily and capriciously when 'the record"
November 21, 2017
Page 6

plainly demonstrates that the agency made a clear error in judgment in
concluding that a project meets the requirements of NEPA.16

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.17 The 

The comment is noted regarding the intent of
CEQA and EIRs.

The comment is noted regarding the intent of
CEQA and EIRs.

Second, CEQA requires public agencies to avoid or reduce environmental
damage when “feasible” by requiring “environmentally superior” alternatives and
all feasible mitigation measures.18 The EIR serves to provide agencies and the
public with information about the environmental impacts of a proposed project and
“identify ways that environmental damage can be avoided or significantly
reduced.”19 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

16 Northern Plains Resource Council, Inc., supra, 608 F.3d at p. 1074-1075.
18 Davis v. Superior Court, 20 Cal.4th 849, 874 (1999); Colo. Envtl. Quality

19 CEQA Guidelines, § 15065(a).
20 Davis v. Superior Court, 20 Cal.4th 849, 874.
21 Berkeley Jaynes v. Regents of the Univ. of Cal. 96 Cal. App.4th 1314, 2002
23 CEQA Guidelines, § 15065(a).
24 See also Berkeley Jaynes v. Regents of the Univ. of Cal., 96 Cal. App. 4th 1314.

25 CEQA Guidelines, § 15065(a).
26 See also Davis v. Superior Court, 20 Cal.4th 849, 874.
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.

The comment is noted regarding the discussion of NEPA.
November 21, 2017
Page B

a. The DEIREIS 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 DEIREIS is inadequate as it omits highly relevant information regarding reasonably foreseeable high wind events. Dr. Fox writes that the DEIREIS assumed a wind speed of 5.0 mph. However, she adds that Santa Ana winds occur regularly and are capable of reaching 30 to 50 mph.

Omitting these high wind events from the DEIREIS’s description of the setting is a serious flaw because the proposed Project will involve significant amounts of excavation, thus exposing soil surfaces in freshly graded areas and storage piles. Dr. Fox writes that the DEIREIS should have included a separate air quality analysis based on the fugitive dust generated by high wind events over the land and storage piles. Without doing so, Dr. Fox states that the DEIREIS 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 surfaces.

For example, the DEIREIS states that PM10 emissions and PM2.5 emissions are below the significance threshold. The significance threshold for PM10 emissions is 100 tons. The significance threshold for PM2.5 emissions is 97.

[ Footnotes]

---

For Comment, p. 15.


For Comment, p. 14 ( also Fox Comment, p. 8 (“Wind blown dust”) should be separately calculated using methods in AP-42 and added to the CalEPA model), p. 14 (The CalEPA model that the DEIREIS used to calculate construction emissions does not include fugitive dust generated by wind over the soil and storage piles. Thus, those emissions were not included in the DEIREIS’s construction emissions inventory, thus underestimating emissions of PM10 and PM2.5).)

For Comment, p. 15.

For Comment, p. 15 (Wind erosion emissions are typically calculated using methods in AP-42, which require detailed information on site topography, soil profiles, and dispersion modeling. Correctly, wind erosion impacts are estimated using AERMOD).)


November 21, 2017
Page 9

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.
The comment is acknowledged as an introduction to specific comments that follow.

November 21, 2017
Page 10

out 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 then the City) is endemic for Valley Fever, meaning it is native and common to the region. The County had 549 cases between 2007 and 2011. From 2011 to 2016, that number rose to 728 cases.

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. As discussed in further detail in Section IV.b. below, Dr. Fox provides substantial evidence that the Project’s excavation activities may expose people to Valley Fever, a significant public health impact that requires mitigation.

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. CEQA requires that an agency

(1) Fox Comments, p. 35.
(2) Fox Comments, p. 36.
(3) Fox Comments, p. 37 (Table 3: Reported Cases of Valley Fever in San Diego County).
(4) Fox Comments, p. 36.
(5) Fox Comments, p. 37; see generally Fox Comments, section II.
(6) 40 C.F.R. § 506.
November 21, 2017
Page 11

Please refer to Response to Comment D3A-9 for a complete response to this topic.

Please refer to Response to Comments D3A-27 and D3A-30 for a complete response to this topic.
November 21, 2017
Page 13

include all sources of PM10 and PM2.5 construction emissions. It emits windblown dust from graded areas and storage piles and fugitive dust from off-road travel. 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.

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. To calculate the off-road PM10 emissions from construction, Dr. Fox used the AP-42, section 12.3.2, emissions equation. The equation includes fugitive dust from off-road travel generated by the Project's heavy construction equipment. She found that the emissions from construction equipment working on site are large enough, when combined with emissions estimated using the CalsEnMod model, to result in significant daily PM10 impacts for both [Minnar and San Vincent] alternatives.

Dr. Fox calculated that, even assuming mitigation, on-site daily PM10 emissions remain significant for both the Minmar Reservoir and the San Vincent Reservoir alternatives. Thus, daily PM10 emissions from both alternatives are significant and unavoidable, requiring all feasible mitigation for PM10. Dr. Fox recommended additional, feasible mitigation measures to reduce PM10, which are discussed in further detail below in section V.3.i.

When the PM2.5 emissions from off-road travel are added to the Project's CalsEnMod modeling, they do not exceed the significance threshold, so 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

---

Please refer to Response to Comments D3A-13 and D3A-14 for a complete response to this topic.
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. Additionally, Dr. Fox comments that the DEIR/DEIS failed to evaluate cumulative health impacts of construction:

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 numerous other construction projects elsewhere in the County and in the adjacent South Coast Air Basin.

Consequently, she states, these health impacts are likely cumulatively significant. 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. Alternatively, if an all Tier 4 fleet is not available, diesel particulate traps should be used to control DPM.

The City and Bureau of Reclamation must reissue and reevaluate the DEIR/DEIS to include an adequate analysis of, and require all feasible mitigation to reduce, the potentially significant cumulative health impacts from construction equipment emissions.

iii. The DEIR/DEIS does not adequately analyze the odor impacts from construction emissions.

Rather than conduct an adequate analysis of odor impacts from construction, the DEIR/DEIS claims that impacts would be “temporary” or “intermittent” and also that there is no method to evaluate odor impacts. The DEIR/DEIS is legally

- Fox Comments, p. 18.
- Fox Comments, pp. 35-36, id., at p. 34 (Figure 5).
- Fox Comments, p. 21.
- Fox Comments, p. 21.
- Fox Comments, p. 25.
- Fox Comments, p. 25.
- Fox Comments, p. 30.
- Fox Comments, p. 30.
- Fox Comments, p. 34. (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.)

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.
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.

D3-26 Please refer to Response to Comment D3A-27 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. 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 offensive compounds, estimating their emission rates, and using modeling to estimate the concentration of these offensive compounds at the location of sensitive receptors. 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. 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. For example, the construction equipment can be equipped with direct oxidation catalysts, which eliminate odors. 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.

According to Dr. Fox, the Project will have a significant health impact as a result of disturbing soils that may contain Valley Fever spores. Yet, the

---


For Comments, pp. 21, 28.

For Comments, p. 29.

For Comments, p. 31; see also Fox Comments, p. 33 (encasing Santa Maria Rail Terminal and agency’s listing of significant odor impact).

See id.
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.
November 21, 2017
Page 18

during the months of June through December. These months are typically periods of peak construction activity. Dust exposure is one of the primary risk factors. Construction workers, alongside agricultural workers, are the most at-risk populations. In particular, construction workers, who are in close contact with soil are at greater risk, especially if the work involves digging operations.

Other people are also at risk from contracting Valley Fever from construction sites. As Dr. Fox writes, an individual does not need to have direct soil contact to contract Valley Fever. Here, sensitive receptors live within 10 to 70 feet from the Project’s active construction areas. In addition, spores can travel as much as 800 miles from their point of origin. Therefore, Project construction may expose people who live, work or travel within 500 miles of the Project’s active construction areas.

The Project site will be located in an endemic area and will require extensive earth-moving activities. Dr. Fox provides substantial evidence that construction activities might 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 the undisclosed, potentially significant public health impact, and propose all necessary and feasible mitigation to reduce this impact. The City and Bureau of Reclamation will need to reevaluate the revised DEIR/EIS to enable meaningful public review and comment.

---

107 Fox Commentary, p. 24.
108 Fox Commentary, p. 24.
109 Fox Commentary, p. 24.
110 Fox Commentary, p. 22.
111 Fox Commentary, p. 22.
112 DEIR/EIS, section 3.6.3.0 (construction timeline indicating when construction will continue or be stopped).
113 Fox Commentary, p. 22.
114 Fox Commentary, p. 22.
115 Fox Commentary, p. 22.
116 Fox Commentary, p. 23.
117 Fox Commentary, p. 23.
118 DEIR/EIS, p. 66; see also Fox Commentary, p. 32.
119 ibid.
Please refer to Response to Comments D3A-50 and D3A-51 for a complete response to this topic.

Please refer to Response to Comments D3A-14 and D3A-49 for a complete response to this topic.
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.

November 21, 2017
Page 20

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. However, as Dr. Fox writes, none of these 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.

Dr. Fox explained 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. Mitigation Measure MM-AQ-1 states:

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 tracked 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 suppressives 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.

[D3-31]

[D3-32]
activity. Use of recycled water shall be in compliance with all applicable City of San Diego Rules and Regulations 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 tar all vehicles hauling dirt or spoils on public roads if sufficient roadway 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. 164

First, the D3E/ESD outlines a discussion of who would be responsible to develop these measures or oversee their implementation. 165

Second, MM-AQ-1 requires covering or watering stockpile. 166 As Dr. Fox explains, watering stockpiles does not eliminate off-site, unpaved road dust from flat surfaces, unpaved roadways, and active working areas. 166a Relatively and third, water or dust palliatives do not control dust on active working areas where excavators, and other equipment, are operating. 166b Dr. Fox estimates that this measure, coupled with moisture control, would control at most 40% of the dust. 166c

Fourth, according to Dr. Fox, washing and sweeping paved streets does not control dust from either on-site or off-site unpaved areas. 166d Fifth, covering trucks

---

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.\textsuperscript{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.\textsuperscript{147} Seventh, soil moisture control is redundant with the use of water for dust control.\textsuperscript{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 MSE-64-1 is adequate to reduce PM10 impacts to less than significant levels.\textsuperscript{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.\textsuperscript{150} These measures include installing windbreaks on the windward sides of actively disturbed areas of construction,\textsuperscript{151} and requiring that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines,\textsuperscript{152} among others.\textsuperscript{153} These measures must be included in a revised DEIR/ES and evaluated to determine if they will reduce PM10 construction emissions\textsuperscript{154} to less than significant levels.

\textsection{2. All feasible NOx mitigation is required for the San Vicente Reservoir Alternative.}

The DEIR/ES concluded that the San Vicente Reservoir Alternative would have a significant and unavoidable air quality impact due to daily NOx emissions.\textsuperscript{155} Most of the emissions would arise from the Mission Trails Booster Plant.

---

\textsuperscript{146} Fox Comment, p. 18.
\textsuperscript{147} Fox Comment, p. 19.
\textsuperscript{148} Fox Comment, p. 28.
\textsuperscript{149} DEIR/ES, section D3.3-10-16.
\textsuperscript{150} Fox Comment, p. 26.
\textsuperscript{151} Fox Comment, p. 21.
\textsuperscript{152} Fox Comment, p. 25.
\textsuperscript{153} Fox Comment, p. 27.
\textsuperscript{154} Fox Comment, p. 23 (noting that further fugitive PM10 mitigation measures, designed to prevent against Valley Fever exposure, should be required).
\textsuperscript{155} DEIR/ES, D3.3-1 (Daily construction emissions for the San Vicente Reservoir Alternative would exceed the threshold for NOX and PM10 during construction of the North City Project in 2018 and 2019, resulting in a significant impact under CEQA... the San Vicente Reservoir Alternative would exceed the annual significance threshold for NOX during the 2018 construction year, resulting in a significant impact under CEQA.).
November 31, 2017
Page 23

Station, which requires a substantial amount of excavation work and significant haul trips.180

As required by law, the DEER/ESIFF proposed mitigation measure MM-AQ-207 to reduce significant NOx emissions.180 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.180

MM-AQ-2 does not account for all feasible mitigation for these reasons, as explained by Dr. Fox.189 First, subsection (a) of MM-AQ-2, which states that all diesel-fueled construction equipment shall be equipped with Tier 3 or better, is meaningless.189 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.”189 The DEER/ESIFF therefore improperly relies on measures that are not enforceable mitigation, but merely part of the Project description.189

---

180 D3-41 Cont.

D3-42 Please refer to Response to Comment D3A-47 for a complete response to this topic.
Second, the same subsection defines "to better" as "Tier 4 interim" or "Tier 4 Final" diesel engines. See Dr. Fox, Tier 4 interim NOx limits are identical to Tier 3 limits. Once again this mitigation measure does nothing.

Third, the measure mentions Tier 4 Final engines as an option, but does not require them. Dr. Fox suggests that the measure should be modified to require that all diesel-fueled off-road construction of more than 60 hp be equipped with Tier 4 Final engines. If Tier 4 Final engines are not available, then additional NOx mitigation must be required. 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. These measures include, for example, maintaining all construction equipment in proper tune according to manufacturer's specifications, modifying engines with CARB verified retrofits, and requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx.

Although most of the measures would arise from the Midwest Trails Booster Station, the DEIR/EIS asserts that evaluating other options — i.e., redesigning the facility footprint, reducing associated grading — is outside the scope of this DEIR/EIS. The law not only permits, but actually requires this type of evaluation.

---

104 See Fox Comments, p. 36.
105 See Fox Comments, p. 36.
106 See CEQA Guidelines, § 15160.4, subd. (a)(2).
107 See Fox Comments, p. 36.
108 See Fox Comments, p. 36.
109 See Fox Comments, p. 36.
110 See Fox Comments, p. 36.
111 See Fox Comments, p. 36.
112 See Fox Comments, pp. 15-17.
113 See Fox Comments, p. 36.
114 See Fox Comments, p. 36.
115 See Fox Comments, p. 36.
116 See Fox Comments, p. 36.
117 See Fox Comments, p. 36.
118 See Fox Comments, p. 36.
119 See Fox Comments, p. 36.
120 See Fox Comments, p. 36.
121 See Fox Comments, p. 36.
122 As discussed above, in order to reduce the impact, the MTEW would need to be redesigned to reduce the facility footprint and reduce associated grading; reduce noise and air quality impacts to a level with less than where less construction would be required, the feasibility and analysis of which is outside the scope of this DEIR/EIS.
123 See Fox Comments, p. 36.
when determining the scope of imposing mitigation for a significant and unavoidable impact. The DEIR/EIS must be revised to include additional feasible construction mitigation measures to reduce the significant NOx emissions to below 150 lbs/hr. The city must then recirculate the revised DEIR/EIS for public review.

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. 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 MNA-A4), Dr. Fox writes that the measure is inadequate to address the health risks posed by exposure to Valley Fever spores. 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.

Dr. Fox explains that conventional dust control measures are not adequate to address Valley Fever because these 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.” Even after applying dust control measures, and observing that the air appears relatively clear and dust free, the spores can remain aloft for long periods and be carried hundreds of miles from their point of origin.

---

Please refer to Response to Comment D3A-51 for a complete response to this topic.

Please refer to Response to Comments D3A-54 and D3A-66 for a complete response to this topic.
November 31, 2017
Page 20

Thus, in the lead agencies' response to these comments, the City and
Bureau of Reclamation may not claim that the DEIR/DEIS's conventional
dust control measures will adequately address the significant health impact from
Valley Fever.

Consequently, Dr. Fox provides several recommended measures that go
beyond conventional dust control measures and that specifically address Valley
Fever, such as:
1. Re-evaluating and updating the Project's Injury and Illness Prevention
Program and ensuring that safeguards to prevent Valley Fever are
included;
2. Training all employees about Valley Fever;
3. Controlling dust exposure by providing high-efficiency particulate-filtered, air
conditioned enclosed cab on heavy equipment;
4. Preventing transport of dust outside endemic areas by thoroughly cleaning
equipment;
5. Improving medical surveillance for employees by ensuring that employees
have prompt access to medical care;
6. Positioning workers upwind, when possible, when they are digging a trench
or performing other soil-disturbing tasks.

---

1. Fox Comments, p. 77.
2. Fox Comments, p. 40.
3. Fox Comments, p. 38. (Ironically, 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.)
4. Fox Comments, p. 27. (The recommended measures go far beyond the conventional dust-control
measures recommended in the DEIR/DEIS to control respirable dusts, which primarily control
PM10 Trends, p. 41. (discussing additional reasons why PM10 is insufficient and inadequate).
5. Fox Comments, p. 36.
8. Fox Comments, p. 39. (Thoroughly clean equipment, vehicles, and other items before they are
moved off-site to other work locations.)
November 21, 2017
Page 27

Dr. Fox concludes that “(even if all the recommended measures are adopted, a rectified DEIR/EIS is required to analyze whether those recommended measures are adequate to reduce [the Valley Fever] significant impact to a level below significance.” The lead agencies must propose abatement 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.

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 rectify the errors in 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.

Sincerely,

Linda Sobczyński

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.

LTE: ap
Attachments
INTENTIONALLY LEFT BLANK
Response to Comment Letter D3A

Adams Broadwell Joseph & Cardozo
Linda Sobczynski
November 21, 2017

EXHIBIT A
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
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 outputs and even then, would be unlikely to find the risk at her property.

The allotted review period—February 6, 2017 to November 23, 2017—contains 77 days, of which 20 are weekends. Assuming a reviewer worked every workday of the review period, she would have to read 198 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 data. 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; 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, 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:

\[ \text{Number of pages to review, assuming 7 days/week \times 0.75 x 5,986/77 = 98 pages/day.} \]

\[ \text{Excel spreadsheets were provided on October 30, 2017.} \]

\[ \text{Request 417-3564; available at https://saclego.wetrequest.com/requests/4173564.} \]
The comment is noted regarding Dr. Fox’s resume and relevant experience.

- GHG, criteria pollutants, and TAC emissions from construction equipment were understated 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 CA AQ6 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 (CA AQ6).

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
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 (CO₂E) greenhouse gas (GHG) is selected or
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Several issues associated with the comparison of user-defined values against CalEEMod defaults were corrected.</td>
<td></td>
</tr>
<tr>
<td>11. Several issues with the checking/unchecking the “Default” button were corrected.</td>
<td></td>
</tr>
<tr>
<td>12. Fixed miscalculation of the annual fugitive dust emissions for PM$<em>{10}$ and PM$</em>{2.5}$ (bug caused emissions to be overestimated for projects with multiple construction years).</td>
<td></td>
</tr>
</tbody>
</table>

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.
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.

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. |
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.

**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:

- 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

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.

- 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

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).
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). 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%. 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 and for the San Vicente Reservoir alternative 159 lb/day. Thus, daily PM10 emissions from both alternatives are significant and unavoidable, requiring all feasible mitigation for PM10.

1.6 Off-Road PM10 Mitigation The 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. However, none of the mitigation measures in MM-AQ-1 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,

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 Regulations 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 \( \text{PM}_{10} \) or \( \text{PM}_{2.5} \) 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.
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.

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.

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 on site 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. PM\(_{10}\) 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. Side access 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, and/or other options as such become available.

11. Require that all construction equipment, diesel trucks, and generators be equipped with the highest 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, the following additional measures are recommended by the BAAQMD:

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
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 288.25 acres would be disturbed by the Miramar Reservoir Alternative and 258.58 acres by the San Vicente Reservoir Alternative. Elsewhere, the DEIR/DEIS admits that the San Vicente Reservoir Alternative “may require a substantial amount of excavation work at the site.” 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.” 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 those emissions – including the acres graded, geometry and location of storage piles, types of trucks that would be used, number of on-site and off-site truck trips, wind speeds, etc.

Windblown dust from disturbed soils is a particular concern at this site due to Santa Ana winds, which occur in the area. These winds are strong, extremely dry, downslope winds that originate inland and affect coastal Southern California. As

---

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).
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
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.
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 (μg/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
### Calculation of Exhaust Emissions

3.91 x 10^{-3} grams per second was calculated as follows:

\[
0.0484 \text{ total tons exhaust PM}_{10} = 96.8 \text{ total pounds (lbs) DPM during construction}
\]

\[
96.8 \text{ lbs} \times 453.6 \text{ g/lb} \div (4 \text{ hrs/day} \times 780 \text{ working days}) \div 3600 \text{ seconds/hour} = 3.91 \times 10^{-3} \text{ g/second}
\]

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
The modeled maximum annual concentration at the MEIR would be 0.021 μg/m³. 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.
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 other 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
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.
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.
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.

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.
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 “[e]xhaust 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.”

First, the DEIR/DEIR’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.29 A fleet of heavy-duty, diesel-fueled construction equipment serviced by up to 88 truck trips per day, 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 killing at the Project site can travel downwind for miles and drift into heavily populated areas.29

The DEIR/DEIR 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 odorous compounds that would be present, in this case diesel exhaust, represented by PM2.5 or another surrogate, such as aldehydes, estimates their emission rates, and uses AERMOD or other dispersion models to 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).
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. |
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 mitigations.

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 (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.

This is not all feasible mitigations, for the reasons set out below.

First, the unmitigated construction emissions were calculated using the CalEEMod model, assuming Tier 3 engines. 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) and thus is also not mitigation, but rather the base case.

---

**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.
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.
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\textsubscript{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\textsubscript{x} emissions in 2019 for the MTBS. The haul trucks alone were estimated to generate 371.87 pounds of NO\textsubscript{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\textsubscript{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.
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.35
• Use low rolling resistance tires on long haul class 8 tractor-trailers.36
• Use idle-reduction technology, defined as a device that is installed on
  the vehicle that automatically reduces 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.37
• 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.38
• Solicit bids that include all of these measures (SCAG).

Alternatively, as discussed in the DEIR/DEIS, the MTBS component of the Sun
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

36 Tom Jackson, How 5 Diesel-Electric and Hybrid Construction Machines are Waging War on
38 EPA, Verified Technologies for SmartWay and Clean Diesel, Learn About Low Rolling
Resistance (LDR) New and Retread Tire Technologies available at [https://www.epa.gov/verified-direct
-technology/learn-about-low-rolling-resistance-new-and-retread-tire-technology#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-direct-technology/verified
Program (DERP) Technologies, Tests and Project Information, Working Draft Version 1.0 available at
[https://netcracker.org/DERP/TECH-1-0/DERP-F100C031527](https://netcracker.org/DERP/TECH-1-0/DERP-F100C031527).
41 BAAQMD, CEQA Guidelines, Updated May 2017, Table B-5, Measure D3.
excavation would be required.37 The DEIR/DEIS asserts that evaluating these other options is “outside the scope of this EIR/EIS.”38 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 lbs/day, and recirculated for public review.

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 spp., 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, vehicle, construction activities, dust storms, or during earthquakes, the fungal spores become air borne.105 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.106 The California Department of Public Health has concluded:102

38 DEIR/DEIS, pdf 985, 927.

Valley Fever is 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 death.

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. San Diego County, including the Project site, is located within the established endemic range of Valley Fever, as shown in Figure 8.

---

San Luis Obispo County Public Health Department, Valley Fever in San Luis Obispo County (unavailable) available at [http://www.slocounty.ca.gov/Health-PublicHealth/Communicable-Disease/](http://www.slocounty.ca.gov/Health-PublicHealth/Communicable-Disease/)

See, for example, K. Schmidt, R. Huisin and T. Wood, Just one Breath: Valley Fever Cases Reach Epidemic Levels, Red Hots Report Online, September 11, 2013 (“The cocci fungus is common in much of the southwestern United States and in southeastern 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 towns in San Diego, the wine country of Sonoma County and inland in the Sierra foothills.”) available at [https://www.robotresearchfoundation.org/customs/just-one-breath-valley-fever-case](https://www.robotresearchfoundation.org/customs/just-one-breath-valley-fever-case).
The number of Valley Fever cases in San Diego County has been rising countywide since 1990. San Diego County had the sixth highest number of reported cases statewide over the 2007-2011 period: 649 cases. 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.

Table 3: Reported Cases of Valley Fever in San Diego County

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>139</td>
</tr>
<tr>
<td>2013</td>
<td>126</td>
</tr>
<tr>
<td>2014</td>
<td>117</td>
</tr>
<tr>
<td>2015</td>
<td>168</td>
</tr>
<tr>
<td>2016</td>
<td>158</td>
</tr>
</tbody>
</table>

Footnotes:
- 41 MacLean 2014, Table 1.
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.\(^1\)

Figure 6: Valley Fever Risk to Construction Workers

Dust exposure is one of the primary risk factors for contracting Valley Fever.\(^2\) 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.\(^3\)

---

\(^1\) CDPH, June 2012.

\(^2\) Rafael Laniado-Laboria, Expanding Understanding of Epidemiology of Coccioidioidomycosis in the Western Hemispheres, Annals of the New York Academy of Sciences, v. 111, 2007, pp. 20-22; Frederick S. Fisher, Mark W. Badman, Suzanne M. Johnson, Domenathes Pappagajajam, and Erik Zalensky, Coccioidioides Nichini and Habitat Parameters in the Southwestern United States, a Matter of Scale, Annals of the New York Academy of Sciences, v. 111, 2007, pp. 45-72. (All of the examined soil locations are noteworthy as generally 70% of the individuals who were exposed to the dust or were excavating dirt at the sites were infected.)<ref>

\(^3\) 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://www.kerncountyhealth.org/publications/004488_Coccioidoides_nichini_uses_and_habitat_parameters_in_the_southwestern_united_states_a_matter_of_scale/file/7265510651/7265510651/1046419?pdf=render&publication=detail](http://www.kerncountyhealth.org/publications/004488_Coccioidoides_nichini_uses_and_habitat_parameters_in_the_southwestern_united_states_a_matter_of_scale/file/7265510651/7265510651/1046419?pdf=render&publication=detail)
The most at-risk populations are construction and agricultural workers. The former are 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." One study reported that at study sites, "generally 30% of the individuals who were exposed to the dust or were excavating dirt at the sites were infected." The disease debilitates the population and thus prevents them from working. The longest period of disability from occupational exposure in California is for construction workers, with 62% of the reported cases resulting in over 60 days of lost work. Another study estimated the average hospital stay for each (non-construction work) case of coccidioidomycosis at 35 days.

### 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."

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 the 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

---


construction will carry the very small spores, 0.002-0.005 millimeters ("nun") (Figure 7).191 These very small particles are not controlled by conventional construction dust control mitigation measures.

Figure 7: Size of Ceci Spores Compared to Soil Particles (in mm)

Valley Fever spores have been documented to travel as much as 500 miles192 and are dust raised, during construction could potentially expose a large number of people hundreds of miles away. Therefore, this is 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. An individual does not have to have direct soil contact to contract Valley Fever.193

190 Fisher et al. 2005, Fig. 9.
191 Salasquez and Tabachnick, 1998, p. 120; Fennegerman and Evers, 1998.
192 Fennegerman and Evers, 1998, p. 227. (The northern area were not directly affected by the ground level windsfform that had struck Kern County but the dust was lifted to several thousand feet elevation and, born on high currents, the soil and aerosol spores along with some moisture were poorly deposited in the desert and mountains as "rain storms" that would the residents of much of California. The storms originating in Kern County, for example, had major impacts in the San Francisco Bay Area and San Francisco.)
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 can 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.\textsuperscript{122} No vaccine or known cure exists for the disease.\textsuperscript{123} However, the FDA recently granted Fast Track designation for a proposed treatment.\textsuperscript{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.\textsuperscript{128} Between 2000 and 2013 in California, 1,098 deaths were attributed to Valley Fever.\textsuperscript{128} In recent years, reported Valley Fever cases in the Southwest have increased dramatically.\textsuperscript{128}

Infections by \textit{Coccidioides} \textit{sp.} 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.\textsuperscript{129} The majority of cases of Valley Fever accordingly occur during the months of June through December, which are typically periods of peak construction activity.

\textsuperscript{122} See \textit{e.g.}, Lisa Valderia, David Nie, Mark Wright, Elizabeth Lindberg, Timothy Fagen, Donald Linderman, Peter Hofius, Neil M., Ampel, and John N. Galgana, Coccidioidomycosis as a Common Cause of Community-Acquired Pneumonia, \textit{Emerging Infectious Diseases}, v. 12, no. 8, June 2006; available at http://wwwnc.cdc.gov/eid/article/12/6/05-1470_article.pdf.


\textsuperscript{127} 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. Drought periods can have an especially potent impact on Valley Fever if they follow periods of rain. It is thought that during drought years the number of organisms competing with Coccioides spp. decreases and the fungus remains alive but dormant. When rains finally occur, 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.

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 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

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.
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 Coccioidioidomycosis 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
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.

---

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 Coccioides spp. spores may be airborne in a given area. Freely generated dust clouds usually contain a larger proportion of the more visible coarse particles, PM10 (diameters >0.1 microns), compared to coci spores (0.002 microns). 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.

Spores of Coccioides spp. 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 host cell fragments. 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.

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, 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:

---


158. CDPH (June 2013), pp. 4-6.
1. Re-evaluate and update your Injury and Illness Prevention Program (as required by Title 8, Section 3200) 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 coccid spores;
   - Inhaling coccid 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 coccid 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 coccid;
   - 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 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 CCF 5144) should be in place.
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 off-site 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.
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. 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. An occupational study of Valley Fever in California workers also developed recommendations to protect those working and living in endemic areas. 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:

- 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.

182 Short-term skin tests that produce results within 48 hours are now available. See Eorry Klein, NPR for Central California, New Valley Fever Skin Test Shows Promise, But Obstacles Remain, November 31, 2016 available at https://www.npr.org/2016/11/29/500045833/new-valley-fever-skin-test-shows-promise.
183 Fisher et al., 2000.
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.

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.

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.
<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>D3A-58</td>
<td>Please see Response to Comment D3A-16 for a complete discussion regarding this topic. No further response is required.</td>
</tr>
<tr>
<td>D3A-59</td>
<td>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 review. No further response is required because the comment does not raise an environmental issue.</td>
</tr>
<tr>
<td>D3A-60</td>
<td>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.</td>
</tr>
<tr>
<td>D3A-61</td>
<td>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</td>
</tr>
</tbody>
</table>
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.
The watering trucks themselves used in watering generate fugitive dust, which is not addressed by the DEIR/DERE’s measure, but is addressed by BAAQMD 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.\(^{10}\)

The best method of preventing roadway dust is to consolidate it, requiring a large quantity of water. The DEIR/DERE 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/DERE.

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 sprayer-type pressure nozzles or pneumatic atomizers, should be used on the watering trucks.\(^{30}\)

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 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.

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.

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-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.
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 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
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.
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.
<table>
<thead>
<tr>
<th></th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1-5</td>
<td>Comment noted.</td>
</tr>
</tbody>
</table>
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.
INTENTIONALLY LEFT BLANK
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.
The City appreciates the commenter’s review of the Draft EIR/EIS.

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.

Please refer to response F3-2.

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. |
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
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F4-3</strong></td>
<td>firmly believes that wastewater spills would not be likely. 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.</td>
</tr>
<tr>
<td><strong>F4-4</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>F4-5</strong></td>
<td>Please refer to response F4-2. In the unlikely event of pipe failure, flows would stop within seconds of automatic pump station shut down.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>F4-6</strong></td>
<td>It is unclear which aquifer the commenter is referring to; as such, no detailed response can be provided.</td>
</tr>
<tr>
<td><strong>F4-7</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>F4-8</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>F4-8</strong></td>
<td>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</td>
</tr>
</tbody>
</table>
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.
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.
This comment accurately summarizes the Project as presented in the Draft EIR/EIS.

Comment noted.

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.

Please refer to response F4-2.

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.

Please refer to response F4-2 above.

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 San Ysidro Interceptor No. 1, and the 38-inch Morena Pump Station, which will collect wastewater from these existing sewers and transfer it to the North City Water Reclamation Plant.
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
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. |
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.
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
| F5-3 | City firmly believes that wastewater spills would not be likely. 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. |
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.
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.
Response to Comment Letter F8

Bruce McArthur
November 10, 2017

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.
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.
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. |
INTENTIONALLY LEFT BLANK
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).

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.

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,
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>F10-4</td>
<td>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.</td>
</tr>
<tr>
<td>F10-5</td>
<td>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.</td>
</tr>
</tbody>
</table>
Response to Comment Letter F11

January 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).
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. |
Response to Comment Letter F12

Briggs Law Corporation
Cory J. Briggs
November 19, 2017

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, § 15143). 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.

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.

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 those technical fields. Without plain language, the public is unable to properly comprehend the Project and give meaningful reactions to its many environmental issues.

II. Project Alternatives

The Draft EIR Falls 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
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.
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.

Comment noted.
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.

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,
<table>
<thead>
<tr>
<th>F12-9</th>
<th>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&amp;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.</th>
</tr>
</thead>
</table>
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 documents 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 344, 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 through 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 retaining a portion 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 overwhelmingly 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 streets.

Higher costs do 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. It is an overestimation of the time and effort that would be required to propose and implement this alignment. The City’s current alignment requires construction over longer periods of time throughout University City, during both day and night because the two pipelines are quite large.

Refer to response F12-8. The Plant Sitling 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.

Please refer to responses F12-8 and F12-10. An EIR must only present a reasonable range of alternatives, and not all feasible alternatives.

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. |
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.

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.

Please refer to response F12-8.
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.

Please refer to responses F12-8 and F12-13.

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.

Comment noted. The comment cites prior case law, and does not require further response.
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.

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, 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.

Comment noted. The comment cites portions of the Draft EIR/EIS’s public services section related to nighttime work, 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
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 from the Mission Trails Booster Station and therefore this impact would be significant and unavoidable.”

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.
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 MEC) will be conveyed via a new 30-inch-diameter gravity flow line from the new NPPRF back to Moreno Pump Station, and then to a sanitary sewer located in Hills Road West 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 re-circulate brine flows into the screening facility of the pump station.

The Moreno Pipelines will follow the alignment as depicted in Figures 3-5A through 3-6C, Moreno Wastewater Foremain and Brine/Centrate Line Alignment. The alignment would begin in an open cut section near the north corner of the Moreno Pump Station site, entering the public street right-of-way (ROW) on Custer Street. The alignment would generally head north along Sherman Street, Moreno Boulevard, and West Moreno Boulevard. The alignment would cross Trescobe Creek just to the east of Trescobe Road bridge, then continue generally heading north and east along Impala Street, Denver Street, Claremont Drive, Claremont 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 Trescobe Centre Drive. The alignment would turn east on Executive Drive and cross I-805. The alignment would end at NCPPRF. Three trenchless installations are proposed along the Moreno Pipelines alignment and include the following: (1) San Clemente Canyon at the SR-52 eastbound off-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 NCPPRF. An additional trenchless installation would occur where the overflow pipeline crosses MTS right-of-way near the Moreno Pump Station.

North City Water Reclamation Plant Expansion

The NCPPRF is an existing facility located south of Eastgate Mall and west 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 NCPPRF 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 Pipelines) 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 15136.6(a) and NEPA regulations (40 CFR 1502.14(b)), require that a No Project (NOA) and No Action (NOA) 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(d), the No Project Alternative assumes existing conditions at the time that the Notice of Preparation is filed or at the time the environmental analyzes 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.
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 2018 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 and meet the revised Compliance Schedule for the Pure Water San Diego Potable Reuse Task 1, the Order No. RD-2017-0027.

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 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, SaveOurCoast, Coastal Environmental Defense Foundation, and the San Diego Audubon Society (collectively referred to as the environmental stakeholders) for purposes of supporting potable reuse and secondary treatment.

2 Modified permit that commits to the goal of implementing a potable reuse program and obtaining legislative or administrative actions such that the final coma source water discharge is recognized as equivalent to secondary treatment for purposes of compliance with the Clean Water Act (secondary treatment).
As shown in Table 6.12-3, construction noise levels would range from approximately 69 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 Moreno Wastewater Force Main and Brine/Generate Line (Moreno Pipeline); residences located at 150 feet from the alignment. The loudest construction noise levels would occur at these noise-sensitive receptors (82 dBA $L_{eq}$ and 76 dBA $L_{eq}$ for the North City Pipeline and Moreno 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 Moreno 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 receptors.

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.
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 piped in order to open travel lanes during the day. As a result, typical commute AM and PM peak hour (7:00 am to 9:00 am, and 4:00 pm to 6:00 pm) trips are not anticipated to be generated during the construction of these pipelines. Thus no peak hour interference analysis was conducted for the North City Pipeline and San Vicente Pipeline. However, construction of the Moreno Pipelines will include daytime construction on some roadway segments and will require some lane closures as described in Section 6.14.2, Environmental Setting. Therefore, both a roadway and intersection analysis was conducted for the Moreno Pipelines. The results of this analysis are presented separate from the Project Alternatives even though the Moreno 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, 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 380 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.
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 NCPFP and NCFPP 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 cites, 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

Fire

Construction

Pipelines

Construction of pipelines and the LPG Pipeline would have similar potential to
temporarily impede emergency access for San Diego Fire-Rescue Department
North City Project EIR/EIS
Response to Comments

North City Project EIR/EIS
Section 8.14 - Public Facilities

(50FD) 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 SDFO 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 SDFO 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 NCPPR 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 NCPPR, Metropolitan Biosolids Center, and Booster Water Treatment Plant would not alter emergency fire access to the sites. The NCPPR, pump stations, and improvements at all other facilities would meet design and construction standards of SDFO 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
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. Based 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.
refine citywide policies, designate land uses, and make additional site-specific recommendations as needed (City of San Diego 2016a). 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 E-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:

- Monarch Pump Station: Industrial Employment
- NCPWF: Institutional & Public/Semi-Public Facilities
- NCPWF and NCPWF Influent Pump Station: Industrial Employment and Institutional & Public/Semi-Public Facilities
- MUC: Military Use
- Dechlorination Facility: Industrial Employment
- MUC: Commercial Employment, Retail & Services, and Open Space, Parks & Preserves

Proposed pipelines and the electrical transmission lines 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 3.1, Land Use.

**University Community Plan**

According to the University Community Plan, the dominant existing land uses include University of California-San Diego, University Town 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 NCPWF 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,
INTENTIONALLY LEFT BLANK
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.

| 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. |
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.
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.

<table>
<thead>
<tr>
<th>F14-4</th>
<th>Refer to response F14-3.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F14-5</td>
<td>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.</td>
</tr>
<tr>
<td>F14-6</td>
<td>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.</td>
</tr>
<tr>
<td>F14-7</td>
<td>Refer to response F14-2.</td>
</tr>
<tr>
<td>F14-8</td>
<td>Refer to responses F14-2.</td>
</tr>
<tr>
<td>Comment</td>
<td>Response</td>
</tr>
<tr>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>F14-9</td>
<td>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.</td>
</tr>
<tr>
<td>F14-10</td>
<td>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.</td>
</tr>
<tr>
<td>F14-11</td>
<td>Please refer to response F14-2.</td>
</tr>
</tbody>
</table>
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?

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 transport of irrigation quality water next to the highways?

17) Why was the 10% Design solution not reevaluated to the general public back in March 2016? Who was it released to?

18) 300 pages is the recommendation maximum for a Public Review Draft per CEQA 15161. Page Limits, Are you aware that a 1,759 page Draft EIR would be difficult for citizens to comprehend?

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?

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 Amtrak corridor?

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 shear the forcemains given their area cross section is 10,000 greater than ½ copper pipe?

23) The EDGE 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? Has cost a factor?

24) After the high pressure raw sewage leak in residential neighborhoods what will be the backup plan if forced to abandon the forcemains?

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?

26) Per 24 what are the mitigating methods besides time and dispersed?

27) With single wall pipes 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 oceans?

28) A rupture of a 6 foot high pressure raw sewage main less than 2 diameters underground is likely to eject a substantial aerosol plume, how do you plan to train and equip emergency personnel?

29) Would you consider the University proposed route shown in green?

30) The 60% engineering drawings for the EIR red path show a 12’-15’ open ditch just east of Governor. How do you plan to save the Tompon Pito trees given the damage to their root systems?

31) Sewage and water leaks are a part of the record, can you post the lines to these records so we can review them?

I believe that Pure Water is on the right track with its 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.

Thank You

Loeke Rooboko
<p>| <strong>F14-14</strong> | As stated in the Public Notice of a Draft EIR, technical reports and documents were available to the public by request. |
| <strong>F14-15</strong> | 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. |
| <strong>F14-16</strong> | 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. |
| <strong>F14-17</strong> | Please refer to response F14-2. |
| <strong>F14-18</strong> | Please refer to responses F14-2 and F14-3. |
| <strong>F14-19</strong> | Please refer to response F14-1. |
| <strong>F14-20</strong> | 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. |
| <strong>F14-21</strong> | Please refer to response F14-1. |</p>
<table>
<thead>
<tr>
<th>Response</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F14-22</strong></td>
<td>Please refer to response F14-1.</td>
</tr>
<tr>
<td><strong>F14-23</strong></td>
<td>Please refer to response F14-1.</td>
</tr>
<tr>
<td><strong>F14-24</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>
| **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.

<table>
<thead>
<tr>
<th>F14-26</th>
<th>Please refer to response F14-1. Sewage spill statistics are posted on the City’s website and can be accessed here: <a href="https://www.sandiego.gov/mwwd/sewerspill/stats">https://www.sandiego.gov/mwwd/sewerspill/stats</a>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F14-27</td>
<td>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.</td>
</tr>
</tbody>
</table>
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).
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.

Ciego 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.

Regards,

Rey Hurrade Jr.
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.
The commenter’s support of the Project is noted and will be included in the administrative record.

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
<table>
<thead>
<tr>
<th>F16-5</th>
<th>Please refer to responses F16-14 through F16-29 for responses to the comments contained in Attachment 5.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F16-6</td>
<td>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.</td>
</tr>
<tr>
<td>F16-7</td>
<td>Please refer to response F16-4; the City does not concur that Murphy Alternative Location One requires further analysis in the Final</td>
</tr>
</tbody>
</table>
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.
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.

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.

This comment is noted and will be included in the administrative record for the Project.

Please refer to response F16-4.

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.
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
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.
From: Katie M. Arduino | Murphy Development | 619.710.8000 x.33
Sent: Monday, April 25, 2016 5:47 PM
To: Katie M. Arduino | karduino@murphydev.com
Cc: Andy M. Arduino | amarduino@cityofsanantonio.gov

Subject: Murphy Development stakeholder engagement

Hi Jeff,

I would be happy to meet with you and your staff to discuss the project further. We are open to discussing the project with anyone who has a stake in its development.

Thank you,

Katie M. Arduino | Murphy Development | 619.710.8000 x.33

From: Katie M. Arduino | karduino@murphydev.com
Sent: Monday, April 25, 2016 11:00 AM
To: Katie M. Arduino | karduino@murphydev.com
Cc: Andy M. Arduino | amarduino@cityofsanantonio.gov

Subject: Murphy Development stakeholder engagement

F16-13

Cont.
From: Kathleen Artavina  kathleen.artavina@murphydevelopment.com
Sent: Thursday, April 05, 2020 4:48 PM
To: Andy Imeh  aimeh@murphydevelopment.com, Jon Roberts  jroberts@murphydevelopment.com
Subject: Re: Follow-up: Environmental Field Survey - Mismatch Purposes/Pipeline

Kathleen,

We’ll make sure you’re on the list 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 Lennar? Technology Park is LL 126? For the purpose of coordinating our underground work with your construction, can you tell me your estimate for construction start and completion? Will your work include water and sewer connections, upsets mains etc.?

Thank you,

Jeff

From: Kathleen Artavina  kathleen.artavina@murphydevelopment.com
Sent: Wednesday, April 01, 2020 2:53 PM
To: The Sarinos  Jeff Sarinos, Jeff Sarinos Sarinos@nc.gov
Cc: Andy Imeh  aimeh@murphydevelopment.com, Jon Roberts  jroberts@murphydevelopment.com
Subject: Re: Follow-up: Environmental Field Survey - Mismatch Purposes/Pipeline

Dear Jeff,

I would like to report that Jeff and I were out on the development property today visiting the site and the biggest conflict we are seeing is the manganese pipeline near the corner of the north lot (Lot 16) and the adjacent lot (Lot 15). We walked the peripheral and found the pipeline (manganese) to be encroaching on the adjacent lot. The manganese pipeline is likely on the lot 16 and on the adjacent lot 15. That was the biggest conflict we faced.

This is for the purposes of coordinating our underground work with your construction. Can you tell me your estimate for construction start and completion? Will your work include underground improvements in the adjacent lot 15? The surveyors need to know to be able to access the site. Can we schedule a meeting to discuss that further?

Thank you,

Kathleen M. Artavina  |  Murphy Development  |  650.713.8000 x 15
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 see what we’re provided to attempt to find ways around this area. We’ll keep you updated. In the meantime, we can 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 your phone conversation. Please let us know if this will be okay, and if that’s something you would like.

Thank you,
Jeff

Jeff, pursuant to our conversation yesterday, I am attaching thefeasibility brochure for our Scripps Ranch Technology Park. I have attached pages 8 & 11 which show site plans for lots 7 & 8, and lots 1 & 11. If you are interested, I am enclosing a map that will show you lot 15, the association controlled lot, that may be an option for the City. You could connect this Cayucos Lake with the River.

Best,
Kathleen Anzalone | Murphy Development | 619.770.0000 x15

Good morning Andy,
We previously sent Scripps Ranch Technology Park LLC, a letter regarding the subject project dated March 5, 2018, but have not received your response. The subject project is part of the City of San Diego’s Pure Water program (Pure Water Project). 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.
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. The survey will only include walking thru the property, making various observations, and taking photographs of the vegetation, associated species, 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 representatives 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 Daniels
Project Manager
City of San Diego
Public Works Department
(619) 232-6736
jeff.daniels@san Diego.gov

CONFIDENTIAL COMMUNICATION

This electronic mail message and any attachments are intended only for the use of the addressee(s) named above and may contain information that is protected, confidential and exempt from disclosure under applicable law. If you are not an intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you received this e-mail message in error, please immediately notify the sender by replying to this message or by telephone. Thank you.
Hi Jeff, thanks for the follow up. We have additional questions and concerns regarding the comments. We would like to know plot size, easement width and construction timeline, amongst other things. I would like you to call our engineering consultant Jim Roberts to discuss. He is copied here and his number is 615-459-8737.

Thank you,

Kathleen Aniano | Murphy Development | 615.713.8000 x.15

Please note I will be out of the office from August 22nd through September 12th with limited access to emails.

P: (615) 293-5572
E: Kathleen.Aniano@MurphyHydro.com
G: Kathleen Aniano (kathleen.aniano@BarnesGlobal.com; Marquez, Francis Albert (francis.marquez@BarnesGlobal.com); Alejandro, Joel (joel.alejandro@BarnesGlobal.com); McCarty, Sean (sean.mccarty@BarnesGlobal.com)

Subject: Pure Water Revised Alignment

Good morning Kathleen,

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 tanks at the end of Mariner’s Dr. Although both Mariner’s Dr. and Hoyt Park Dr. are already connected with underground utilities, we feel you will be pleased that we may have found some space to construct our pipeline within the existing driveway to get to the tank. However, due to the alignment revision, we are now faced with bolling a new route from the tank to Mirror 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 Sorensen
Project Manager
City of San Diego
Public Works Department
(615) 293-8331

CONFIDENTIAL COMMUNICATION: This electronic transmission contains information which is confidential and intended for the exclusive use of the addressee. This transmission is sent in confidence and should not be disclosed, reproduced, or distributed without prior permission. If you are not an intended recipient, or the employee or agent responsible for delivering this email to the intended recipient, you are hereby notified that any use, disclosure, reproduction, distribution or copying of this email or its contents is strictly prohibited. If you received this email in error, please immediately notify the sender by replying to this message or by telephone. Thank you.
Kaitlin Auldino

From: Soriano, Jeff <jsoriano@sanluis.gov>
Sent: Thursday, February 01, 2018 11:15 AM
To: James Roberts
Cc: Kaitlin Auldino
Subject: RE: Murphy Development Lot - Geo Boring
Attachments: Scripps Ranch Technology Park Proposed Alignment REVISED 2-21-17.pdf

Hi Jeff,

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 somehow at Station 37+60 (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 07, 2018 2:05 PM
To: James Roberts <jroberts@oublacks.com>
Cc: Kaitlin Auldino <kaitlin@oublacks.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.

Thank you.

Jeff

From: James Roberts <jroberts@oublacks.com>
Sent: Tuesday, March 20, 2018 2:33 PM
To: Soriano, Jeff <jsoriano@sanluis.gov>
Cc: Kaitlin Auldino <kaitlin@oublacks.com>
Subject: Re: Murphy Development Lot - Geo Boring

Jeff,

Site conditions is OK.

Keep us posted as your design progresses. If you wind up proposing an alignment through lot 3 involve us early. A design that avoids parking or building impacts will be best for all. Thanks.

Best,

Jim
James M Roberts, PE
619-426-8787
jroberts@oublacks.com
Kaitlin Antino

From: Solisano, Jeff <Solisano@sandiego.gov>
Sent: Wednesday, March 22, 2017 10:36 AM
To: James Roberts
Cc: Kaitlin Antino
Subject: R1- PWP Proposal - SRTP Lot 3

Jeff,

An "engineers" meeting is a great suggestion. The times our engineer team is available are next Monday between 1 - 3pm or Tuesday between 9-11am. Please let me know which time/date works for you. Our offices are at 9392 Torrey Way in Kearny Mesa.

Thanks,
Jeff

From: James Roberts (james.roberts@sandiego.gov)
Sent: Wednesday, March 22, 2017 10:13 AM
To: Solisano, Jeff <Solisano@sandiego.gov>
Cc: Kaitlin Antino
Subject: R1- PWP 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 water line or 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) 455-6757
roberts.mj@outlook.com

From: Solisano, Jeff <Solisano@sandiego.gov>
Sent: Wednesday, March 22, 2017 9:34 AM
To: James Roberts <roberts.mj@outlook.com>
Subject: R1- PWP Proposal - SRTP Lot 3

Hi Jim,

I was wondering if you have any updates on your review of our proposal. Furthermore, we recently found the need to include two man sumps at the far end, close to our island pl. 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
From: James roberts <James.roberts@northbasin.com>
Sent: Wednesday, March 08, 2017 10:51 AM
To: Sentro, IP <Ipc Sentro@berkshire.com>
Subject: Pure Water Proposal - SRTP Lot 1

Jeff,

We are presently evaluating the impacts of the 48" water line to Lot 1. Areas we are looking at include: proposed structures, wet and dry utilities, construction phasing and retaining the site. I plan to have input from all of our disciplines next week.

Regards,

Jim

James M Roberts, PE
620-455-4197
roberts.jm@northbasin.com
April 13, 2017

VIA E-MAIL

Jeff Rosier
Project Manager
City of San Diego
Public Works Department
City of San Diego

Re: Scripps Ranch Technology Park/Nineriver Pure Water Pipeline and Pump Station Project

Dear Mr. Rosier:

This letter represents Scripps Ranch Technology Park, LLC (SRTP) with regard to the City's plan to construct the Nineriver Pure Water Pipeline and Pump Station.

The Scripps Ranch Technology Park is a full-venture, fully entitled development project. Syndications date back to 1986, when a Planned Industrial Development Permit was obtained. The HDR for the project has been approved. SRTP intends to fully develop the entire Park, including Lot 4. Lot 3 is the portion of SRTP's property which the City, as of August 2016, now wishes to encroach upon to construct the Nineriver 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-unfinished construction of the City's project. Without access to the property, and depending on where the City places to take the easement, development of the property becomes unfeasible and the developed property becomes uninhabitable. In either event, the City's actions will constitute a full taking of 6 acres 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 would render any property uninhabitable, or uninspectable, 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...
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 invasion of the City’s eminent domain power will be necessary. Considering the available alternatives, the City will not be able to fulfill the requirements of California Code of Civil Procedure Section 1289.220 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 assure 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 variations of the current City plans if Lot 3 is to be involved.

SRTP looks forward to the City’s moving on from current plans and adoption of alternatives.

Your response may be made directly to Katrin Arkanova 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. Sandier

cc: Scripps Technology Business Park
Ms. Baló —

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 Katlin 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
VIA E-MAIL

Eli Balo
Jeff Soriano
City of San Diego
Public Works Department
City of San Diego

Re: Scripps Ranch Technology Park/Minorue Pure Water Pipeline and Pump Station Project

Dear Mr. 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 Minorue Pure Water Pipeline and Pump Station (“Project”).

Although you have elected to not respond to our correspondence, SRTP wishes to now pass on the following items you May 4, 2017 presentation to the Scripps Ranch Planning Group:

- Your current projection is for Project construction to continue into 2018. 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 plan to now construct the Project along Hoyt Park Drive will negatively affect the damages the City will receive 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 its construction on and adjacent to 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 stall 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.
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 an easement on SRTP lot 3 which (1) will require exercise of eminent domain because SRTP will not generate the necessary voluntary and (2) will destroy the development potential of fully zoned Lot 1, SRTP questions why the standard established by Mr. Soriano does not apply to SRTP.

Copies of SRTP’s April 13, 2017 and April 16, 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.

If you elect to respond, your response may be made directly to Katie Murphy 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; any contact from the City attorney’s office should be made to me.

Thank you,

Very truly yours,

James M. Hudson

James G. Souther

cc: Katie Murphy
R. Michael Murphy
VIA E-MAIL

Jeff Siemens
Project Manager
City of San Diego
Public Works Department
City of San Diego

Re: Scripps Ranch Technology Park/Minorar Pipe/Water Pipeline and Pump Station Project

Dear Mr. Siemens:

This firm represents Scripps Ranch Technology Park LLC (SRTP) with regard to the City’s plans to construct the Minorar Pipe/Water Pipeline and Pump Station.

The Scripps Ranch Technology Park is a fully built, fully entitled development project. Entitlements date back to 1986, when a Planned Industrial Development Permit was obtained. The PID 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 1 is the portion of SRTP’s property which the City, as of August 2018, now wishes to acquire upon the construction of the Minorar Pipe/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 uncompleted construction of the City’s project. Without access to the property, and depending on what the City chooses to take as the assessment, development of the property becomes untenable and/or the developed property becomes unsellable. In either scenario, the City’s action will constitute a full taking of a new property, for fair market value of which, today, before any buildings are constructed, may exceed $1.1M.

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 unacceptable or unsellable, as would be the effect of the City’s current proposal regarding SRTP Lot 3. For example, the City could choose a route involving NO taking or...
April 13, 2017
Page 2

The acquisition of private property by routing the project along public right of ways (Scripps Ranch Boulevard and Scripps Lake Drive)

If the City permits in its intent to take easements across the only ingress and egress to SRTP Lot 3, anticipated 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 the California Code of Civil Procedure Section 1243.220 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.

SRTP looks forward to the City’s moving on from current plans and adoption of alternatives.

Your response may be made directly to Katrina Ambrosio at Murphy Development. I will appreciate you 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 19, 2017 10:31 AM
To: NorthCityProject@.sdkgs.gov
Subject: Scripps Ranch Technology Park/Miramar Pure Water Pipeline and Pump Station Project
Attachments: Scripps Ranch/Fairview Park MC April 13 2017.pdf

Mrs. Baro—

My firm represents Scripps Ranch Technology Park (SRTIP). My letter of April 13, 2017 to Jeff Sorano 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 in 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 SRTIP 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 SRTIP issue up in the air, and in the absence of an EIR.

As with the request to Mr. Sorano, you are welcome to respond directly to Katlin Antuono of SRTIP, with a copy of any writing to me. As also requested of Mr. Sorano, 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 email from Sandler, Lacy, Leslie, Byrne & Velde LLP.

THE CONTENTS OF THIS EMAIL ARE PRIVILEGED AND CONFIDENTIAL AND IT IS INTENDED ONLY FOR THE USE OF THE ORIGINATOR OF THE EMAIL ADDRESS TO WHICH IT WAS ADDRESSED. No one else may copy or forward all or any of it in any form.

If you are an email address holder for any attachments, you can receive any information that is redacted or otherwise excluded from this communication for any reason.

Corporal address is 40 West Broadway, Suite 1900, San Diego, CA 92101-2042.
Sandler • Lassy • Laube
Dyer & Valdez LLP
452 West Broadway, Suite 1800 • San Diego, California 92101-0247
Telephone (619) 230-4400 • Facsimile (619) 230-4406 • www.dlv.com
James D. Sandler • Direct (619) 435-6779 • email: jsandler@dlv.com

June 30, 2017

VIA E-MAIL

Kell Bule
Jeff Pastina
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. Bule and Mr. Pastina,

As you know from our April 11, 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 comments).

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 actively interested in

Please note that this letter contains confidential information and is addressed to you in your capacity as a representative of the City of San Diego. If you are not the intended recipient, you are hereby notified that the contents of this letter is confidential and the information contained herein is for the sole use of the addressee. Any unauthorized dissemination, copying, or disclosure of this information is strictly prohibited. If you have received this letter in error, please advise the sender immediately and delete the contents of the email.

F16-13
Cont.
June 20, 2017
Page 2

Unfortunately, SRTP argues that if the City proceeds with the current alignment development of the SRTP line 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 4, 6, 7, 8, and 10 (as well as lots owned by other parties). SRTP’s claim, alone, will likely exceed $50,000,000, perhaps significantly.

In addition to adopting an alternate configuration which avoids the Scripps Ranch Technology Park (otherwise known as Scripps Ranch Business Park Phase II), the City can take to mitigating the already present damages in at least the following manner:

- Issuing public statements that the new proposed alignment is non-fatal 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 articles 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 – refuse to meaningfully communicate, publish the information requisite 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.
June 20, 2017
Page 3

Visible 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.

IRTP’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 Anhais 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, contract from the City Attorney’s office should be made to me.

Thank you.

Very truly yours,

James A. Sandifer

cc: Kaitlin Anhais
R. Michael Murphy
October 30, 2017

VIA E-MAIL

Christine Leece
Deputy City Attorney
San Diego City Attorney’s Office
3200 3rd Ave Suite 1100
San Diego, CA 92101

Re: Scripps Ranch Technology Park/Minevar Park Water Pipeline and Pump Station Project

Dear Christine,

Thank you for your October 21, 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 reviewing 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 SKTP principal Mike Murphy made specific reference to SKTP 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, the user is disqualified because even limited by the City to nighttime construction, the complete lack of access during construction will make Lot 3 unsuitable 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 8th science, defense, financial, corporate and any other users with staff that needs access 24/7. The City staff’s position that right now avoids all problems is simply incorrect.

This is only one of many issues which SKTP believes, will expose the City to a multi-million dollar condemnation award if the Project proceeds as planned.
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. Ayen beyond its restriction on severance damages related to Right-In/Right-Out Issues has long since been superseded by many cases, including the Base case discussed earlier and Metropolitan Water District of Southern California v. Campana Ceramics for Christ, Inc. [2007] 14 Cal. 4th 954. As there are no Right In/Right Out Issues involved in this matter, People v. Ayen has no application here.

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 O. Rindler

cc: Michael Murphy
    Kahfie Aschino
    Christopher Nolt
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) (SEI#) #2016010101(3) #389921 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 (NCPWP) 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:

1. Project Alternatives

   a. The evaluation of a possible Scripps Lake Drive Alternative is summarily dismissed on pages 3-26 and 3-36 (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 eminent domain 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.

   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.

   c. Significant impacts requiring mitigation are identified in the EIR/EIS from the potential vibration impacts to the Meisley 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.

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 SRTF 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 SRTF 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 (paragraph 6.1.3.1). This rationale is questionable and the EIR/EIS does not provide a logical analysis of the land use compatibility of locating the Dechlorination Facility in the SRTF. 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 SRTF. In order to evaluate land use compatibility impacts associated with access to the SRTF during construction, the EIR/EIS should discuss which lots have been developed and which are vacant; what are the existing businesses present within the SRTF; whether any of the lots will be used for construction staging; and whether development has been proposed on any of the lots within the SRTF 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 use of Lot 5 and the SRTF. This additional information is necessary to adequately evaluate the potential for land use compatibility impacts from the proposed project.

c. Page 5-21 describes land use assessment 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, 13 significant thresholds 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. Biological

a. The analysis of construction-related impacts within the SRTF in the Biology Section of the EIR/EIS is lacking the detail to support the conclusion that impacts would not be significant. Details of the trenchless construction and staging for the berms at the SRTF tunnel beneath Korean Field 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...
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.
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

F16-21

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).
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,
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.

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.
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 been adequately analyzed within the Draft EIR/EIS.

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.
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.
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 be up to $1,000,000 for the DEIR Preferred Alignment through SRBP III Lot 3.

6. It appears that the DEIR Preferred Alignment in Meaney Drive and Hoyt Park Drive will be adjacent to the northern 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 resultant fill 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 linear 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 Geoson A-Graded report for SRBP III. Bearings 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 right of crossing the CWA pipelines. This is similar to the DEIR Preferred Alignment crossing. Alternative One is a skewered 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 purchase 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.
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.
<table>
<thead>
<tr>
<th>Item Description</th>
<th>Unit</th>
<th>Base Year (1994)</th>
<th>Current Year (2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North City Conveyance System</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comparison of Probable Construction and Right of Way Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Unit</th>
<th>Base Year (1994)</th>
<th>Current Year (2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>$1,635,000</strong></td>
<td><strong>$1,635,000</strong></td>
</tr>
</tbody>
</table>

---

*Note: See attached insert for summary of project budget and contract details.*

---

*Figures are rounded to the nearest thousand.*

---

*All costs are in 1994 dollars.*

---

*Contact: [Contact Information]*
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.
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.

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.

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
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.
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).

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.

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.

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 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.

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.
INTENTIONALLY LEFT BLANK
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.
INTENTIONALLY LEFT BLANK
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...
| F20-2 | 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 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. |
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,
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F21-6</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>F21-7</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>F21-7</strong></td>
<td>Comment noted.</td>
</tr>
</tbody>
</table>
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.
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.
<table>
<thead>
<tr>
<th>F22-5</th>
<th>Please refer to response F22-2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F22-6</td>
<td>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.</td>
</tr>
</tbody>
</table>
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
<table>
<thead>
<tr>
<th>F23-4</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F23-5</td>
<td>Comment noted. Please refer to response F23-3.</td>
</tr>
</tbody>
</table>
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.
<table>
<thead>
<tr>
<th>F24-2</th>
<th>Potential impacts related to traffic from construction of the Project are discussed in Section 6.16 of the Draft EIR/EIS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F24-3</td>
<td>Potential impacts related to noise from construction of the Project are discussed in Section 6.12 of the Draft EIR/EIS.</td>
</tr>
<tr>
<td>F24-4</td>
<td>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.</td>
</tr>
<tr>
<td>Page</td>
<td>Response</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
</tr>
<tr>
<td>F24-5</td>
<td>Additional locations for air vacuum/air release assemblies will be determined during final design and will reduce potential noise impacts from this condition. 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.</td>
</tr>
<tr>
<td>F24-6</td>
<td>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</td>
</tr>
</tbody>
</table>
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.
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*...
lindahlī), as is the case on the NCPWF site, are considered high quality.

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
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 (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).

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 unnecessarily limited to address just one single element of the Pure Water Project, the routes 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 Buschloide Cinco, 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.

Problems with Vernal Pool Mitigation

Mitigation proposed in the DEIR/EIS for impacts to vernal pools from the NCWF 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 inappropriate vernal pool restoration as mitigation for the Pure Water Project.

As discussed above, the City of San Diego has provided 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

---

F25-10  See response to comment F25-6.


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.
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.


F25-16 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. 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 protect other native vegetation. But appropriately 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” and “Pueblo Lands South” properties located east of I-805, south of Miramar Road, and north of Nobel Drive (Attachment 3). And preservation of those 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% preservation7 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.

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 (Charizma octacanthus) 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”, “Chestnut Flat Sandy Loam”, and “Leamy Alluvial Land Ecosystem 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 soils types, so much so that the Chaparral Lands Conservancy and others used the 2015 soil mapping analysis for field surveys.

8. Assessor’s Parcel Number 355-021-000
9. Assessor’s Parcel Number 355-023-030
10. Assessor’s Parcel Number 356-033-1300, excluding former landfill

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 Terence Drainage soils that
appear particularly suitable for Orcutt’s spineflower occurrence 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.

Thank you for your consideration.

Sincerely,

David Hogan

Attachments
1. Biological Resources Report for the North City Project Figure 4.2.11
2. Biological Resources Report for the North City Project Figure 1-1 (Amended)
3. Map of Vernal Pool Habitat on Public 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

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

F25-18

an analysis in the Draft EIR/EIS; therefore, no additional response is provided or required.
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.
FINAL REPORT –
Ornitz’s Spangleflower Project
Cooperative Endangered Species Conservation Fund (Section 6) Grant Agreement No. F5182088
May 17, 2017

Introduction

This final report provides the results of applied conservation research and stewardship, restoration, and enhancement of Ornitz's spangleflower ("Chloracantha ornithoides", "spangleflower") under the Cooperative Endangered Species Conservation Fund (CESCF) Grant Agreement No. F5182088 between The Chaparral Lands Conservancy (TCLC) and California Department of Fish and Wildlife (CDFW).

Under the terms of the grant agreement, task 1 (applied conservation research) included GIS mapping of suitable habitat sites and population surveys at remaining natural historic documented occurrences and is nearly 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 2017 as required by the grant agreement. The results of task 1 are promoted again in this final report and updated with new information since December 2017. TCLC work under task 1 resulted in discovery of this new, never before documented spangleflower occurrence on conserved land in North County San Diego.

Also under the terms of the grant agreement, Spangleflower stewardship, restoration, and enhancement includes the following:

- Preparation of site plans to manage, restore, and enhance Ornitz's spangleflower habitat and populations as appropriate;
- Protecting the Ornitz's spangleflower population at Torrey Pines State Natural Reserve (TPSNR) Extension with fencing, signage, and control of erosion and weeds;
- Protecting any other newly discovered or rediscovered population on conserved land with fencing, signage, or other stewardship measures.
- Enhancing any existing populations and newly discovered populations through weed control, 
  native plant species and control of invasive vegetation, and other appropriate measures.
- Collecting seed and conducting seedling propagation to generate seed for research and 
  management activities, in coordination with USFWS and CDFW.
- Coordinating with 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 events to inform preserve visitors and generate volunteer 
  assistance with non-technical recovery tasks such as fencing and signing.

TLC has successfully secured permits, organized volunteer events, installed fencing and signs, and 
implemented control of weeds and erosion at several spinyflower occurrences. TLC also successfully 
seeded six new spinyflower occurrences at TIPSNNR Estrella and Mate following seed collection and 
propagation for seedling planting.

Task 1 – Applied Conservation Research

Task 1a – GIS Mapping of Suitable Habitats

Under Task 1a, TLC retained and worked with a GIS contractor to update Dr. Ellen Bauers’ (2009) 
mapping of suitable spinyflower soils on conserved lands. O ceart’s spinyflower occurrence are strongly 
coincided with particular sandy soils near the San Diego coast as GIS mapping followed Bauer’s 
methodology of using soils as a proxy for suitable habitat. Maps were created using Bauer’s data layers 
(carbon 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 Covert’s spinyflower occurrence 
discovered at Torrey Pines State Natural Reserve Extension in 2009.

Three sets of maps were produced under Task 1a: "O ceart’s Spinyflower Locations and Soil Types Pre-2015 (Attachment 1), O ceart’s Spinyflower Sites on Conserved Lands (Attachment 2), and O ceart’s 
Spinyflower Survey Maps (Attachment 3)." The purpose of the first set of maps was to identify all soils 
occupied by documented spinyflower occurrence. The second set of maps was created for use during population surveys (Task 1b, below) and apply the soils

  Department of Fish and Game, Contract S-10702035. November. 48 pages + appendices.

Final Report - O ceart’s Spinyflower Project
Page 2 of 16
information from the first maps to specific preserve properties containing greater than 25% spainflower soils and otherwise thought to present the greatest likelihood of supporting undocumented spainflower occurrences.

The first set of maps, Orcutt’s Spainflower Locations and Soils Pre-2015 (Attachment 1) shows all spainflower occurrences documented prior to 2015 with underlying soils for the purpose of identifying all soils occupied by documented spainflower occurrences. For these maps, TULC used soils data from the US Department of Agriculture Natural Resource Conservation Service (NRCS) and two sources of Orcutt’s spainflower occurrence data. Element occurrence were recorded in the California Natural Diversity Database (CNDDB) including the CNDDB accuracy of location, and Bandier’s (2009) 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 Bandier’s thorough research on historic occurrences and was not revised for this project. Bandier and CNDDB occurrences are located in close proximity but are typically far enough apart to be located on different NRCS soils. So both Bandier and CNDDB occurrences were mapped to increase the likelihood of identification of all suitable spainflower soils. These maps show recorded spainflower occurrences on nine NRCS soils including the one spainflower occurrence discovered at TPSNR Extension after Bandier’s work on a NRCS soil type that in turn became very important in the discovery of new spainflower occurrence in 2015, 2016, and 2017.

The second set of maps, Orcutt’s Spainflower Soils on Conservation Lands (Attachment 2) apply the soils information from the first set of maps for the purpose of showing suitable spainflower soils throughout San Diego County overlaid with all conservation natural lands. For these maps, TULC used conservation lands data from two sources: SanGIS, a joint GIS database maintained by the City and County of San Diego, and the San Diego Preservation, a central repository of San Diego natural history and conservation management information maintained by the US Geological Survey under contract with the San Diego Association of Governments (SANDAG). These maps show all nine spainflower-related NRCS soils throughout San Diego County overlaid with conservation natural lands including conservation lands with greater or lesser than 25% of documented spainflower occurrence soils to refine priority preserve areas for Task 1B population surveys.

The third set of maps, Orcutt’s Spainflower Survey Maps (Attachment 3) present the same data as the second set of maps but apply the spainflower-related NRCS soils information at a larger scale to specific concentrations of conservation land properties for the purpose of selecting conservation lands properties for Task 1B population surveys. Specific concentrations of protected land were selected for survey when they contained greater than 25% spainflower soils and were otherwise thought to present the greatest likelihood of supporting undocumented spainflower occurrence based on site conditions (e.g., the presence of NRCS Lowery Alluvial Land-Hygrozoan Complex (L+F3) soil found at or very near Final Report – Orcutt’s Spainflower Project Page 3 of 16
most North County San Diego spineflower occurrence, the interface of NRCS Lu F3 soil and Comalitos County Sand (Clb, CD) soils as documented at three North County San Diego spineflower occurrence, proximity to documented spineflower occurrence, slope aspect, and other factors. This third set of maps contains twenty-four maps showing discrete 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 Occult’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 viability of spineflower plants at the original natural spineflower occurrence at TPSNR Extension. Surveys were conducted into April and ended when plants exhibited significantly reduced viability from drying.

Despite slightly above normal total rainfall for the 2015 winter year1, 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 natural 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 winter 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 cause 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 occurrence. Rainfall was significantly above a normal in January and February but below normal in March and April and temperatures were above normal during this period.

---

1 Water years are October 1 – September 30.
### Table 1
Orcutt’s Spineflower Population Survey Sites 2015 – 2017

<table>
<thead>
<tr>
<th>Conservant Lands Survey Site</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batayoloe Bluffs</td>
<td>City of Carlsbad</td>
</tr>
<tr>
<td>Kelly Ranch Habitat Conservation Area</td>
<td></td>
</tr>
<tr>
<td>La Costa Glen Habitat Conservation Area</td>
<td></td>
</tr>
<tr>
<td>Rancho La Costa Habitat Conservation Area</td>
<td></td>
</tr>
<tr>
<td>Saxony Road Open Space</td>
<td></td>
</tr>
<tr>
<td>Home Depot</td>
<td></td>
</tr>
<tr>
<td>Manchester Mitigation Bank</td>
<td></td>
</tr>
<tr>
<td>Oak Crest Park</td>
<td>City of Encinitas</td>
</tr>
<tr>
<td>Pacific Pines Racquet Club</td>
<td></td>
</tr>
<tr>
<td>San Diego Botanic Garden</td>
<td></td>
</tr>
<tr>
<td>San Elijo Lagoon Ecological Reserve</td>
<td></td>
</tr>
<tr>
<td>San Diego Natural Reserve Park</td>
<td>County of San Diego</td>
</tr>
<tr>
<td>Cerro Mountain Preserve</td>
<td></td>
</tr>
<tr>
<td>Coast Canyon Preserve</td>
<td>City of San Diego</td>
</tr>
<tr>
<td>Galleta Canyon Preserve</td>
<td></td>
</tr>
<tr>
<td>Overlook Park</td>
<td></td>
</tr>
<tr>
<td>Sorrento Hills</td>
<td></td>
</tr>
<tr>
<td>Torrey Pines State Natural Reserve Extension</td>
<td>California Department of Parks and Recreation</td>
</tr>
<tr>
<td>Torrey Pines State Natural Reserve Main</td>
<td></td>
</tr>
<tr>
<td>Sperre Open Space</td>
<td>University of California</td>
</tr>
</tbody>
</table>

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 1c work was provided to CDFW in December 2015.

For population survey results please see the section Results, Discussion & Conservation Recommendations below.

**Table 1 – Summary Report**

A Summary Report of the results of Task 1c work was provided to CDFW in December 2015.
Table 2
TPSNE Extension Ovca’s Spineflower Natural Occurrence Counts and Rainfall³

<table>
<thead>
<tr>
<th>Year</th>
<th>Population Count</th>
<th>Rainfall³</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2,525</td>
<td>12.7</td>
</tr>
<tr>
<td>2012</td>
<td>1,013</td>
<td>7.9</td>
</tr>
<tr>
<td>2013</td>
<td>2090</td>
<td>6.55</td>
</tr>
<tr>
<td>2014</td>
<td>211</td>
<td>5.09</td>
</tr>
<tr>
<td>2015</td>
<td>820</td>
<td>11.91</td>
</tr>
</tbody>
</table>

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 Ovca’s spineflower occurrences at the Crest Canyon Open Space Preserve, Gabriola Canyon Open Space Preserve, Sorrento Hills Open Space, and TPSNE Extension and Maia. 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 inclusion 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

³ To reduce impacts to delicate microbivore soils, population counts were not conducted at the TPSNE Extension occurrence in 2016 or 2017.

⁴ San Diego Lindberg Field.

Final Report – Ovca’s Spineflower Project
Page 6 of 16
Recreational to conduct restoration and management work with the state-listed Occid’s spinifexflower.

- 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 Banking** – Contractor Rancho Santa Ana Botanic Garden collected and prepared spinifexflower seed and propagated three generations of plants for seed banking and bulking. Seed was initially collected in 2014 from the then single known spinifexflower natural occurrence in North County San Diego at TPSNR Extension. Seed was subsequently collected from six of the eight newly discovered spinifexflower populations in spring 2015. In all, one hundred acrem plants were propagated to produce a total of approximately 64,000 seeds. Seed production 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 spinifexflower 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 Max 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 extent natural occurrence at TPSNR Extension.

For details of spinifexflower seeding please see the section Results, Threats, & Conservation Recommendations below.

**Fencing** – Approximately 3,000’ of fencing was installed by a fence contractor, TCLC staff, and volunteers to direct preserve visitors away from spinifexflower occurrences at the Cat Canyon and Serrano Hills open space preserves and at the TPSNR Extension. TCLC staff and volunteers increased the effectiveness of fencing by controlling unauthorized path leading towards or onto spinifexflower occurrences.

5. Fencing will also help protect the rare listed endangered short-haired chihuahua (Dipsosaurus dorsalis) from trapping.
Weeding – TCLC staff and volunteers conducted extensive weeding at the TPSNR Extension natural spineflower population and sites of the ten newly discovered occurrences.6

Interpretive Panel, Closeré 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.
- Closeré signs were designed, manufactured, and installed to direct visitors away from spineflower populations at the Corp Canyon and Sorrento Hills preserve and TPSNR Extension. In an effort to reduce the likelihood of vandalism, closeré signs were designed using children’s animal art provided by students of Oxnard Gateway Elementary School in San Bernardino.
- Public outreach brochures with information on rare plants and trail maps were designed by TCLC staff, printed, and distributed to the Tenney Pines Docent Society for distribution to TPSNR Extension visitors in a further effort to discourage off-trail use. Tenney 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 KPHS news story following a press release by TCLC. Both the education video and KPHS news story can be viewed on TCLC’s website page for the Rare Plants Project at http://www.oxnardconservancy.org/rareplants.

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 Oxnard’s Spineflower Project Cooperative Endangered Species Conservation Fund (Section 6) Grant Agreement No. PH82208.

6. Ten spineflower occurrences were only discovered after the close of our research funds, so plans were made for invasive weed control.

Final Report – Oxnard’s Spineflower Project
Page 8 of 16
Results, Threats, & Conservation Recommendations

Mapping Results

Task 1a GIS mapping was extremely valuable in identifying suitable Orcutt’s spinifexflower soils and habitat for subsequent successful surveys to locate new natural populations and for seeding of new occurrences as described below.

Besides the practical value 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 Spinifexflower Soils on Conserved Lands (Attachment 2) shows that NRCS soils occupied by spinifexflowers are located within approximately seven miles of the coast, that there were approximately 41,613 acres of spinifexflower-related NRCS soils prior to conversion of most natural habitats in coastal San Diego County to agriculture and development, that approximately 34,917 acre (84%) of spinifexflower-related NRCS soils have been lost to agriculture, development, and other anthropogenic conversion, and approximately 5,697 acre (14%) of spinifexflower-related NRCS soils are now located on various conserved lands.

Population Survey Results

Despite seeming less than optimal conditions, population surveys conducted by TCCS and TCLK contractors in 2015, 2016, and 2017 successfully located eight new, never-before-documented, natural spinifexflower occurrences (Table 3, Attachment 1). 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 occurrence discovered by TCCS contractors in 2015. All new occurrences are located in the northern City of San Diego in two 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 1 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 spinifexflower 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 spinifexflower suitable

7. Spinifexflower-related NRCS soils lost to development are approximate and were calculated using the SoilGIS 2013 database of land use zoning regulations. SoilGIS categories: “Disturbed Habitat”, “Indigenous Woodland”, “Agri-Agriculture”, “UR”, “THD”, and “Urban Development” are considered lost to development, agriculture, or other conversion.

Final Report – Orcutt’s Spinifexflower Project
Page 9 of 16
Table 3
New Orcutt's Spineflower Natural Occurrences 2015 – 2017

<table>
<thead>
<tr>
<th>Natural Occurrence Location</th>
<th>Occurrence ID</th>
<th>Estimated Population Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crest Canyon Open Space Preserve</td>
<td>CC1</td>
<td>&gt; 500</td>
</tr>
<tr>
<td></td>
<td>CC2</td>
<td>&gt; 100</td>
</tr>
<tr>
<td></td>
<td>CC3</td>
<td>100</td>
</tr>
<tr>
<td>Gonzales Canyon Open Space Preserve</td>
<td>GC1</td>
<td>450</td>
</tr>
<tr>
<td></td>
<td>GC2</td>
<td>750</td>
</tr>
<tr>
<td></td>
<td>GC3</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>GC4</td>
<td>150</td>
</tr>
<tr>
<td>Sorrento Hills Open Space</td>
<td>SH1</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>SH2</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>SH3</td>
<td>10</td>
</tr>
</tbody>
</table>

Habitat on conserved lands properties was mapped then 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 Hillis using the Task in 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 Cornishum Loamy Sand 10 to 15% slope, C4D and Loamy Alluvial Land-Use-Habitat Complex (LoF2) soils similar to those of the TPNR Extension natural occurrences. Soils are also similar to the Loamy Alluvial Land-Use-Habitat Complex soils found at or near historic occurrences in Encinitas, Rancho Santa Fe, TPNR Main, and Kenny Mesa. Vegetation and terrain at the Crest Canyon occurrences is northern matrimony chaparral on

---

8. Occurrences GC1 and GC2 were discovered by TCLC volunteers in 2015. GC3 and GC4 were discovered by Nancy Ferguson and Adam Taylor in 2016.

9. Margaret Hillis is a highly skilled amateur botanist who previously discovered the TPNR Extension natural spineflower population in 2009.

---

Final Report – Orcutt’s Spineflower Project
Page 10 of 10
a low, open sandstone Woof (frequent and largest occurrences) 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 Rocke and Rocke Biological Consulting and Jon Rahnman of the San Diego Natural History Museum using the TCLC 16 suitable soils maps. Two additional occurrences were discovered in Gonzales Canyon in 2018 by Nancy Ferguson of the U.S. Fish and Wildlife Service and Adam Taylor of Cabrillo National Monument while visiting the occurrence documented by TCLC in 2015. The GC3 occurrence is estimated at 790 plants, GC2 at 750 plants, GC3 at 38 plants, and GC4 at 150 plants. The Gonzales Canyon GC1 occurrence is located on NECSI Terrain Encampments soils (Te1) 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 Comalito Loamy Sand (0 to 25% silty, LoM) and Loamy Alluvial Land-Herbaceous Complex (LaVF) soils similar to the Crest Canyon and TPSNR Extension occurrences. Vegetation and terrain at the Gonzales Canyon occurrence GC1 in Diegan coastal sage scrub on a steep slope 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, gentle slope.

Sorrento Hills Open Space - The three new Sorrento Hills occurrences were discovered by Jim Rocke and Jon Rahnman in April 2015 using the TCLC 16 suitable soils maps. The Sorrento Hills SH1 occurrence is estimated at 595 plants, SH2 at 20 plants, and SH3 at 10 plants. All three Sorrento Hills occurrences are located on NECSI Terrain Encampments soils (Te1) similar to one of the two historic documented occurrences at TPSNR Main and the northern Gonzales Canyon occurrence discovered in 2015. The Sorrento Hills occurrence SH2 is also located at the interface of the Terrain Encampments soils and Comalito Loamy Sand (0 to 15% silty) 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 occurrence 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 spindletop flower 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 it surveyed four individuals six plants (Stailey and Soliwoda 2010). TCLC visited this site with Jonathan Snoep-Cook, who observed the plants in 2005 and found

that the former small opening occupied by the species is now overgrown with northern maritime chaparral vegetation and many young Torrey Pine trees and seeded from nearby landscaping specimens. One occurrence at TPNR Main has not been observed since its discovery in 1987. This area was thoroughly surveyed in 2015 and found to be heavily infested with nate of bermonade grass (Cosmosule cineraria) and valdigris (Echium species), possibly as a residual effect of a prescribed burn in this area in the 1980s.

Please see Attachment 6 for a report by Rock 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 TPNR Extension and Main.

<table>
<thead>
<tr>
<th>Seeded Occurrence Location</th>
<th>Occurrence ID</th>
<th>Estimated Population Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torrey Pines State Natural Reserve Extension</td>
<td>TPEa</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>TPEb</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>TPEc</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>TPEd</td>
<td>25</td>
</tr>
<tr>
<td>Torrey Pines State Natural Reserve Main</td>
<td>TPEMa</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>TPEMb</td>
<td>50</td>
</tr>
</tbody>
</table>

Seeding was conducted at four sites in TPNR Extension and two sites in TPNR Main in December 2015 and January 2016 in anticipation of the predicted 2016 El Nino wet winter. Aside from some large snow 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 temperature 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 TPNR Extension natural population. In

Seedsown Naval Air Station North Island, Contract No: N61336-04-C-20555, 060718-05-C-208051 Department of the Navy, 12 pages + appendices.

Final Report – Orcutt’s Spineflower Project
Page 12 of 16
NORTH CITY PROJECT EIR/EIS
RESPONSE TO COMMENTS

February 2018 F25-29 9420-04
protect the occurrence. Also in Crest Canyon, a rapidly used unofficial path runs directly through both the central (CC1) and southern (CC2) occurrences and a damped unofficial path runs through the northern occurrence (CC2). In Gonnelles Canyon, a damped unofficial path runs directly through the southern occurrence (GC1). At Somoto Hills, an unofficial equestrian path is extended and ending from heavy use and located immediately adjacent to the two large central and southern occurrences (SH1, SH2). A TPSPNR Extension, a closed but still occasionally used trail runs through the natural spineflower occurrence.

Trampling of spineflowers and microbentic 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 to additional seed collection, bulking, banking, and seeding of new occurrences is recommended. Seed should be collected from each new natural occurrence that has 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.

**Weed Control Recommendations** - A major focused effort to remove purple valdigrass from preserve with spineflower occurrence is essential to ensure the long-term survival of Crest’s spineflower and, for that matter, any other native vegetation. Spineflowers are small annual plants that grow in very delicate microbentic soils, both of which are easily eradicated. Control of valdigrass and other invasive exotic plants amidst spineflower occurrence will necessarily involve careful, non-chemical treatments. FUCO has and will continue to seek funding provided under separate grants from SANGO to work to control valdigrass and other exotic invasive plants at spineflower occurrence as part of the stewardship, restoration, and enhancement work described in this report. SANGO has provided continued funding for control of valdigrass and other invasive exotic plants in Crest Canyon through winter 2018. It is hoped that these funds will continue and be sufficient for the foreseeable future.

**Fencing & Sign Recommendations** - Additional fencing and closure signs should be installed and existing fencing maintained at all and near the Crest Canyon central and southern occurrences (CC1, CC2), eastern and southern Somoto Hills occurrences (SH1, SH2), and TPSPNR Extension natural and seeded areas.
occurrences to reduce the likelihood of trampling by passing visitors. TCLC has used matching funds provided under a separate grant from SANDAG to construct fencing, camouflage naturalized paths, and to design, prepare and install closure signs. But even 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 spinifexflower occurrences in collaboration with preserve managers.

**Spineflower Monitoring Recommendations** - Trampling of spinifexflowers and microbeats 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 at existing spinifexflower occurrences should not be authorized.

**Vegetation Management Recommendations** - Selective thinning of surrounding shrubs and clearing of vegetation litter is recommended as needed at spinifexflower occurrences. Spinifexflower seeds may still be present at Oak Crest Park natural occurrence last observed in 2005 and it is possible that this occurrence could re-emerge following selective thinning of nearby shrubs and removal of some of the young Torrey Pines and pine needle litter that has spread from landscaping specimens to provide desirable open and sandy spinifexflower habitat. Suppression of this occurrence along with seed collection and seed banking 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 naturalized spinifexflower occurrences. Funding is recommended for vegetation management as needed at all spinifexflower 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 banking, and use of banked seed to establish new occurrences on nearby conserved lands.

**Survey Recommendations** - Much more spinifexflower 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 remote historic occurrence 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 latter 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 northern and southernly suitable habitat areas that were not surveyed under this grant.
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 spinifexmuttae habitat sites on private land. The decision on whether to conduct or require spinifexmuttae 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 spinifexmuttae 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 spinifexmuttae under the San Diego NSCP 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 spinifexmuttae occurrences have likely been lost to development even since state and federal endangered listing of the species. These factors also suggest that additional spinifexmuttae occurrences may still be found on both conserved and un-conserved properties.

TCLC recommends distribution of spinifexmuttae GIS data and maps to staff of 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 spinifexmuttae-visited NSCP soils. Most spinifexmuttae suitable habitat has already been lost to development or agriculture so preservation of any remaining suitable habitat is considered essential for survival and recovery of the species.

Attachments:
Attachment 1 – Ocotillo’s Spinifex Locations and Soils Pre-2015
Attachment 2 – Ocotillo’s Spinifex Soils on Conserved Lands
Attachment 3 – Ocotillo’s Spinifex Survey Maps
Attachment 4 – Ocotillo’s Spinifex Locations and Soils 2015 – 2017
Attachment 5 – Ocotillo’s Spinifex Project Photographs and Exhibits
Attachment 6 – Robo Biological Consulting Report on Results of Ocotillo’s Spinifex Population Survey 2015
Attachment 7 – Occurrence forms, California Natural Diversity Database and San Diego Management and Monitoring Program

Final Report – Ocotillo’s Spinifex Project
Page 16 of 16
Crest Canyon Open Space Preserve – Newly discovered Ocutt’s spinifexflower in bloom (above) and typical open sandy spinifexflower habitat and Ocutt’s Spinifexflower Project fencing (below).
Sorrento Hills Open Space – Orcutt’s onionflower typical open sandy habitat (above) and Orcutt’s onionflower Project closure sign (below).
TPSNR Extension – Orcafl’s Spineflower Project seed collection from natural occurrence for seed banking (above) and seeding new occurrence (below).
NORTH CITY PROJECT EIR/EIS
RESPONSE TO COMMENTS

February 2018

F25-94

9420-04

Figure F25-19

TSNR - Creati's spinifex seeded habitat at TPSNE Extension (above) and TPSNE Main (below)
TPSNR Extension – Seeded Occurt’s siphanflower sprout (above) and Occurt’s Siphanflower Project interpretive panel (below).
December 8, 2015

The Chaparral Lands Conservancy

Attn: Mr. David Hogan
P.O. Box 143
Mount Laguna, CA 91948

Subject: Orchid’s Spiderflower (Chorizanthe erucifolia) Rare Plant Survey Results

Mr. Hogan:

This letter presents the results of Orchid’s spiderflower (Chorizanthe erucifolia) surveys conducted by Rocks Biological Consulting for The Chaparral Lands Conservancy (TCLC) in the County of San Diego, California in April 2015. Orchid’s spiderflower 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). Suitable habitat as shown in maps provided by TCLC. Five previously unrecorded Orchid’s spiderflower populations were located at two preserve locations in the north coastal City of San Diego. Grosses Canyon and Serramonte Hills (aka Camel Mountain West). Both of these sites are owned by the City of San Diego Parks and Recreation Department and are preserved as open spaces. The Grosses Canyon location is also part of the Pacific Highlands Ranch Natural Resources Management Plan area.

The Grosses Canyon populations occur in openings within the oak coastal sage scrub habitat of Arctostaphylos californica-Euphorbia fasciculata Alliance. In 2015, Orchid’s spiderflower was observed at two distinct sub-populations totaling approximately 1,200 plants within an approximately 200 square meter area.

The Serramonte Hills populations occur in openings within southern maritime chaparral habitat of Ceanothus m armocedrus Alliance. In 2015, Orchid’s spiderflower was observed at three distinct sub-populations 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 Grosses Canyon population was found on a gently sloping ridge top with a southeast aspect while the other was on a moderately sloping hillside with a west aspect. The Serramonte Hills populations were found on gentes to moderately sloping patches of sandy soil on steep ridge tops with south and west aspects. All populations are found in high quality, relatively undisturbed habitat with some cryptogenic soils and few weeds. Populations were noted to co-occur with several species at both sites, including Cotoneaster umpalo, Carissa pedunculata, Gossypium arboreum (Bolivia), and a few native species.

ROCKS
BIOLICAL
CONSULTANTS
2081 DEERFIELD STREET, SUITE D • SAN DIEGO, CA 92110-3461
619.781.2715 • INFO@ROCKSBCO.COM
D. Hogan  
December 4, 2016  
Page 2 of 6

Enclosures:  Survey Data and Personnel Site Plan  
SCMMP Monitoring Forms for Species Observance
Photo 9: View of survey area at San Elijo Bluffs. Coastal Spindletop was not observed. Note infestation of Powdery mildew (ErisaEmpidys alopecurops)

Photo 10: View of survey area at Village Park west. Coastal Spindletop was not observed.

F25-19 Cont.
<table>
<thead>
<tr>
<th>Scientific Name:</th>
<th>Gnaphalium occidentale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name:</td>
<td>Scotch Safflower</td>
</tr>
<tr>
<td>Species ID:</td>
<td>G-060</td>
</tr>
<tr>
<td>Total No. Indiv.:</td>
<td>600</td>
</tr>
<tr>
<td>Subsequent Visit?</td>
<td>Yes</td>
</tr>
<tr>
<td>RRE Response?</td>
<td>Yes</td>
</tr>
<tr>
<td>Address:</td>
<td>6177 Weller Street, San Diego, CA 92122</td>
</tr>
<tr>
<td>Email Address:</td>
<td><a href="mailto:6177Weller@gmail.com">6177Weller@gmail.com</a></td>
</tr>
<tr>
<td>Plant Information:</td>
<td></td>
</tr>
<tr>
<td>Location Description:</td>
<td>(Please attach map and/or fill out your choice of coordinates, below)</td>
</tr>
<tr>
<td>Campus:</td>
<td>Great Campus</td>
</tr>
<tr>
<td>County:</td>
<td>San Diego</td>
</tr>
<tr>
<td>City:</td>
<td>City of San Diego</td>
</tr>
<tr>
<td>Source of Coordinates:</td>
<td>GSD, GPS, &amp; Google Earth</td>
</tr>
<tr>
<td>Geographic Coordinates:</td>
<td>(Latitude &amp; Longitude)</td>
</tr>
<tr>
<td>Coordinates:</td>
<td>32.7851, 117.1856 North - 117.1856, 32.7851 West</td>
</tr>
<tr>
<td>Habitat Description:</td>
<td>(plants &amp; animals) plant communities, vegetation, associations, natural or artificial habitats, etc.</td>
</tr>
<tr>
<td>Animal Behavior:</td>
<td>(Describe observed behavior, for example: feeding, singing, calling, hunting, social or territorial behaviors)</td>
</tr>
<tr>
<td>Immediate and surrounding land use:</td>
<td>Great Campus Preserve</td>
</tr>
<tr>
<td>Distance:</td>
<td>100 feet with 1 foot overlapping the Great Campus Preserve</td>
</tr>
<tr>
<td>Comments:</td>
<td>There appeared to be one set of footprints traversing the population</td>
</tr>
</tbody>
</table>

**Determination:**

- [ ] Native plant
- [ ] Non-native plant
- [ ] Not native
- [ ] More than one type

**Photographs:**

- [ ] Plant
- [ ] Animal
- [ ] Not applicable

**EIR/EIS Response to Comments:**

February 2018 F25-106 9420-04
NORTH CITY PROJECT EIR/EIS
RESPONSE TO COMMENTS

California Native Species Field Survey Form

Scientific Name: Chionanthus occidentalis
Common Name: Western Snowbell

Location Description: Gonzales Canyon, City of San Diego Park and Recreation

Habitat Description: Achenes and seed pods are eaten by birds, small mammals, and a variety of insects.

Site Information: Overall site quality and habitat suitability are good. The area is not often disturbed by human activities.

Determination: The site is suitable for the presence of Chionanthus occidentalis.
<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Oncidium speciosum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
<td>Oncidium Speciosum</td>
</tr>
<tr>
<td>Specimen Photos</td>
<td><img src="image1" alt="Specimen Photos" /></td>
</tr>
<tr>
<td>Total No. Individuals</td>
<td>125</td>
</tr>
<tr>
<td>Threatened Plant</td>
<td>Yes</td>
</tr>
<tr>
<td>Invasive Species</td>
<td>No</td>
</tr>
<tr>
<td>Collection Date</td>
<td>04/2016</td>
</tr>
<tr>
<td>Visitor Notes</td>
<td>None</td>
</tr>
</tbody>
</table>

### Plant Information
- **Phenology:** Flowering (3/15), Fruiting (7/5)
- **Habitat:** Edgy, sandy soils
- **Location Description:** Serramonte Hills, City of San Diego Park and Recreation
- **Coordinates:** UTM Zone 11, E 13,000,000, N 4,000,000
- **Map Lat/Long:** 34.00057

### Animal Information
- **Habitat:** Native plant species
- **Animal Behavior:** Flower visitors

### Site Information
- **Overall Condition:** Good
- **Comment:** Overall condition is good, but care should be taken to protect large portion of the population.
## North City Project EIR/EIS

**Response to Comments**

### MRP - Key Risk/Grace Period Monitoring Form (2018)

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Risk</th>
<th>Key Factor</th>
<th>Shading</th>
<th>Grace Period</th>
<th>Issue</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site A</td>
<td>High</td>
<td>Groundwater</td>
<td>Yellow</td>
<td>30 days</td>
<td>Issue</td>
<td>Repair</td>
</tr>
<tr>
<td>Site B</td>
<td>Medium</td>
<td>Air Quality</td>
<td>Green</td>
<td>45 days</td>
<td>Action</td>
<td>Mitigate</td>
</tr>
<tr>
<td>Site C</td>
<td>Low</td>
<td>Noise Level</td>
<td>Red</td>
<td>60 days</td>
<td>Update</td>
<td>Monitoring</td>
</tr>
</tbody>
</table>

### F25-19

**Cont.**

- Event: X-124
  - Description: Critical error detected in equipment
  - Status: In progress
  - Assigned to: Maintenance Team

- Event: Y-121
  - Description: Safety violation
  - Status: Resolved
  - Assigned to: Safety Officer

- Event: Z-122
  - Description: Equipment malfunction
  - Status: Under investigation
  - Assigned to: Engineering Team

---

February 2018  

F25-109  

9420-04
**Response to Comments**

North City Project EIR/EIS

---

**Table:**

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1</td>
<td>Item 2</td>
<td>Item 3</td>
</tr>
<tr>
<td>Item 4</td>
<td>Item 5</td>
<td>Item 6</td>
</tr>
</tbody>
</table>

---

**Diagram:**

The diagram contains various elements such as boxes, arrows, and labels, illustrating the flow or relationship between different points. The exact details are not fully legible, but they appear to represent some form of analysis or process.
<table>
<thead>
<tr>
<th>Task</th>
<th>Details</th>
<th>Type of ballast</th>
<th>Ballast</th>
<th>Distance</th>
<th>Depth</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Details present</td>
<td>40% - 100%</td>
<td>Details</td>
<td>Details</td>
<td>Details</td>
<td>Task to be completed, but this should be confirmed with the TCA</td>
</tr>
</tbody>
</table>

F25-19 Cont.
MSF - Management Needs and Notes 2015

Scientific Name: Chironomus occidentalis
MSF Occur ID: 495

V. MANAGEMENT RECOMMENDATIONS

Mark, close and signs unauthorized trail that runs immediately adjacent to population

VI. MANAGEMENT ACTIONS IN LAST YEAR

None - this is a newly discovered occurrence

VII. OFF-DEP RESOURCES DETECTED: List any plant or animal species to add to the OFF-DEP

Ceratophora vestita

NOTES

This is a newly discovered population of Chironomus occidentalis. As a result, none of the monitoring requirements in the protocol were not recorded such as camera angle, direction, etc.
Response to Letter F26

Catherine Spangler
November 22, 2017

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.

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.
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).

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.

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.
Response to Letter F27

Joseph Satriano  
November 22, 2017

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.
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).
INTENTIONALLY LEFT BLANK
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.
Mr. Doug McPherson (FWS-SDR-15SO478-1RTA1027)

Remains to deliver additional wastewater to the North City Water Reclamation Plant, a refine 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 provide landfill gas from the City’s Miramar Landfill gas collection system via a new gas pipeline. The Miramar Reserve 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 (Ilyoplax pusilla), least Bell’s vireo (Vireo belli), southwestern willow flycatcher (Empidonax mexicanus), and black and white warbler; and 2) the need for a draft EIR to assess the potential impacts of the project on the Service’s list of Section 7(a) species and the potential impacts of the project on the Habitat Conservation Plan included in the draft EIR.

We appreciate the opportunity to comment on the IIEHR-EIS and if there are further questions please contact Patrick Gower at 760-431-9440, extension 352.

Sincerely,

DAVID
ZOUTENDYK

for Karen A. Gourley
Assistant Field Supervisor

EIS-A-1
Cont.
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 (I12) 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.
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.

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.
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...
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.

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, storing, 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., saturation) to the vernal pools unless the area to be graded is at an elevation below the pools. To achieve this goal, grading adjacent to vernal 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.
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 dilution 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 cut with fairy shrimp onsite consistent with the requirements of the approved restoration plan (e.g., free of invasive fairy shrimp). Topsoil shall be collected when dry to avoid damaging or destroying fairy shrimp eggs 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 shovel shall be used to pry up intact clumps of soil, rather than loosening the soil by raking and shoveling, which can damage the eggs. The soil from each pool shall be stored individually in labeled bags that are adequately ventilated and kept out of direct sunlight in order to prevent the occurrence of fungal or excessive heating of the soil, and stored off-site at an appropriate facility for vernal pool meadow. 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 vernal habitat areas to be impacted shall be transplanted to, and/or used as a seed starting source for, the vernal 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
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 trailii 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 |
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.

mitigate impacts to gracincheers, 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 the consultation were achieved.

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 has 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 planting palette proposed in the draft plans will include native species specifically associated with the habitat types). Unless otherwise approved by the Service, only locally native species (not exotics) will be used as close to the project area as possible will be used. The source and proof of local non-native of all plant material and seed will be provided;

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 the function has been replaced by natural recruitment; and

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 temporary 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 temporary loss due to delays) because of unforeseeable circumstances or causes beyond the reasonable control, 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.

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.
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).
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.
The EPA’s support of the Project is noted and will be included in the administrative record.

Comment noted.

Comment noted. The Final EIR/EIS will be sent as an electronic copy as requested to the email address provided.

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 Objectives)
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 Concern)
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 could reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objectives)
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 other project alternatives (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EE" (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).

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 discussion 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, the proposal could be a candidate for referral to the CEQ.

Response to Comment Letter EIS-C

Adams Broadwell Joseph and Cardozo
Linda Sobczynski
November 21, 2017

EIS-C-1  Comment noted.
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 other. 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 15068.3, 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 DEIR/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.34

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.35

1. 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. The organizations' members live, recreate and work in the communities and region that suffer the impacts of projects that are detrimental to human health, public safety, and quality of life.

34 (4 Cal. Code Regs., § 15068.3 (CEQA Guidelines).)
35 Letter from P. Fox to L. Delucia (Nov. 20, 2017) Comments on the Draft Environmental Impact Report for the North City Project New Water Supply Phase 1 Project, San Diego, California Transcript: “Fox Comments”, Exhibit A (Dr. Fox's letter and CV are provided in hard copy and her references are outlined on a USB).
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.

The comment is noted regarding the intent of NEPA and EISs.
the environment. NEPA therefore requires federal agencies to take a "hard look at [the] environmental consequences of their proposed actions." To do so, NEPA makes certain that environmental concerns will be integrated into the very process of agency decision-making.

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." 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." If further required that "the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth" therein. 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."

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." An agency's decision made pursuant to NEPA is reviewed under this standard. Although, the standard is deferential to the judgment and expertise of the agency, the agency must support its conclusion with studies that are deemed reliable. The agency will have acted arbitrarily if the record

9 320 C.F.R. § 1508.101.
10 128 ORO. 1508.101.
11 128 ORO. § 1508.101.
12 128 ORO. § 1508.101.
13 128 ORO. § 1508.101.

December 12, 2017
Page 5
The comment is noted regarding the intent of CEQA and EIRs.
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. Dr. Fox writes that the DEIR/EIS assumed a wind speed of 8.5 mph. However, she adds that Santa Ana winds occur regularly and are capable of reaching 20 to 50 mph.

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. 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. 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 surfaces.

For example, the DEIR/EIS states that PM10 emissions and PM2.5 emissions are below the significance threshold. The significance threshold for PM10 emissions is 100 lb/day. The significance threshold for PM2.5 emissions is 87 lb/day.

* For Comments, p. 15.

See For Comments, p. 15.
* For Comments, p. 13.

* For Comments, p. 10 (citing DEIR/EIS, App. R, pp. 71-72 (Table 1.5-66), p. 72-69.
* DEIR/EIS, App. R, pp. 71-72 (Table 1.5-66), p. 72-69.
* DEIR/EIS, App. R, pp. 71-72 (Table 1.5-66), p. 72-69.

Please refer to Response to Comment EIS-C-A-27 for a complete response to this topic.
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.
EIS-C-13 The comment is acknowledged as an introduction to specific comments that follow.
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.
Please refer to Response to Comments EIS-C-A-13 and EIS-C-A-14 for a complete response to this topic.
December 13, 2017
Page 13

the air quality analysis has resulted in a flawed DEIR/EIS. According to Dr. Fox, high wind events may result in significant PM2.5 emissions.10

The City and Bureau of Reclamation must revise the DEIR/EIS to add in all emissions sources — wind-driven dust and fugitive dust from off-road travel — consistent with these comments.11 The agencies will consequently need to reevaluate the revised DEIR/EIS to assure 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.

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. According to Dr. Fox, the Project will use diesel-fueled, off-road equipment such as “heavy-duty trucks, cranes, bulldozers, excavators, and graders.”12 Not only will the equipment emit large amounts of diesel particulate matter (“DPN”), but it will also emit other hazardous air pollutants, such as benzene, which can cause cancer and other acute and chronic health impacts.13 As Dr. Fox writes in her comments, construction in well known to result in significant health impacts in surrounding communities.14 And, for this Project, there are sensitive receptors that are very close to construction sites, within 10 feet in some places.15

Even though the Project’s emissions of DPN and other hazardous air pollutants will be near sensitive receptors, the DEIR/EIS did not include an

9 High wind events may result in significant PM10 and PM2.5 emissions. Fox Comments, p. 16.
10 Fox Comments, p. 16 (Including the wind-driven dust emissions would increase PM2.5 and PM10 emissions over those significant thresholds, resulting in significant exceedances that require all feasible mitigation.
11 See supra. Section 10.1c, supra Fox Comments, p. 14 (The added emissions for PM10 are in the following comments).
12 Fox Comments, p. 15 (air quality) Fox Comments, section 1.7.
13 Fox Comments, p. 15.
14 Fox Comments, p. 15.
15 Fox Comments, p. 15.
16 Fox Comments pp. 18, 22 (“There are many nearby sensitive receptors located within 20 to 30 feet from active construction areas.”)

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. Moreover, Dr. Fox comments that the DEIS/REIS failed to evaluate cumulative health impacts of construction. 

(7) The DEIS/REIS 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. 

Consequently, she writes, these health impacts are likely cumulatively significant. 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. Alternatively, if an all Tier 4 fleet is not available, diesel particulate traps should be used to control DPM. 

The City and Bureau of Reclamation must review and recalculate the DEIS/REIS to include an adequate analysis of, and require all feasible mitigation to reduce, the potentially significant cumulative health impacts from construction equipment emissions.

**III. The DEIS/REIS does not adequately analyze the odor impacts from construction emissions.**

Rather than conduct an adequate analysis of odor impacts from construction, the DEIS/REIS claims that impacts would be "transitory" or "intermittent" and also that there is no method to evaluate odor impacts. The DEIS/REIS is legally

**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.
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. 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 odorant compounds, estimating their emission rates, and using modeling to evaluate the concentration of these odorant compounds at the location of sensitive receptors. 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. 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. For example, the construction equipment can be equipped with diesel oxidation catalysts, which eliminate odors. The DEIR/EIS must be revised and remitted 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.

According to Dr. Fox, the Project will have a significant health impact as a result of disturbing soils that may contain Valley Fever spores. Yet, the

---

87 Fox Comments, pp. 10-12.
88 Fox Comments, pp. 11-12.
89 Fox Comments, p. 10.
90 For example, see also Fox Comments, p. 13 (discussing Santa Maria Rail Terminal and agency’s finding of significant odor impact).
91 Fox Comments, p. 24.
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.
Please refer to Response to Comment EIS-C-A-27 for a complete response to this topic.
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.
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 Regulations for Recycled Water (City of San Diego 2016a), particularly for the promotion 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 tar all vehicles having dirt or spills on public roads if sufficient freshened 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.¹⁰⁸

First, the DEIR/ESRI contains no discussion of who would be responsible to develop these measures or oversee their implementation.¹⁰⁹

Second, MM-AQ-1 requires covering or watering stockpiles.¹¹⁰ As Dr. Fox explains, watering stockpiles does not eliminate off-site, unswept road dust from flat surfaces, unswept roadways, and active working areas.¹¹¹ Relatively third, water or dust mitigation does not control dust from active working areas whose excavators, and other equipment, are operating.¹¹² Dr. Fox estimates that this measure, paired with moisture control, would control at most 40% of the dust.¹¹³

Fourth, according to Dr. Fox, washing and sweeping paved streets does not control dust from either on-site or off-site unswept areas.¹¹⁴ EIS/C-38, covering trucks

---

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.
North City Project EIR/EIS
Response to Comments

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.

does not control dust raised by track 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 is redundant with the use of water for dust control. 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. Rather, the DEIR identifies feasible mitigation measures that are necessary to reduce the significant PM10 construction emissions. These measures include installing windbreaks on the windward side of actively disturbed areas of construction, and requiring that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines among others. These measures must be included in a revised DEIR/ES to determine if they will reduce PM10 construction emissions to less than significant levels.

ii. All feasible NOx mitigation is required for the San Vicente Reservoir Alternative.

The DEIR/ES concluded that the San Vicente Reservoir Alternative would have a significant and unavoidable air quality impact due to daily NOx emissions. Most of the emissions would arise from the Mission Trails Booster...
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. As Dr. Fox writes, Tier 4 Interim NOx limits are identical to Tier 3 limits. Once again this mitigation measure does nothing.

Third, the measure mentions Tier 4 Final engines as an option, but does not require them. 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. If Tier 4 Final engines are not available, then additional NOx mitigation must be required. Therefore, the City and Bureau of Reclamation lack substantial evidence to support their conclusion that all feasible mitigation measures have been included in the DSEIS/EIS for the significant NOx emissions.

Dr. Fox identifies additional feasible mitigation measures to control NOx emissions from construction. These measures include, for example, maintaining all construction equipment in proper tune according to manufacturer’s specifications, modifying engines with CARB verified retrofits, and requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx.

Although most of the emissions would arise from the Mission Trails Booster Station, the DSEIS/EIS asserts that evaluating other options — i.e., redesigning the facility footprint, reducing associated grading — is “outside the scope of this EIR/EIS.” The law only permits, but actually requires this type of evaluation.

---

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. The DEIR/EIR must be revised to include additional feasible construction mitigation measures to reduce the significant NOx emissions to below 250 lb/Meyr. The City must then re-circulate the revised DEIR/EIR for public review.

b. Public health impacts from Valley Fever are significant and require all feasible mitigation measures.

As discussed above, the DEIR/EIR did not disclose or analyze significant health impacts from exposure to Valley Fever spores. Dr. Fox provides substantial evidence that the public health impacts are significant and require mitigation. Although the DEIR/EIR includes a conventional dust control measure to address construction impacts on air quality (Mitigation Measure MM-ADG-1), Dr. Fox writes that the measure is inadequate to address the health risk posed by exposure to Valley Fever spores. Therefore, the DEIR/EIR must be revised and re-circulated to include mitigation measures that specifically mitigate the public health impact from exposure to Valley Fever spores.

Dr. Fox explains that conventional dust control measures are not adequate to address Valley Fever because these 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.” Even after applying dust control measures, and observing that the air appears relatively clear and dust-free, the spores can remain aloft for long periods and be carried hundreds of miles from their point of origin.

---

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.
December 13, 2017
Page 26

origin.

Thus, in the lead agencies’ response to these comments, the City and

Bureau of Reclamation may not claim that the DIERIES’s conventional dust

control measures396 will adequately address the significant health impact from

Valley Fever.396

Consequently, Dr. Fox provides several recommended measures that go

beyond conventional dust control measures396 and that specifically address Valley

Fever, such as:

(1) Re-evaluating and updating the Project’s Injury and Illness Prevention

Program and ensuring that safeguards to prevent Valley Fever are

included396

(2) Training all employees about Valley Fever396

(3) Controlling dust exposure by providing high-efficiency particulate-filtered, air

conditioned enclosures on heavy equipment396

(4) Preventing transport of sand outside endemic areas by thoroughly cleaning

equipment396

(5) Improving medical surveillance for employees by ensuring that employees

have prompt access to medical care396

(6) Positioning workers upwind, when possible, when they are digging a trench

or performing other soil-disturbing tasks.396

396 Fox Comments, p. 30.
397 See DIERIES, sections 0.0.21-22; id., Appendix B, p. 74 (Mitigation Measures MM-MAQ-1).
398 Fox Comments, p. 30 (“Yes, examination mitigation measures in the DIERIES are not

enough. Personnel and equipment would still be associated with the sand扬发行, such as those proposed in the DIERIES, have experienced fugitive dust issues and

reported cases of Valley Fever.”)
399 Fox Comments, p. 30 (“The recommended measures go far beyond the conventional dust control

measures recommended in the DIERIES to control construction emissions, which primarily control

PM10,” id., p. 41 (addressing additional reasons why MM-MAQ-1 is inefficient and inadequate).
400 Fox Comments, p. 30.
401 Fox Comments, p. 30.
402 Fox Comments, pp. 30-31 (“Thoroughly clean equipment, vehicles, and other items before they are

covered with sand.”)
December 12, 2017
Page 28

Dr. Fox concludes that “[e]ven if all the [recommended] measures are adopted, a recirculated DERR/ES is required to analyze whether these [recommended] measures are adequate to reduce [the Valley Fever] significant impact to a level below significance.” 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.

VI. CONCLUSION

The DERR/ES 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 DERR/ES. The agencies must then recirculate the revised DERR/ES 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.

Sincerely,

[Signature]

Linda Sobczynski

EIS-C-49 This comment is acknowledged that it is a summary to specific comments that preceded it.

EIS-C-48 Please refer to Response to Comment EIS-C-A-68 for a complete response to this topic.
INTENTIONALLY LEFT BLANK
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 NCWRF;
- brine/concentrate discharge pipeline;
- upgrades to existing Metro Biosolids Center;
- new North City Renewable Energy Facility at NCWRF; and
- new Landfill Gas Pipeline between Miramar Landfill gas collection system and NCWRF.

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 77 days 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 3,809 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

---

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 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/ 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 provided on November 14, 2017 and published to the public on November 17, 2017,
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:

2 Number of pages to review, assuming 7 days/ week = (1,758 * 5,495)/77 = 98 pages/day.
3 Excel spreadsheets were provided on October 30, 2017.

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.”
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.
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 (CO₂E) 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 1,208 pages of pdf output from runs of the CalEEMod model for the Miniaraf Reservoir Alternative in Appendix A to Appendix B (AQTR) and 1,207 pages of pdf output from runs of the CalEEMod model for the Sun Vicente Reservoir Alternative in Appendix B to Appendix B (AQTR) of the DEIR/DEIS. 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, a 67-page document with six appendices; dig through thousands of pages of hard copy/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 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.

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 PM10 and PM2.5 (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
Fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling on 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 vehicles 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 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 PM10 and PM2.5 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:

\[ E = k/s \times W/3 \]

where

- \( E \) = site-specific emission factor in lb/VMT
- \( k \) = particulate size factor (PM10, PM2.5) constant from AP-42, Table 13.2.2-2 (1.8 for PM10 and 0.35 for PM2.5)
- \( s \) = surface material salt content (%) from AP-42, Table 13.2.2-1 (0.5% 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)

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 PM10/PM2.5 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 PM10 and PM2.5 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.
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:**
  
  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 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
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.

Using the above inputs, the PM$_{10}$ emission factor in pounds per vehicle mile traveled (lb/VMT) is:

$$E_{vmt} = 1.5(8.5/12)(44/3) = 3.7 \text{ lb/mi}$$

Assuming that each piece of equipment moves 5 miles while on the construction site each day, the increase in PM$_{10}$ emissions would be 18 lb/day.\(^{23}\) The DEIR/DEIS provides no information on on-site trip length for any equipment. Rather, it reports only worker, vendor, and haul total on-site/off-site trip lengths (16.8, 6.6, 20 mi/day).\(^{24}\) Assuming, for example, that an excavator operates at 2 mi/hr,\(^{25}\) during an 8-hour workday it would travel 16 miles. Similarly, deceleration speeds range from 1 mi/hr up to 4 mi/hr.\(^{26}\) Thus, assuming 5 mi/day for each piece of on-site equipment, which is equivalent to 0.6 mi/hr, is conservative.

The mitigated PM$_{10}$ and PM$_{2.5}$ emissions in Appendices A and B to Appendix B (indicate that no fugitive PM$_{10}$ or PM$_{2.5}$ mitigation was included for fugitive dust)\(^{27}\) (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 PM$_{10}$ fugitive emissions, the increase in PM$_{10}$ emissions from equipment travel in off-road areas is large enough by itself for both Project alternatives to exceed the PM$_{10}$ 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 unmitigated total PM$_{10}$ emissions for the Minaror Reservoir alternative would be 188 lb/day (148 + 30.85).\(^{28}\) The maximum daily unmitigated total PM$_{10}$ emissions for the San Vicente Reservoir alternative would

\(^{22}\) Increase in PM$_{10}$ emissions from on-site travel of construction equipment = 8 pieces of equipment x 5 mi/day x 3.7 lb/mi = 188 lb/day.

\(^{23}\) DEIR/DEIS, Appendix B, Table 7.2-32, p. 88.

\(^{24}\) See, for example, Ron Hadaway, 4 Questions to Ask Before Selecting a Wheel Excavator, August 8, 2016 (2.5 to 25 mi/hr/yr available at http://www.constructionbusinessowner.com/equipment/equipment-management/august-2016-questions-ask-before-dig-excavator).

\(^{25}\) David Roberts, Pipe and Excavation Contracting, 1987, p. 89.

\(^{26}\) DEIR/DEIS, Appendix B, Table 7.2-23, p. 68.

\(^{27}\) DEIR/DEIS, Appendix B, Table 7.2-24, p. 68.

\(^{28}\) DEIR/DEIS, Appendix B, Table 7.2-22, p. 68.
be 218 lb/day (148 + 70.05). The PM\textsubscript{10} significance threshold is 100 lb/day. Thus, PM\textsubscript{10} emissions from construction of both alternatives are significant without mitigation for on-site fugitive dust.

Assuming mitigation, on-site fugitive PM\textsubscript{10} emissions remain significant. The CalEEMod model default control efficiency for watering unpaved road fugitive dust is 40%. Assuming a 40% control efficiency from watering on-site unpaved areas, the PM\textsubscript{10} emissions from off-road vehicle travel for the Miramar Reservoir alternative are 129 lb/day\textsuperscript{27} and for the San Vicente Reservoir alternative 159 lb/day.\textsuperscript{28} Thus, daily PM\textsubscript{10} emissions from both alternatives are significant and unavoidable, requiring all feasible mitigation for PM\textsubscript{10}.

1. Off-Road PM\textsubscript{10} Mitigation In MM-AQ-1 Is Not Adequate to Mitigate Significant PM\textsubscript{10} Impacts

Even though no significant PM\textsubscript{10} or PM\textsubscript{2.5} 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.\textsuperscript{29} However, none of the mitigation measures in MM-AQ-1\textsuperscript{30} would reduce particulate matter from off-road equipment travel on disturbed surfaces beyond that assumed by the default 40% used to calculate revised PM\textsubscript{10} 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.

---

\textsuperscript{27} DEIR/DEIS, Appendix B, Table 7.2-29, p. 95.

\textsuperscript{28} DEIR/DEIS, Appendices A to Appendices B, pp. 5, 25-26, 79, 108, 152, 155, 157, 213, 220, 265, 266, 268, etc. Appendices B to Appendices B, pp. 5, 25-26, 79, 108, 152, 155, 157, 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.

\textsuperscript{29} Mitigated off-road PM\textsubscript{10} emissions for the Miramar alternative: 0.3 \times 148 + 30.05 = 128.05 lb/day.

\textsuperscript{30} Mitigated off-road PM\textsubscript{10} emissions for the San Vicente alternative: 0.3 \times 148 + 70.05 = 158.83 lb/day.

\textsuperscript{31} DEIR/DEIS, Appendices A to Appendices B, p. 74 and Appendices B to Appendices B, p. 81.

\textsuperscript{32} DEIR/DEIS, p. 1035/1044; Appendix B, p. 86.

---

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.
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.

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.

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 on site 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
| EIS-C-A-24 | PM$_{10}$ emissions by 69% on construction and demolition sites. Therefore, soil moisture can be controlled on active work areas. 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 a 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 access 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 (e.g., 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:

---

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.
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/PM12.5 Emissions Were Omited

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 Alternative68 and 258.58 acres by the San Vicente Reservoir Alternative.65,67 Elsewhere, the DEIR/DEIS admits that the San Vicente Reservoir Alternative “may require a substantial amount of excavation work at the site.”66 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.”63 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—excluding the acres graded, geometry and location of storage piles, types of trucks that would be used,18 number of on-site and off-site truck trips, wind speeds,19 etc.

Windblown dust from disturbed soils is a particular concern at this site due to Santa Ana winds, which occur in the area.20 These winds are strong, extremely dry, down-slope winds that originate inland and affect coastal Southern California.21 As...

---

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.
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.
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...
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 μg/m³ divided by the reference exposure level (REL), also in units of μg/m³. 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 $3.91 \times 10^{-3}$ grams per second was calculated as follows:

\[
0.0484 \text{ total tons exhaust PM}_{10} = 96.8 \text{ total pounds (lbs) DPM during construction}
\]

\[
96.8 \text{ lbs} \times 453.6 \text{ g/lb} \div (4 \text{ hrs/day} \times 780 \text{ working days}) \div 3600 \text{ seconds/hour} = 3.91 \times 10^{-3} \text{ g/second}
\]

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
modelled maximum annual concentration at the MEIR would be 0.021 \( \mu g/m^3 \). 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.

<table>
<thead>
<tr>
<th>EIS-C-A-32</th>
<th>This comment cites that the OEHHA risk assessment guidance recommends cancer risks be evaluated for short-term exposures,</th>
</tr>
</thead>
</table>
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 other 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. |

---

February 2018

EIS-C-A-44
dumpers/tenders, excavators, and plate compactors for 90 days. 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.

The DEIR/DEIS air quality section obscures the fact that there are nearby sensitive receptors by asserting that sensitive receptors are “within 1,000 feet” of construction.34 This figure is not only not supported but is misleading. “Within 1,000 feet” could encompass much rarer 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.35 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, 50 feet from the alignment of the North City Pipeline, and 150 feet from the alignment of the Moreno Pipeline, Moreno Wastewater Foreman, and Brea/Centrale Line.36 “Typical source-receptor” distances are near these locations range from 69 to 70 feet.32 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 Moreno Pipeline work is anticipated to take place during nighttime hours,33 when more people are home (i.e., children will not be in school and are uniquely sensitive) and will be exposed.

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 throughout the County and in the immediate 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.

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.

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**

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. 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.

Because the DEIR/DEIS concludes without any support that diesel particulate emissions from construction equipment would be less than significant, it fails to require

---

**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
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\textsubscript{x}) are shown in Draft EIR/EIS Tables 6.3-8 and 6.3-9 for construction. The maximum SO\textsubscript{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.”

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. A fleet of heavy-duty, diesel-fueled construction equipment serviced by up to 88 truck trips per day, 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 killing at the Project site can travel downwind for miles and drift into heavily populated areas.

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 odorous compounds that would be present, in this case diesel exhaust, represented by PM10 or another surrogate, such as aldehydes, estimates their emission rates, and uses AERMOD or other dispersion models to

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 odorous compounds at the location of sensitive receptors. The modeled ambient concentrations are then compared to published odor thresholds. The DEER/DEIS does not contain any analysis at all. Design criteria, for example, have been developed for diesel-fueled equipment based on the 12,000 odor dilution threshold, including a 400-hp diesel truck, a 25-kW diesel generator, and a 2,000-kW diesel generator. The resulting design criteria are 0.32 mg/m³/g or 432 ug/m³/g (for 400-hp) and 30 ug/m³/g, respectively, for this equipment.

Avoided, the odor discussion is inconsistent with the City of San Diego’s CBQA Significance Determination Thresholds. 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.” As demonstrated elsewhere in these comments, there are many nearby sensitive receptors located within 10 to 50 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 odor thresholds that can be used to estimate odor impacts, noting they can be supplemented with other criteria. Elsewhere, the San Diego Guidelines note that San Diego Municipal Code addresses odor impacts at Chapter 14, Article 1, Division 7, paragraph 142.107(a) as follows:

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 sitting shall not be permitted to exceed beyond the boundaries of the premises upon which the use resuming the contaminants is located.

The DEER/DEIS made no attempt to address these requirements.

---

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. |
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
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

---

**Footnotes:**

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.
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 NOₓ 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 NOₓ emissions in 2019 for the MTBS. The haul trucks alone were estimated to generate 371.87 pounds of NOₓ 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 NOₓ 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.
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.53
• Use low rolling resistance tires on long haul class 8 tractor-trailers.54
• Use idle reduction technology, defined as a device that is installed on the vehicle that automatically reduces 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.55
• Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM (BAQMD).
• Require that all contractors use equipment that meets CARB’s most recent certification standard for off road heavy-duty diesel engines.56
• Solicit bids that include all of these measures (SCAG).

Alternatively, as discussed in the DEIR/DEIS, the MTBS component of the Sun Vicente Reservoir Alternative could be redesigned to reduce the facility footprint, reducing associated grading; reshaping 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 DEIR/DIEs asserts that evaluating these other options is “outside the scope of this EIR/EIS.” However, such evaluation is not outside of the scope of imposing mitigations.

In sum, all feasible mitigation must be required when an impact is significant and unavoidable. Thus, the DEIR/DIEs must be revised to include additional feasible construction mitigation measures to reduce the significant NOx impact to below 250 lb/day, and resubmitted for public review.

2. THE DEIR/DIEs 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 spp., 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 airborne. 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. The California Department of Public Health has concluded.

---

97 DEIR/DIEs, p. 90.; Appx. A, p. 90.
98 DEIR/DIEs, p. 90.; p. 90.
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.
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, vehicular, 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 potentially healthy individual to miss work, have long-lasting and disabling health problems, or even death.

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. San Diego County, including the Project site, is located within the established endemic range of Valley Fever, as shown in Figure 8.

---


98 See, for example, R. Schmitt, B. Hleva, and T. Wood, Just One Breath: Valley Fever Cases Reach Epidemic Levels, Red Moms Battle Hidden, September 18, 2019 ("The cocci fungus is common in much of the southwest and in southwestern 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 town of San Diego, the wine country of Sonoma County, and inland in the Sierra foothills."). Available at https://www.centnersbyfriendship.org/custs/just-one-breath-valley-fever-cases-
reach-epidemic-levels-brief-bever-remains-untold.


---
Table 3. Reported Cases of Valley Fever in San Diego County

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>136</td>
</tr>
<tr>
<td>2013</td>
<td>138</td>
</tr>
<tr>
<td>2014</td>
<td>138</td>
</tr>
<tr>
<td>2015</td>
<td>136</td>
</tr>
<tr>
<td>2016</td>
<td>138</td>
</tr>
</tbody>
</table>

The number of reported Valley Fever cases in San Diego County has continued to rise, as shown in Table 3.
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.\(^{329}\)

**Figure 6: Valley Fever Risk to Construction Workers**

Dust exposure is one of the primary risk factors for contracting Valley Fever.\(^{328}\) 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.\(^{331}\)

---

\(^{328}\) CDPH, June 2012.

\(^{329}\) Rafael Labrador, Expanding Understanding of Epidemiology of Coccioidiodymycosis in the Western Hemisphere, Annals of the New York Academy of Sciences, vol. 111, 2007, pp. 20-22; Frederick S. Fisher, Mark W. Budman, Suzanne M. Johnson, Darios Panagakis, and Erik Zahniser, Coccioididymycosis: Niche and Habitat Parameters in the Southwestern United States, a Matter of Scale, Annals of the New York Academy of Sciences, vol. 111, 2007, pp. 45-72. (All of the examined soil locations are noteworthy as generally 70% of the individuals who were exposed to the dust or were encountering dust at the sites were infected.)\(^{330}\) available at [http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4380305/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4380305/).

\(^{331}\) 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://kerncountyvalleynv.com/about-us-valley-fever/prevention/](http://kerncountyvalleynv.com/about-us-valley-fever/prevention/).
The most at-risk populations are construction and agricultural workers, 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.” 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.”

The disease debilitating the population and thus prevents them from working. The longest period of disability from occupational exposure in California is for construction workers, with 62% of the reported cases resulting in over 60 days of lost work. Another study estimated the average hospital stay for each (non-construction work) case of coccidioidomycosis at 35 days.

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.” 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...
construction will carry the very small spores, 0.802-0.895 millimeters ("inset") (Figure 7). These very small particles are not controlled by conventional construction dust control mitigation measures.

Valley Fever spores have been documented to travel as much as 500 miles 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 these areas 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 45 and over. An individual does not have to have direct soil contact to contract Valley Fever.\(^\text{124}\)

\(^{124}\) Fisher et al., 2005, Fig. 9.

\(^{125}\) Schmieder and Taubenhausse, 1984, p. 130; Pappagallo and Erzberger, 1978.

\(^{126}\) Pappagallo and Erzberger, 1978, p. 227 ("The northern areas were not directly affected by the ground level winds that had struck Kern County but the dust was lifted to several thousand feet elevation and, borne on high currents, the soil and aflatoxins along with some microorganisms were partly deposited on deciduous and evergreen trees, "an annual storm" that visited the residents of much of California."


\(^{128}\) H.L. McLean, Public Health Officer, Kern County, The Epidemiology of Coccidioidomycosis – Kern County, California Data, 1987-2011, January 22, 2014 Table 6 is available at: http://www.mcdowellsprings.com/

\(^{129}\) J.A. Wilen et al., Coccidioidomycosis Among Camp and Outdoor Recreationist in the Outdoor Televised Fishing Contest – California, 2012, available at: https://www.cdfa.ca.gov/PlantPest/CIDPCC/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. No vaccine or known cure exists for the disease. However, the FDA recently granted Fast Track designation for a proposed treatment. 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. Between 2000 and 2015 in California, 1,098 deaths were attributed to Valley Fever. In recent years, reported Valley Fever cases in the Southwest have increased dramatically.

Infections by *Coccidioides* spp. frequently have a seasonal pattern, with infection rates that generally spike in the first few weeks of hot dry weather that follow extended mild to 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. The majority of cases of Valley Fever accordingly occur during the months of June through December, which are typically periods of peak construction activity.


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. Drought periods can have an especially potent impact on Valley Fever if they follow periods of rain. It is thought that during drought years the number of organisms competing with *Coccidioides* sp. decreases and the fungus remains alive but dormant. When rains finally occur, 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.

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 coccic spores.

The DEIR/DIS 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 coccic. As discussed below, conventional mitigation for construction impacts is not adequate to protect construction workers or sensitive receptors from Valley Fever. Thus, the DEIR/DIS utterly fails to inform the public of the significant consequences of Project construction. The City should amend and recirculate the DEIR/DIS to provide an adequate assessment of Valley Fever and propose adequate mitigation.

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:

**Public Health and Safety: Valley Fever**

&ldquo;Valley Fever is a fungal infection that is known by the scientific name Coccidioides immitis, but more commonly referred to as Valley Fever. Valley Fever is a respiratory disease that is spread through the air and can cause serious lung infections. Valley Fever is typically spread through the inhalation of dust containing the fungus, which is released into the air from soil or other sources.&rdquo;

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-contaminated 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 sp. spores may be airborne in a given area. Freely-generated dust clouds usually contain a larger proportion of the more visible coarse particles, PM10 (≤ 10 μm), compared to cocci spores (0.002 μm). 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.

Spores of Coccidioides spp. have slow settling rates in air due to their small size (0.002 μm) and low terminal velocity, and possibly also due to their buoyancy, barrel shape, and commonly attached empty hyphae cell fragments. 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.

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, developed recommendations to limit exposure to Valley Fever based on scientific information from the published literature. The recommended measures go 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-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.

---


58 CEPAI, June 2013, pp. 4-6.
1. Re-evaluate and update your Injury and Illness Prevention Program (as required by Title 8, Section 3200) 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 their 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 CCF 5114) should be in place.
- 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 coverslips, 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 off-site 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 they 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.
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. 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. An occupational study of Valley Fever in California workers also developed recommendations to protect those working and living in endemic areas. 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:

- 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 prior to identification 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.

---


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.

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.

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 review. 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. |
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.

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.

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-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 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.
EIS-C-A-69 The author's resume is noted.
Phyllis Fox, Ph.D., PE
Environmental Management
745 White Pine Ave
Rockledge, FL 32955
321-620-0008
PhyllisFox@gmail.com

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
Board Certified Environmental Engineer, American Academy of Environmental Engineers, Certified in Air Pollution Control (CEPI), 2001-present, 2014-present
Certified Environmental Professional (CEP), Institute of Professional Environmental Practice (IPEP) 2001-present

PROFESSIONAL HISTORY
Environmental Management, Principal, 1981-present
Lawrence Berkeley National Laboratory, Principal Investigator, 1977-1981
University of California, Berkeley, Program Manager, 1976-1977

PROFESSIONAL AFFILIATIONS
American Chemical Society (1981-2010)
Phi Beta Kappa (1977-present)
Sigma Pi Sigma (1970-present)
REPRESENTATIVE EXPERIENCE

Phyllis Fox, Ph.D., PAGE 2


National Research Council Committee on Irrigation-Induced Water Quality Problems (Sediments), Subcommittee on Quality Control, Quality Assurance (1985-1990).
National Research Council Committee on Surface Mining and Reclamation, Subcommittee on Oil Shale (1978-80)

EIS-C-A-69 Cont.

Phyllis Fox, Ph.D., PAGE 2

Representative Experience

Performed environmental and engineering investigations, as outlined below, for a wide range of industrial and commercial facilities including: petroleum refineries and upgrading schemes; 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 crude oil 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 fracturing, and acid stimulation techniques; underground storage tanks; pipelines; compressor stations; gasoline stations; landfill; rail yards; hazardous waste treatment facilities; nuclear, hydroelectric, geothermal, wood, biomass, waste, and 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, ammunition park; radars); lanthanide processing plants; ammonium plants; nitric acid plants; ammonia 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 and steel production facilities; pig iron plant; based on blast furnace technology; direct reduced iron plant; acid regeneration facilities; nitrification facilities; battery manufacturing plants; pesticide manufacturing and repackaging facilities; pulp and paper mills; olefin plants; methanol plants; ethylene cracking; aluminum plants; desulphination plants; selective catalytic reduction (SCR) systems; selective non-catalytic reduction (SNCR) systems; halogen acid plants; contaminated property remediation projects (e.g., Mission Bay, Southern Pacific Rail yards, Mission Bay Center expansion, San Diego Padres Ballpark); residential developments; commercial office parks, campuses, and shopping centers; server farms;
NORTH CITY PROJECT EIR/EIS
RESPONSE TO COMMENTS

PHILLIP FOX, PH.D., PAGE 3

February 2018 EIS-C-A-87 9420-04
PHYLIS FOX, PH.D., PAGE 4

- Air Quality, West Virginia Department of Environmental Protection and TranGas Development System, LLC, Appeal No. 10-01-NQF, Virginia Air Quality Board remanded the permit on March 28, 2011 ordering reconsideration of potential to emit calculations, including: (1) support for assumed flue 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.


- Technical expert in confidential settlement discussions with large coal-fired utility on BACT control technology and emission limits for NOx, SO2, PM 2.5, S, and CO for new natural gas-fired combined cycle and simple cycle turbines with oil backup. (July 2010). Case settled.


- 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 production documents and prepared pivotal testimony. Deposed 10/8/99 and 11/9/99. Testified 11/10/99, Application of Las Brisas Energy Center, LLC for State Air Quality Permit before the State Office of Administrative Hearings, Texas. Permit remanded 2/28/10 an 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 8, 2009, on causes of, nature and extent of subsurface contamination. A. Singh v. S. Ascacdi, 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 production documents. Prepared expert and rebuttal


- For intervenors Clean Wisconsin and Citizens Utility Board, prepared data requests, reviewed discovery and expert report. Prepared pre-filed 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 shut down one or more of the units. Oral testimony 2/5/08. Application for a Certificate of Authority to Install 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. WPS docket No. 6630-CE-299.
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 40 days of direct and rebuttal expert testimony. Attended all 21 days of evidentiary hearing from 9/3/07 – 10/31/07 in all aspects of hearing. Friends of the Chattoosche and Sierra Club v. Dr. Coral Couch, Director, Environmental Protection Division of Natural Resources Department, Respondent, and Longleaf/Energy Associates, Intervenor. ALJ Final Decision 1/1/08 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 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.

PHYLIS FOX, PH.D., PAGE 7


- For plaintiffs, expert witness in civil action relating to phase 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 NPDES Section 304. This report also discusses the formation, chemical, 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 300-MW supercritical Power River Basin coal-fired boiler (Winston 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 990 MW Pulverized Coal-fired Power Plant Known as Weston Unit 4 in Marathon County, Wisconsin. Case No. 08-02-CC-01. 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
0.005% high efficiency drift eliminator as BACT for the cooling tower. The modified permit, including these provisions, was issued 3/28/97. Additional appeals in progress.


- For intervenors, 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 NSR and NSR violations for NOX, SO2, FPM, PM10, and sulfuric acid mist. Summarized results in an export report. United States of America, et al. v. Wisconsin Electric Power Company, Defendant, U.S. District Court for the Eastern District of Wisconsin. Civil Action No. 2:05-CV-00771-CHNC. Order issued 10-1-07 denying petition.


- For petitioners and plaintiffs, reviewed and prepared comments on air quality and hazardous waste-based negative declaration for refinery ultra low sulfur diesel project located in SCAQMD. Reviewed responses to comments and prepared responses. Proposed declaration and presented oral testimony before SCAQMD Hearing Board on exempt sources (cooling towers) and calculation of potential to emit under NSR. Order to remand by Court of Appeals to trial court to direct SCAQMD to reevaluate the potential environmental significance of NOx emissions resulting from the project in accordance with court's opinion. California Court of Appeals, Second Appellate Division, December 13, 2007, affirmed in part (as to baseline) and denied in part.

February 2018 EIS-C-A-93

PHYLIS FOX, PH.D., PAGE 9

RESPONSE TO COMMENTS
counsel in drafting discovery requests, with over 20 depositions, witness cross examination, and brief drafting. Presented over 20 days of direct testimony, rebuttal and surrebuttal, with cross examination on BACT for NOx, SO2, and PM10-15: 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 (NOCC/CFB, NOx, SO2, Hg, Be), single source, enforceability, and errors and omissions. Assist counsel draft exceptions. Cabinet Secretary issued Order April 11, 2006 denying Hearing Officer’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 retrofit of coal-fired power plant (Salus Harbor).
- Assisted citizens group and labor union challenge issuance of conditional use permit for a 317,000 ft3/h capacity plant 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 30-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 ISC3, 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 San Juan Energy Resources Cross-Border Transmissions Lines in the U.S. and four associated power plants located in Mexico (DOE EA-1391). Prepared 30-page declaration in support of motion for summary judgment addressing emissions, including CO2 and NH3, offsets, BACT, cumulative air quality impacts, alternative costing 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 AEA due to their inadequate analysis of the potential controversy surrounding the project, water impacts, impacts from NH3, and CO2 alternatives, and cumulative impacts. Border Power Plant Working Group v. Department of Energy and Bureau of Land Management, Case No. 02-CV-513-JBG (POE) (Mar 2, 2004).
- For Sacramento school, reviewed draft air permit issued for diesel generator located across from playground. Prepared comments on emission estimates, enforceability, BACT, and health impacts of diesel exhaust. Case settled. 60/40 trap installed on the diesel generator.
- Assisted unions in appeal of Title V permit issued by EPA/GMD 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
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 La Reina 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 hooded 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. Prepared 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 AUC 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 AUC 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 516-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.
- 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 100MW diesel-fired Pratt and Whitney peaker turbines. Case settled.

- Assisted coalition of Georgia environmental groups in evaluating BACT determinations and permit conditions in PSED permits issued to several new natural gas-fired simple cycle and combined-cycle power plants. Prepared technical comments on draft PSED 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 520 MW coal-fired (natural gas and distillate) combined-cycle power plant in Connecticut. Prepared technical comments on draft permits and 69 pages of written testimony addressing emission estimates, startup/shutdown issues, BACT/TAER 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, citizen 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, Minnesota, 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/TAER issues related to SCR and SCOGS, 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
plaintiffs, concluding that the EIR: 1) erred in using outdated information in assessing the emission of toxic air contaminants (TACs) from jet aircraft; 2) failed to support its decision not to evaluate the health risks associated with the emission of TACs with meaningful analysis; and 3) was in violation of CEQA. The court held the EIR to be arbitrary and capricious, vacated the EIR, and remanded it for reconsideration. 

- Assisted defendant in a lawsuit brought by neighbors alleging property contamination, nuisance, trespass, smoke, and health effects from a new gas station. Case settled.

- Assisted defendant in a lawsuit brought by neighbors alleging property contamination, nuisance, trespass, smoke, and health effects from a new gas station. Case settled.

- Assisted defendant in a lawsuit brought by neighbors alleging property contamination, nuisance, trespass, smoke, and health effects from a new gas station. Case settled.

- Assisted defendant in a lawsuit brought by neighbors alleging property contamination, nuisance, trespass, smoke, and health effects from a new gas station. Case settled.

- Assisted defendant in a lawsuit brought by neighbors alleging property contamination, nuisance, trespass, smoke, and health effects from a new gas station. Case settled.

- Assisted defendant in a lawsuit brought by neighbors alleging property contamination, nuisance, trespass, smoke, and health effects from a new gas station. Case settled.

- Assisted defendant in a lawsuit brought by neighbors alleging property contamination, nuisance, trespass, smoke, and health effects from a new gas station. Case settled.

- Assisted a Fortune 500 residential home builder in claims alleging health effects from faulty installation of gas appliances. Concluded indoor air quality study, advised counsel on merits of case, and participated in discussions with plaintiffs. Case settled.

- Assisted property owners in a lawsuit to recover remediation costs from insurer for damage to property resulting from a manufacturing facility. Conducted investigations to demonstrate sudden and accidental release of TCE, including groundwater modeling, development of method to detect release, preparation of Remedial Investigation/Feasibility Study report, investigation of historical waste disposal practices and standards, and on-site survey and storm drainage inspection and sampling. Prepared declaration in opposition to motion for summary judgment. Case settled.
• 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 Class 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 infiltreate residence, sending occupants to hospital. Inspected 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 analysis, 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 in West Coast city in suit alleging that leaking underground storage tanks on city property had damaged the waterproofing of a downgradient building, causing leaks in an underground parking structure. Reviewed subsurface geologic 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.
• 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 CVPRA section 3405(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 advice 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 analysis of environmental impacts. Prepared declarations, depositions, 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
the Environmental Appeals Board challenging permit based on faulty BACT analysis for electric arc furnace and sheet furnace and faulty permit conditions, among others, and drafted briefs responding to four parties. EPA Region V and the EPA General Counsel intervened as amicus, supporting petitioners. EAB ruled in favor of petitioners, remanding permit to IDEM on three key issues, including BACT for the sheet 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 sheet furnace based on European experience with SCR-SNCR. Case settled. Permit was substantially improved. See In re Steel Dynamics, Inc., PSD Appeal Nos. 99-1 & 99-5 (EAB June 22, 2000).

- Assisted defendant area 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 hoppers 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 soil, water, and health risks. Writ of mandamus issued.

- Assisted several neighborhood associations and cities impacted by quarries, asphalt plants, and concrete plants in Alameda, Santa Cruz, and Mendoceo counties in obtaining mitigations for dust, air quality, public health, traffic, and noise impacts from facility operations and proposed expansions.
• For over 100 industrial facilities, commercial campus, and redevelopment projects, developed and revised work plans, coordinated and administered site investigations and Baseline Environmental Studies. Prepares technical comments on hazardous materials, solid wastes, public health, noise, worker safety, air quality, water quality, resource assessment, and risk assessments. Assisted counsel in drafting petitions and briefs and prepared declarations.

• For several large commercial development projects and airports, assisted applicant and counsel prepare detailed 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. Conducted field investigations, sampling, and baseline characterization studies. Managed sampling and remediation actions and obtained initial 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 plans.

• Advised the city of Sacramento on redevelopment of two former rail yards. Reviewed work plans, site investigations, risk assessment, RAPs, RIFs, 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, sub-slab venting, rail road containment structure, and an environmental oversight plan.

• Provided technical support for the investigation of a former sanitary landfill that was redeveloped into a single family homes. Reviewed and/or prepared portions of numerous documents, including health risk assessments, preliminary assessment reports, site investigation reports, work plans, and RCEs. Historical research to identify historic waste disposal practices to prepare a preliminary assessment report. 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.
affecting 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 RIFs.
• 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 permitting 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, mitigating impacts of acid rock
  drainage on surface and ground waters, and stabilizes mine waste rock piles containing 3.28
  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)

• In September and November 2017, prepared comments on revised Negative Declaration for
  Delicato Winery in Son 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 researched 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 of 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 NCPA and other comments on the HP Cherry Point
  Refinery modifications and assisted counsel in evaluating issues to appeal, including GHG
  BACT, coker heater SCR cost effectiveness analysis, and SOx BACT.
In June 2017, reviewed Part 79 Operating Permit Renewal Modification for the Noranda Alumina LLC/Notech 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 Calumet draft Title V permit for 10,000 MT day methanol production and marine export facility in Kalama, Washington.

In January 2017, researched and wrote 65 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 October 2016, prepared comments on Title V Permit for NuStar Terminal Operations Partnership LP, Shaddock, CA.


In September 2016, prepared comments on Proposed Title V Permit and Environmental Assessment Statement, Yuhuang Chemical, Inc. Methanol Plant, St. James, Louisiana.

In August 2016, reviewed and prepared comments on manuscript: Hatton 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 by a vote of 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.”
In September 2015, prepared comments on revisions to two chapters of EPA’s Air Pollution Control Manual. Docket ID No. EPA-HQ-OAR-2015-0348.

In June 2015, prepared comments on HEIR for the CalAm Monterey Peninsula Water Supply Project.

In April 2015, prepared comments on proposed Title V Operating Permit Revision and Precaution of Significant Deterioration Permit for Arizona Public Service’s Occo Vita Power Plant Modernization Project (5 GE LM100-105-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. Matheson Plant, St. James, Louisiana”. Client filed petition objecting to the permit. EPA granted majority of issues. In the Matter of Yuhuang Chemical Inc. Matheson Plant, St. James Parish, Louisiana, Permit No. 2509-00759-V.0, Issued by the Louisiana Department of Environmental Quality, Petition No. VI-2015-60; Order Responding to the Petitioner’s 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-fired 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. M11L-0301, December 1, 2016).


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 the Tesoro Avon Marine Oil Terminal Lease Consideration.


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 oil 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 Minimis 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 cost benefit analysis 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 oil and to upgrade an existing refinery to allow it to process a wide range of crudes.

In May 2014, prepared technical comments on Intent to Approve a new refinery and a midwest crude terminal in Utah.

In March and April 2014, prepared declarations on air permits issued for three crude-by-rail terminals in California, modified to switch from importing ethanol to importing Bakken crude oil 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 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 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.
In January 2014, prepared cost estimates to capture, transport, and use CO2 in enhanced oil recovery, from the Prosep LNG project based on both Selen 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 (piecing along, 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 (piecing along, crude slate) and air quality impacts.


In September 2013, prepared technical report on Efficient 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-000063.

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 LNG Storage Facility as reported in various Environmental Impact Statements.

In July 2013, prepared technical comments on proposed Greenhouse Gas PSD Permit for the Celmont 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 Olefin 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.
- 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 refiners to process 100% tar sands crude, including a complex netting analysis involving debottlenecking, picoseconds, 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 PA/PA 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) crudes 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 overruled the U.S. EPA’s approval of this plan, noting a 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 overruled the U.S. EPA’s approval of this plan, noting a netting and BACT analysis. Assist in settlement discussions.
- 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 Danakker Generating Station under New York Regional Haze State Implementation Plan and Federal Implementation Plan, 77 FR 81913 (August 28, 2012).
- Prepared cost analyses and comments on New York’s proposed BART determinations for Regional Haze State Implementation Plan for State of Nevada, 77 FR 23399 (April 18, 2012) and 77 FR 25669 (May 1, 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 on BART analyses and statistical analyses on hazardous air pollutants (HAPs) emission controls, monitoring, compliance methods, and the use of surrogate for acid gases, organic HAPs, and metallic HAPs for proposed National Emission Standards for Hazardous Air...

- 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).


- For EPA Region 8, prepared report: Revised BART Cost Effectiveness Analysis for Tail-End Selective Catalytic Reduction at the Basin Electric Power Cooperative Island Park 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).


- 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 60197 (Oct. 29, 2010).


- Prepared comments on SCR cost effectiveness for EPA’s Advanced Notice of Proposed Rulemaking, Assessment of Anticipated Visibility Improvements at Surrounding Class 1 Areas and Cost Effectiveness of Heat Available Retrofit Technology for Four Corners Power Plant and Navajo Generating Station, 74 FR 4413 (August 28, 2009).

- 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, 64-016, 64-028, 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 970 (February 28, 2005).
- Prepared comments on Louisville Air Pollution Control District proposal to reclassify certain areas.
- Prepared comments on proposed Strategic Toxic Air Reduction regulations.
- Prepared comments and analysis of BAAQMD Regulation, Rule 11, Air Monitoring at Petroleum Refineries.
- 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, Process 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 PCB releases, and negotiations with staff.
• 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 materials, 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 23, Pumps and Compressors, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical materials, preparation of technical comments on staff proposals, research on availability and cost 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 materials, 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 materials, preparation of technical comments on staff proposals, research on availability and cost 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 materials, preparation of technical comments on staff proposals, research on availability and cost of low-leak technology, and presentation of testimony before the Board.

• Participated in amending BAAQMD Regulation 8, Rule 25, Pump and Compressor Sucks, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical materials, 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 1403, New Source Review of Toxic Air Contaminants, in 1990, 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.
- 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 Sc permit effluent limitations for the five Bay Area refineries, including review of staff proposals, statistical analyses of Sc effluent data, review of literature on aquatic toxicity of Sc, 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 intervenors 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 Federal Utilities Commission administrative law judge with cross examination and rebuttal.

- Represented a PER 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.
• 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 balance, 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 the out-migration position of a salmon surrogate (O2);

8. Use real-time fishery monitoring data to quantify impact of exports on fish migration;

9. Refine and 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;
13. Prepare and present testimony on the impacts of water resources development on fish 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 alterations, 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/corrosion and mechanical engineering failures in the water systems (e.g., condensers, steam generation equipment) of power plants. Corrosion/corrosion failures caused by water and steam contamination that were investigated included: internal 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, voidabilization 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 architectural 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.
- 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 streams. 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 downtown 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 TBTX 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, biters, separators, sulfur recovery units, rock crushers, API separator vents, and wastewater pond fugitives for arsenic, cadmium, chlorine, chromium, mercury, 15 organic indicators (e.g., quinoline, pyridine, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzene), sulfur gases, hydrogen cyanide, and ammonia. In many cases, new methods had to be developed or existing methods modified to accommodate the complex matrix 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 anemometer, 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...
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 50 1 to 2 MW emergency diesel generators.
- Prepaed over 100 health risk assessments, end-use assessment, 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 Zeman 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)


San Luis Obispo County Air Pollution Control District and San Luis Obispo County Public Health Department, Community Monitoring Program, February 8, 1999.
The Bay Institute, From the Sierra to the Sea. The Ecological History of the San Francisco Bay-Delta Watershed, 1998.


J. Phyllis Fox and others, Authority to Construct Avala 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.


Levine-Frick-Room (J. Phyllis Fox and others), Preliminary Endangered 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.


J. P. Fox, "El Mercado on el Medio Ambiente: Aspectos Relevantes del Peru. (Mercury in the Environment: Factors Relevant to Peru)," Proceedings of Simposium Los Pesticidas y el Medio Ambiente, CONJUN-CONCYTEC, Lima, Peru, April 25-27, 1984. (Also presented at Instituto Tecnologico Pesquero and Instituto del Mar del Peru.)


P. Pensoff and J. P. Fox, Control Technology for In-Situ Oil Shale Retorting, Lawrence Berkeley Laboratory Report LBL-14468, 118 pp., Dec. 1982.


U. S. DOE (J. P. Fox, and others), Western Oil Shale Development: A Technology Assessment, v. 5-5, Pacific Northwest Laboratory Report PNL-3830, 1981.


PHYLLIS FOX, PH.D., PAGE 36


National Academy of Sciences (J. P. Fox and others), Surface Mining of Non-Coal Minerals, Appendix H: Mining and Processing of Oil Shale and Tar Sands, 222 pp., 1980.
PHYLLIS FOX, PH.D., PAGE 37


J. P. Fox, Water-Related Impacts of In-Situ Oil Shale Processing, Lawrence Berkeley Laboratory Report LBL-6800, 327 p., December 1980.


E. Osnis and J. P. Fox, Anaerobic Biological Treatment of In-Situ Oil Shale Retort Water, Lawrence Berkeley Laboratory Report LBL-10481, March 1980.


P. Penoff and J. P. Fox, Control Strategies for Abandoned In-Situ Oil Shale Retorts, Lawrence Berkeley Laboratory Report LBL-8780, 106 pp., October 1979.


<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST GRADUATE COURSES (Partial)</td>
<td></td>
</tr>
<tr>
<td>S-Plus Data Analysis, MathSoft, 6/94</td>
<td></td>
</tr>
<tr>
<td>Air Pollutant Emission Calculations, UC Berkeley Extension, 6/7/94</td>
<td></td>
</tr>
<tr>
<td>Assessment, Control and Remediation of LNAPL Contaminated Sites, API and USEPA, 9/94</td>
<td></td>
</tr>
<tr>
<td>Pesticides in the TIE Process, SETAC, 6/96</td>
<td></td>
</tr>
<tr>
<td>Sulfate Minerals, Geochemistry, Crystals, and Environmental Significance, Mineralogical Society of America, 11/90</td>
<td></td>
</tr>
<tr>
<td>Design of Gas Turbine Combined Cycle and Cogeneration Systems, Thermoflow, 12/90</td>
<td></td>
</tr>
<tr>
<td>Air-Cooled Steam Condensers and Dry and Hybrid Cooling Towers, Power-Gen, 12/01</td>
<td></td>
</tr>
<tr>
<td>Combustion Turbine Power Augmentation with Inlet Cooling and Wet Compression, Power-Gen, 12/01</td>
<td></td>
</tr>
<tr>
<td>CEQA Update, UC Berkeley Extension, 3/02</td>
<td></td>
</tr>
<tr>
<td>The Health Effects of Chemicals, Drugs, and Pollutants, UC Berkeley Extension, 4/5/02</td>
<td></td>
</tr>
<tr>
<td>Noise Exposure Assessment Sampling Strategy and Data Acquisition, AIHA PDC 205, 6/02</td>
<td></td>
</tr>
<tr>
<td>Noise Exposure Measurement Instruments and Techniques, AIHA PDC 302, 6/02</td>
<td></td>
</tr>
<tr>
<td>Noise Control Engineering, AIHA PDC 432, 6/02</td>
<td></td>
</tr>
<tr>
<td>Optimizing Generation and Air Emissions, Power-Gen, 12/02</td>
<td></td>
</tr>
<tr>
<td>Utility Industry Issues, Power-Gen. 12/02</td>
<td></td>
</tr>
<tr>
<td>Multiple Pollutant Emission Control, Coal-Gun, 8/03</td>
<td></td>
</tr>
<tr>
<td>Community Noise, AIHA PDC 104, 5/94</td>
<td></td>
</tr>
<tr>
<td>Cutting-Edge Topics in Noise and Hearing Conservation, AIHA 5.04</td>
<td></td>
</tr>
<tr>
<td>Selective Catalytic Reduction: From Planning to Operation, Power-Gen, 12/05</td>
<td></td>
</tr>
<tr>
<td>Improving the FGD Decision Process, Power-Gen, 12/05</td>
<td></td>
</tr>
<tr>
<td>E-Discovery, CED, 6/06</td>
<td></td>
</tr>
<tr>
<td>Maftbine Hot Topic Hour, FGD Project Delay Factors, 8/10/06</td>
<td></td>
</tr>
<tr>
<td>Maftbine Hot Topic Hour, What Mercury Technologies Are Available, 9/14/06</td>
<td></td>
</tr>
<tr>
<td>Maftbine Hot Topic Hour, SCR Catalyst Choices, 10/12/06</td>
<td></td>
</tr>
<tr>
<td>Maftbine Hot Topic Hour, Particulate Choices for Low SulfurCoal, 10/19/06</td>
<td></td>
</tr>
<tr>
<td>Maftbine Hot Topic Hour, Impact of PM2.5 on Power Plant Choice, 11/20/06</td>
<td></td>
</tr>
<tr>
<td>Maftbine Hot Topic Hour, Dry Scrubbers, 11/30/06</td>
<td></td>
</tr>
<tr>
<td>Cost Estimated and Tricks of the Trade A Practical Approach, FDH P1599, 11/19/06</td>
<td></td>
</tr>
<tr>
<td>Process Equipment Cost Estimating by Ratio &amp; Proportion, FDH G127 11/19/06</td>
<td></td>
</tr>
<tr>
<td>Power Plant Air Quality Decisions, Power-Gen 11/06</td>
<td></td>
</tr>
<tr>
<td>Maftbine Hot Topic Hour, WE Energies Hg Control Update, 1/12/07</td>
<td></td>
</tr>
<tr>
<td>Negotiating Permit Conditions, EEUC, 1/21/07</td>
<td></td>
</tr>
<tr>
<td>BCTI for Utilities, EEUC, 1/21/07</td>
<td></td>
</tr>
<tr>
<td>Maftbine Hot Topic Hour, Chinese FGD/SCR Program Impact on World, 2/1/07</td>
<td></td>
</tr>
<tr>
<td>Maftbine Hot Topic Hour, Mercury Control Cost &amp; Performance, 2/15/07</td>
<td></td>
</tr>
<tr>
<td>Maftbine Hot Topic Hour, Mercury CEMS, 4/12/07</td>
<td></td>
</tr>
</tbody>
</table>
NORTH CITY PROJECT EIR/EIS
RESPONSE TO COMMENTS

PHYLLIS FOX, PH.D., PAGE 41

Cont.

EIS-C-A-69

February 2018  EIS-C-A-125  9420-04
Interest Rates, DOI 204, 3/9/12.
Mechanics Lens, PDHonline, 2/24/13.
Understanding Concerns with Dry Sorbent Injection as a Coal Plant Pollution Control, Webinar #874-567-810 by Cleanenergy.org, March 4, 2013.
<table>
<thead>
<tr>
<th>EXHIBIT 2</th>
<th>EIS-C-A-70</th>
<th>The CalEEMod User's Guide is noted.</th>
</tr>
</thead>
</table>

EIS-C-A-70
Acknowledgements

This program was developed by BREEZE Software, a division of Trinity Consultants (Trinity) for the California Air Pollution Officers Association (CAPCOA) in collaboration with South Coast Air Quality Management District (SCAQMD) and California Air Districts. The following individuals should be recognized for their contributions to version of the program:

California Air Districts’ Development Staff

- Michael Krause SCAQMD
- Barbara Roleke SCAQMD
- Ian McDaniel SCAQMD
- Jack Cheng SCAQMD
- Sam Wang SCAQMD
- Allen Kirk Bay Area AQMD
- Angel Ordonez Placer County APCR
- Karen Huu Sacramento Metropolitan AQMD
- Patsy Sturgis San Joaquin Valley APCR
- Mark Montelongo San Joaquin Valley APCR
- Erich McLaughlin San Joaquin Valley APCR
- Andy McCorley San Luis Obispo APCR
- Carly Bartsis Santa Barbara County APCR
- Krista Hightower

Additional Beta Testers/Contributors

- Stephen Zebska California Air Resources Board
- Hang Liu California Air Resources Board
- Agnes Dugan California Air Resources Board
- Cheryl Laskowski California Air Resources Board
- Carl Anderson California Air Resources Board
- Josh Robak Bay Area AQMD
- Raffi Mahney SCAQMD
- Cyndra Carter SCAQMD
- Patrick Sutter Baseline Environmental Consulting
- Lora Danovitz Lance Environmental
- Nicola Vermeulen PlaceWorks
- John Yang PlaceWorks
- Stephanie Chen PlaceWorks
- Steve Bush PlaceWorks
- Shari Lithner, Ph.D Ramirez Environ
- Michael Ratte BDI Group
- Patrick Griffith Los Angeles County Sanitation Districts
- Josephine Fang Rincon Consultants
- Jennifer Reed DTSA
- Joe O’Bannon DS-1 Air Analyses
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.8</td>
<td>Solid Waste</td>
</tr>
<tr>
<td>4.9</td>
<td>Off-Road Equipment</td>
</tr>
<tr>
<td>4.10</td>
<td>Stationary Sources</td>
</tr>
<tr>
<td>4.10.1</td>
<td>Emergency Generator and Fire Pumps and Default Emission Factors</td>
</tr>
<tr>
<td>4.10.2</td>
<td>Process Solids and Default Emission Factors</td>
</tr>
<tr>
<td>4.10.3</td>
<td>User Defined</td>
</tr>
<tr>
<td>4.11</td>
<td>Vegetation</td>
</tr>
<tr>
<td>4.11.1</td>
<td>Land Use Change</td>
</tr>
<tr>
<td>4.11.2</td>
<td>Sequestration</td>
</tr>
<tr>
<td>4.12</td>
<td>Mitigation</td>
</tr>
<tr>
<td>4.12.1</td>
<td>Construction Mitigation</td>
</tr>
<tr>
<td>4.12.2</td>
<td>Traffic Mitigation</td>
</tr>
<tr>
<td>4.12.3</td>
<td>Area Mitigation</td>
</tr>
<tr>
<td>4.12.4</td>
<td>Energy Mitigation</td>
</tr>
<tr>
<td>4.12.5</td>
<td>Water Mitigation</td>
</tr>
<tr>
<td>4.12.6</td>
<td>Solid Waste Mitigation</td>
</tr>
<tr>
<td>4.13</td>
<td>Reporting</td>
</tr>
</tbody>
</table>

List of Appendices:
- Appendix A: Calculation Details
- Appendix B: Glossary
- Appendix C: Acronym List
- Appendix D: Default Data Tables
- Appendix E: Technical Source Documentation
- Appendix F: Climate Zone Lookup
1 Introduction

This User's Guide (Guide) to the California Emission Estimator Model (CaEEMod) 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 CaEEMod 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.

CaEEMod 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 CaEEMod. A majority of CaEEMod'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

CaEEMod 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 (NOx) emissions on a rolling quarterly basis. In addition, CaEEMod contains default values for estimating water and energy use.
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/stripping of parking lots and paving (ROC)).

- 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 roofs;
  - Architectural coating activities (ROC);
  - Off-road equipment (e.g., forklift, crane) used during operation;
  - Landscaping equipment;
  - Emergency generators, fire pumps, and process boilers;
  - Use of consumer products, parking lot degreasers, fertilizers/pesticides, and cleaning supplies (ROC);
  - 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
Mitigation adjustments to both short-term construction and operational emissions. Several of the mitigation measures described in CAPCOA’s Quantifying Greenhouse Gas Mitigation Measures have been incorporated into CalEEMod.

2 Program Installation

The program is distributed and maintained by the California Air Pollution Control Officers Association. The most recent version can be downloaded from www.caleemod.com.

2.1 Operating System Requirements

CaIEEMod was programmed by Trinity using Microsoft SQL Compact Edition in conjunction with a Visual Basic Graphical User Interface (GUI). CaIEEMod 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 CaIEEMod before installing a new version as some file names will be the same potentially confusing the computer. To uninstall most computers, under FileNet, Control Panel, Programs and Features, highlight CaIEEMod 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=17851 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=5733. For 32-bit computers, you will need to install SQLServerSetup_x86ENU.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 file 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.CaIEEMod.com, download the installation file (CaIEEMod2018.3.1.exe), click on file and follow the instructions. Pages 5 through 7 show screen shots of the CaIEEMod InstallShield Wizard.

---

2. CaIEEMod: 2018 All Rights Reserved by California Air Pollution Control Officers Association.
4. The default directory for CellEMod is C:\CellEMod. To select an alternative directory location, choose Custom Installation.

5. Click Next until the installation has completed, then click Finish to exit the installer.

6. If you have any further trouble installing CellEMod, verify that you have appropriate user privileges and that your computer meets the operating system requirements.

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.
2.3 Starting CalEEMod
After the installation is complete, a CalEEMod shortcut icon will 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 file or double-click on the CalEEMod shortcut icon.
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 the 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: The 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 Data 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 table 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.)
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 the user unchecks the Cascade Default box, no defaults will be populated in subsequent screens and the user will need to input project-specific data. Unlike 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 the screen 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.
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 CallEEMod. 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 CallEEMod 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, CallEEMod will populate all 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
CallEEMod was designed with default assumptions supported by substantial evidence to the extent available at the time of programming. The functionality and content of CallEEMod is based on fully adopted methods and data. However, CallEEMod 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
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 enter 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.
4 Detailed Program Screens

4.1 Project Characteristics

The Project Characteristics screen is the 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 heating 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.
CalEEMod utilizes the Forecasting Climate Zones because the baseline data in the 2002 California Commercial End Use Survey (CEUS) and 2009 Residential Appliance Saturation Survey (RASS) upon which CalEEMod relies, are categorized in this manner. Further information on the calculation of building energy usage, including the application of data specific to the Forecasting Climate Zones, is contained in Appendix E.
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 begin 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 a 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, 2015, 2020, 2025, and 2030. 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 CO₂, CH₄, and N₂O will be automatically populated with defaults applicable to the selected 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 utility's 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 (LGOP) for CO₂, updated public utility protocols for CO₂, and E-DRI values for CH₄ and N₂O. Each default CO₂ intensity factor is based on the latest reporting year available for each utility. Appendix D, Table D.1 provides the default CO₂ 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 utility 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/protocal/localgov/localgov.htm
Pollutants

CallEEMod 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 report.

Some of the pollutants may overlap other identified pollutants. For example, carbon dioxide (CO₂) is identified on its own, and it is separated into biogenic and non-biogenic categories. In addition, CO₂ equivalent GHSs represents all CO₂ emissions plus methane (CH₄) and nitrous oxide (N₂O) as adjusted by their corresponding Global Warming Potential (GWP) weighted value. The GWP values are based on the 2007 IPCC’s Fourth Assessment Report (AR4) and are consistent with 2014 CARB’s Scoping Plan Update. ⁷

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 data (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 report 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, sq. ft. area, 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 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 4.5.2.2.

⁷ Available at: https://www.scc.ca.gov/assessments-reporting/land_use_full_report.pdf
⁸ Available at: http://www.scc.ca.gov/reports/landuse/landuse_edited2019.htm
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 83 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 area of residential and non-residential land uses, please refer to the following figure. As depicted, the lot area of a residential land use includes the parking and building footprint. For non-residential land uses, the lot area is the same as the building footprint, so parking needs to be entered as a separate land use.
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.
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

65 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

<table>
<thead>
<tr>
<th>Land Use Subtype</th>
<th>Description</th>
<th>ITE Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apartments High Rise</td>
<td>High-rise apartments are units located in rental buildings that have more than 10 levels and most likely have one or more elevators</td>
<td>222</td>
</tr>
<tr>
<td>Apartments Low Rise</td>
<td>Low-rise apartments are units located in rental buildings that have 1-2 levels</td>
<td>221</td>
</tr>
<tr>
<td>Apartments Mid Rise</td>
<td>Mid-rise apartments in rental buildings that have between 3 and 10 levels</td>
<td>223</td>
</tr>
<tr>
<td>Condo/Townhouse</td>
<td>These are ownership units that have at least one other owned unit within the same building structure</td>
<td>220</td>
</tr>
<tr>
<td>Condominium High Rise</td>
<td>These are ownership units that have three or more levels</td>
<td>222</td>
</tr>
<tr>
<td>Congregate Care (Skilled Living)</td>
<td>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.</td>
<td>263</td>
</tr>
<tr>
<td>Mobile Home Plan</td>
<td>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</td>
<td>240</td>
</tr>
<tr>
<td>Retirement Community</td>
<td>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</td>
<td>265</td>
</tr>
<tr>
<td>Single-Family Housing</td>
<td>All single-family detached homes on individual lots typical of a suburban subdivision</td>
<td>210</td>
</tr>
</tbody>
</table>
### Table 1: Land Use Subtype Descriptions

<table>
<thead>
<tr>
<th>Land Use Subtype</th>
<th>Description</th>
<th>ITE Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EDUCATIONAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day Care Center</td>
<td>A day care center is a facility where care for pre-school age children is</td>
<td>565</td>
</tr>
<tr>
<td></td>
<td>provided, normally during the daytime hours. Day care facilities generally</td>
<td></td>
</tr>
<tr>
<td></td>
<td>include classrooms, offices, eating areas and playgrounds.</td>
<td></td>
</tr>
<tr>
<td>Elementary School</td>
<td>Elementary schools typically serve students attending Kindergarten through</td>
<td>520</td>
</tr>
<tr>
<td></td>
<td>the fifth or sixth grade. They are usually centrally located in residential</td>
<td></td>
</tr>
<tr>
<td></td>
<td>communities in order to facilitate student access and have no student</td>
<td></td>
</tr>
<tr>
<td></td>
<td>drivers.</td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>High schools serve students who have completed middle or junior high school</td>
<td>530</td>
</tr>
<tr>
<td>Junior College (2Y)</td>
<td>This land use includes two-year junior, community, or technical colleges.</td>
<td>540</td>
</tr>
<tr>
<td>Junior High School</td>
<td>Junior high schools serve students who have completed elementary school and</td>
<td>522</td>
</tr>
<tr>
<td></td>
<td>have not yet entered high school.</td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td>A library is a facility that contains shelves books, reading rooms, or areas,</td>
<td>590</td>
</tr>
<tr>
<td></td>
<td>and sometimes meeting rooms.</td>
<td></td>
</tr>
<tr>
<td>Place Of Worship</td>
<td>A church is a building in which public worship services are held. A church</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>houses an assembly hall or sanctuary, it may also house meeting rooms,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>classrooms and occasionally dining, meeting or parts facilities.</td>
<td></td>
</tr>
<tr>
<td>University/College (4Y)</td>
<td>This land use includes four-year universities or colleges that may or may</td>
<td>530</td>
</tr>
<tr>
<td></td>
<td>not offer graduate programs.</td>
<td></td>
</tr>
<tr>
<td><strong>RECREATIONAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arena</td>
<td>Arenas are large indoor structures in which spectator events are held.</td>
<td>480</td>
</tr>
<tr>
<td></td>
<td>These events vary from professional ice hockey and basketball to Concert-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>sporting events such as concerts, shows, or religious services. Arenas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>generally have large parking facilities, except when located in or around</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the Downtown of a large city.</td>
<td>411</td>
</tr>
<tr>
<td>City Parks</td>
<td>City parks are owned and operated by a city.</td>
<td></td>
</tr>
<tr>
<td>Food Service</td>
<td>This land use includes fast-food restaurants.</td>
<td>933</td>
</tr>
<tr>
<td></td>
<td>Patrons generally order at a cash register and pay before they eat.</td>
<td></td>
</tr>
<tr>
<td>Golf Course</td>
<td>Golf courses include 9, 18, 27 and 36 hole courses. Some sites may also</td>
<td>430</td>
</tr>
<tr>
<td></td>
<td>have driving ranges and driving ranges with driving through windows.</td>
<td></td>
</tr>
<tr>
<td>Health Club</td>
<td>These are privately-owned facilities that primarily focus on individual</td>
<td>492</td>
</tr>
<tr>
<td></td>
<td>fitness or training. Typically they provide exercise classes; weightlifting,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>fitness and gymnastics equipment, spa, locker rooms, and small restaurants</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or snack bars.</td>
<td></td>
</tr>
</tbody>
</table>
### Table 1: Land Use Subtype Descriptions

<table>
<thead>
<tr>
<th>Land Use Subtype</th>
<th>Description</th>
<th>I/E Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Turnover (Sit-Down Restaurant)</td>
<td>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.</td>
<td>032</td>
</tr>
<tr>
<td>Hotel</td>
<td>Hotels are places of lodging that provide sleeping accommodations and supporting facilities such as restaurants, cocktail lounges, meeting and convention facilities, limited recreational facilities and other retail and service shops.</td>
<td>310</td>
</tr>
<tr>
<td>Motel</td>
<td>Motels are places of lodging that provide sleeping accommodations and offer a restaurant. Motels generally offer free on-site parking and provide little or no meeting space and few supporting facilities.</td>
<td>320</td>
</tr>
<tr>
<td>Movie Theater (No Matinee)</td>
<td>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.</td>
<td>443</td>
</tr>
<tr>
<td>Quality Restaurant</td>
<td>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 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.</td>
<td>031</td>
</tr>
<tr>
<td>Racquet Club</td>
<td>These are privately-owned facilities that primarily cater to racquet sports.</td>
<td>491</td>
</tr>
<tr>
<td>Recreational Swimming Pool</td>
<td>This is a typical recreational swimming pool that may be associated with community centers, parks, water clubs, etc.</td>
<td>495</td>
</tr>
</tbody>
</table>

### 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 elevators.
- **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-surfaced 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 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 an elevator.
<table>
<thead>
<tr>
<th>Land Use Subtype</th>
<th>Description</th>
<th>ITE Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail: Automobile Care Center</td>
<td>An automobile care center houses numerous businesses that provide automobile-related services, such as repair and servicing; stereo installation; and seat cover upholstering.</td>
<td>842</td>
</tr>
<tr>
<td>Convenience Market (24 Hour)</td>
<td>This market sells convenience foods, newspapers, magazines and often beer and wine. They do not sell or dispense motor vehicle fuels (e.g., gasoline).</td>
<td>851</td>
</tr>
<tr>
<td>Convenience Market With Gas Pumps</td>
<td>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.</td>
<td>853</td>
</tr>
<tr>
<td>Discount Club</td>
<td>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, appliances, houseware, etc. Many items are sold in large quantities in bulk.</td>
<td>857</td>
</tr>
<tr>
<td>Electronic Superstore</td>
<td>There are free-standing facilities that specialize in the sale of electronic merchandise.</td>
<td>853</td>
</tr>
<tr>
<td>Free-Standing Discount Store</td>
<td>Discount stores offer centralized cash registers 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.</td>
<td>815</td>
</tr>
<tr>
<td>Free-Standing Discount Superstore</td>
<td>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.</td>
<td>813</td>
</tr>
<tr>
<td>Gasoline/Service Station</td>
<td>This land use includes service stations where the primary business is the fueling of motor vehicles. They may also have auxiliary facilities for servicing and repairing motor vehicles.</td>
<td>944</td>
</tr>
<tr>
<td>Hardware/Paint Store</td>
<td>These stores sell hardware and paint supplies and are generally free-standing buildings.</td>
<td>819</td>
</tr>
<tr>
<td>Home Improvement Superstore</td>
<td>These are free-standing facilities that specialize in the sale of home improvement merchandise.</td>
<td>857</td>
</tr>
<tr>
<td>Regional Shopping Center</td>
<td>A shopping center is an integrated group of commercial establishments that are planned, developed, owned and managed as a unit. Its shopping center's composition is related to its market area in terms of size, location and type of store.</td>
<td>820</td>
</tr>
<tr>
<td>Strip Mall</td>
<td>Small 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.</td>
<td>828</td>
</tr>
</tbody>
</table>
### Table 1: Land Use Subtype Descriptions

<table>
<thead>
<tr>
<th>Land Use Subtype</th>
<th>Description</th>
<th>ITE Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket</td>
<td>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.</td>
<td>850</td>
</tr>
<tr>
<td><strong>COMMERCIAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank (With Drive-Thru)</td>
<td>Drive-in banks provide banking facilities for motorists who conduct financial transactions from their vehicles; many also serve patrons who walk into the building.</td>
<td>812</td>
</tr>
<tr>
<td>General Office Building</td>
<td>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.</td>
<td>710</td>
</tr>
<tr>
<td>Government Civic Center</td>
<td>A center that is not a government building but is a center for government services. It may be a government building. This land use is intended for public use and is not the same as a government building.</td>
<td>733</td>
</tr>
<tr>
<td>Government Office Building</td>
<td>This is an individual building containing the entire function of a single government entity or agency. It is a building with a single government office.</td>
<td>730</td>
</tr>
<tr>
<td>Hospital</td>
<td>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.</td>
<td>810</td>
</tr>
<tr>
<td>Medical Office Building</td>
<td>This is a facility that provides diagnostic and outpatient care 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.</td>
<td>730</td>
</tr>
<tr>
<td>Office Park</td>
<td>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.</td>
<td>750</td>
</tr>
<tr>
<td>Pharmacy/Drugstore</td>
<td>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.</td>
<td>880</td>
</tr>
<tr>
<td>Land Use Subtype</td>
<td>Description</td>
<td>ITE Number</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>Pharmacy/Ophthalmic With Drive Through</td>
<td>These are retail facilities that primarily sell prescription and non-prescription drugs. These facilities may also sell cosmetics, toiletries, medications, stationary, personal care products, limited food products and general merchandise. The drug stores in this category contain drive-through windows.</td>
<td>881</td>
</tr>
<tr>
<td>Research &amp; Development</td>
<td>R&amp;D centers are facilities devoted almost exclusively to R&amp;D activities. The range of specific types of businesses contained in this land use category varies significantly. R&amp;D centers may contain offices and light fabrication areas.</td>
<td>781</td>
</tr>
<tr>
<td><strong>INDUSTRIAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Heavy Industry</td>
<td>Heavy industrial facilities usually have a high number of employees per industrial plant and are generally limited to the manufacturing of large items.</td>
<td>150</td>
</tr>
<tr>
<td>General Light Industry</td>
<td>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.</td>
<td>110</td>
</tr>
<tr>
<td>Industrial Park</td>
<td>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.</td>
<td>130</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>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&amp;D functions at the site.</td>
<td>140</td>
</tr>
<tr>
<td>Refrigerated</td>
<td>This is a warehouse that has refrigeration but no rail spur.</td>
<td>152</td>
</tr>
<tr>
<td>Unrefrigerated</td>
<td>This is a warehouse that does not have refrigeration and no rail spur.</td>
<td>152</td>
</tr>
</tbody>
</table>


**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...
Lot Area

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 0.025 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.
Table 3: Default Housing Density

<table>
<thead>
<tr>
<th>Land Use Subtype</th>
<th>Density (Dwelling Units/Acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Housing</td>
<td>3</td>
</tr>
<tr>
<td>Apartments (low rise)</td>
<td>10</td>
</tr>
<tr>
<td>Apartments (mid rise)</td>
<td>30</td>
</tr>
<tr>
<td>Apartments (high rise)</td>
<td>92</td>
</tr>
<tr>
<td>Condominiums (high rise)</td>
<td>24</td>
</tr>
<tr>
<td>Condominiums (low rise)</td>
<td>64</td>
</tr>
<tr>
<td>Mobile Home Parks</td>
<td>5</td>
</tr>
<tr>
<td>Retirement Community</td>
<td>5</td>
</tr>
<tr>
<td>Congregate Care (Assisted Living)</td>
<td>16</td>
</tr>
</tbody>
</table>
acresage values for each land use and the total will be reflected in the lot acresage text box located at the bottom of the screen. The value in the total lot acresage 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 acresage, 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 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, Tips and UMT, On-Road Fugitive Dust, and Architectural Coating. To move from one tab/sub-screen to another, the user can use the Next and Previous buttons, or click on any of grey tabs. The
construction latex 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 lists and phase length data were determined to be the most appropriate for the site 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 as 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-site 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
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 fields 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 re-calculation 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 list 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 2021 (a year which does not have emission factors), CalEEMod will substitute the emission factors from year 2020 instead. Since newer...
equipment tends to have less emissions than older equipment, by selecting emission factors from year 2005 (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 Coast Mining. Once the user enters the amount of material imported and exported to the site, CalEEMod will estimate the number of hauling trips associated with 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 or not. 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 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.
The user can select the $\text{Size Metric}$ 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+ 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 sub-type 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 HHD for 100 percent mix of heavy-duty trucks and medium-duty trucks; similarly, the vehicle class descriptor LDA, LDT1, LDT2 means that there is a 10-20 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 will be programmed to substitute the emissions factors from nearest, lower and (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 2025 instead. Since newer equipment tends to have less emissions than older equipment, by selecting emission factors from year 2025 (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 use 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 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.
USERS GUIDE

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. CALCEEMod 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 2005 edition). Each data field is the same as those defined in the aforementioned AP-42 sectors.

4.3.7 Architectural Coatings
The Architectural Coatings sub-screen is intended to calculate ROG emissions associated with painting the interior/interior of residential and non-residential buildings as well as calculate emissions from parking lot painting or stripping. 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/interior square footage when calculating emissions attributable to parking lot stripping. 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, Fuel 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 purposes, 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 acre metric (thousand square footage or dwelling units) 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...
defined as home-work (H-W), home-shop (H-S), and home-visitor (H-V). 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 8th 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 add 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 (diesel, non-diesel, 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.
4.4.3 Fleet Mix

CoEE/Mut 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.
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 salt 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 Salt 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 PM2.5/VMT as the unmitigated fugitive dust emission factor for unpaved roads during the operational phase. An emission factor of 0.2 lbs PM2.5/VMT is applied based on a 15% PM2.5/PM10 ratio\(^{10}\). 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 PM2.5/VMT is not a selection option.

4.6 Area

The area source screen consists of four sub-screens: Heaths, Consumer Products, Area Architectural Coatings, and Landscaping Equipment. Natural gas emission variables from all uses except heaths are included in the energy use screen (described in Section 4.6).

---

4.5.1 Hearth and Woodstoves

This sub-screen allows the user to enter the number of wood stoves and hearths of various types as well as the usage of these devices. Wood stoves 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 default of variables that the user cannot override. Some of these emissions may be classified as biogenic and are therefore reported as CO2-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.
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 appliances, cosmetics and toiletries. BCAOMD 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 2018.3.1 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 2018.3.1 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 surfaces 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 BCAOMD in their district rules regarding architectural coatings. Some districts provided details on their coating regulations that phase-in over time, which have been incorporated into 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.
4.5.4 Landscape Equipment

This sub-section has two text boxes to show the number of snow days or summer days. In
addition, the default considers 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
determination of emission factors used for each equipment type is 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-heating). The electricity energy
use is in units of kilowatt hours (kWh) per square mile for each land use subtype. Natural gas
use is in units of a thousand British Thermal Units (MBTU) per square mile 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 three categories: (i) end uses subject to Title 24 standards, and, (ii) end uses
not subject to Title 24 standards. The distinction is used when the mitigation measure for
exceeding Title 24 standards (IEE-1) is applied. Lighting is a separate category in
CalEEMod for which a separate mitigation measure (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/pa heaters).

The baseline values are based on the CEC sponsored California Commercial End Use Survey
(CUES) and Residential Appliance Saturation Survey (RASS) studies. 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

1 CEC. October 2019. Residential Appliance Saturation Survey. Available at:
http://www.energy.ca.gov/2019aeresurveys/

4.7 Water and Wastewater Use

This screen estimates the land use 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.(5). The indoor water is also used to

---


USER'S GUIDE

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. 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 lagoon) 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.

4.8 Solid Waste

The solid waste sector determines the GHS emissions associated with disposal of solid waste into landfills. In order to estimate the eventual contribution of GHS 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 GHS emissions from solid waste using the degradeable organic content of waste. 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 landfills and therefore the default percentage is based on the types of landfills assumed by CARB in their GHS 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 flame. 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 property reflects known regional solid waste gas capture.

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 200 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.
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 CalEIMod.

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 Generator 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 EP (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.
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 in 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.
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.
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.

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

---

miscellaneous if it is not known, and the total number of trees. The user can overwrite 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 CaEEMod are largely based on the
CAPCOA Quantifying Greenhouse Gas Mitigation Measures [http://www.capcoa.org/tec-
The CAPCOA measure numbers are provided next to the mitigation measures in CaEEMod 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 dialog box of off-road construction equipment to apply various
mitigation measures and check boxes with supplemental information for fugitive dust emissions
mitigation.
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, NGV, electric, hybrid, biodiesel), engine tier (typically select Tier 4), diesel particulate filter tiers (Tier 3 being the most effective), and use of selective 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 drag 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., % Pavement, % Pavement Vendor or % Pavement 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 defines 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 warning 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. 53-60).

- Low Density Suburban: An area characterized by dispersed, low-density, single-use, automobile dependent land use patterns, usually outside of the central city (or suburb).
- Suburban Center: An area that serves the population of the suburb with office, retail and housing which is denser than the surrounding suburbs.
- 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 Core (referred to as Compact IntH 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-8, LUT-4, LUT-5, LUT-6, SQT-1, SQT-2, SQT-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 (DET-3) assumes the low end of the CAPCOA recommendations.
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 heaters, no hortha, 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 SE-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 fixed use subtotals that will use energy efficient appliances. The percent improvement in the typical percent improvement above standard appliances according to the 2008 Energy Star Annual Report17. Alternative Energy has two methods to enter the amount of alternative energy. The first is the amount of kWh generated. The second is the percentage of the total

17 Available at: https://www.energystar.gov/partners/annualreports/annual_reports_2008.pdf
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 WSWM-1 & 2, and WSWM-1 through 5.

For CAPCOA Mitigation Measure WSWM-3 (Use Locally Sourced Water Supply), using locally-sourced water or water from less energy-intensive sources reduces the electricity and indirect CO₂ 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 WSWM-3, the user should alter the energy intensity values in water and run a separate CalEEMod run to accommodate these values.
4.12.6 Solid Waste Mitigation
The user can get calculate an emissions reduction for recycling waste. This mitigation measure corresponds to CAP/CDA 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 GHS 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 xlsx 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 totals value. These values, however, can be copied to new Excel spreadsheet for any further desired calculation with the data.
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.

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.

Please call if you have questions,
Laurie
Laurie Lee Jenkins
Laurie_Lee_Jenkins@nps.gov
Natural Landmarks Program
Pacific West Region
360-854-7205 (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
https://www.nps.gov/ncnp
<table>
<thead>
<tr>
<th>Name</th>
<th>Mira Mar Mounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>San Diego County, California</td>
</tr>
<tr>
<td>Description</td>
<td>The mima mound-vernial pool site encompasses 400 acres within the 50,000-acre Marine Corps Air Station, Mira Mar 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 vernial pools. During the rainy season, water is held in the vernial 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.</td>
</tr>
<tr>
<td>Significance</td>
<td>Mima mound-vernial 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 ecologically diverse. Of the six different types of mima mound-vernial pool areas in California, Mira Mar 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 Rodolfo 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, the four communities of the vernial pools are the federally endangered San Diego Mesa Minit and two rare species, California cactus grass and the San Diego coyote thistle.</td>
</tr>
<tr>
<td>Ownership</td>
<td>Federal</td>
</tr>
<tr>
<td>Designation</td>
<td>June 1972</td>
</tr>
<tr>
<td>Evaluation</td>
<td>John F. Shandler, California State University, Sacramento, 1972</td>
</tr>
</tbody>
</table>

Natural Landmark Brief  December 2006
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.
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..."
Requests 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...
<p>| 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 |</p>
<table>
<thead>
<tr>
<th>EIR/EIS; therefore, no additional response is provided or required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EIS-E-9</strong></td>
</tr>
<tr>
<td><strong>EIS-E-10</strong></td>
</tr>
<tr>
<td><strong>EIS-E-11</strong></td>
</tr>
<tr>
<td><strong>EIS-E-12</strong></td>
</tr>
</tbody>
</table>
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.
23) 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 Amtrak corridor?
24) We have all seen the amount of force 5/8" copper pipes can generate with water hammer. How will water hammer work over time to stress the force mains given their area cross section is 10,000 times greater than 5/8" copper pipe?
25) The SDGE yellow route contains the force mains 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?
26) 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 force mains?
27) Per 25 above will a non-abandonment position be based on the investment in the force mains and the delivery agreements that need to be honored? Can these agreements force the continuation of an unsafe condition? Who is the disinterested third party who will make the review?
28) Per 25 what are the mitigating methods besides time and dispersal?
29) With single wall pipe, in the EIR/EIS it would be unreal 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?
30) 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?
31) Would you consider the University proposed route shown in green?
32) 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?
33) Sewage and water leaks are a part of the record, can you post the links to these records so we can review them?
34) University has already retained an Attorney to fight the red line force main, will you consider the alternative in green or any other alternative University has to offer?
35) Why not a raw sewage aqueduct that provides a zero pressure means to deliver sewage and provides a deposition if any line ruptures? This would be similar to the SDGE aqueduct. See illustration below;

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.
| 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. |
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.

Please refer to responses EIS-E-1 and EIS-E-28.
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.

I believe that the city is on the right track with its pure water program but is on the wrong track with its 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 its 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 Claremont Times Article.
December 2017 Claremont Times Article.
This comment accurately summarizes the Project as presented in the Draft EIR/EIS.

Comment noted.

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.

Please refer to response EIS-E-1.

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.

Please refer to response EIS-E-1 above.

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 Valley 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 right-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
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 Brunetta, Senior Environmental Planner, City of San Diego Development Services Center, 1229 First Avenue, MS 201, San Diego, CA 92101 or e-mail to: EISDEP@sandiego.gov.

Louis Rodolico has been a University resident since 2001.

Link: North City Project Proposal
https://www.sandiego.gov/default_files/north_city_project_pure_water_san_diego_proposal_eis_review_draft_compressed.pdf

---

**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.

---

This article has been reformatted to fit the 8 1/2 x 11 paper size.
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.

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 pick the terracotta elsewhere.

Hopefully the University Community Planning Group (UCPG) and the Clairemont Community Planning Group (CCPG) will coordinate and insist on the SEDGE yellow path, the Amtrak or Caltrans path or better yet the elimination of pumping raw sewage uphill altogether.

The battle lines are drawn. Since Pure Water already purchased 80% construction documents, they are motivated to tell us whatever it takes to complete their selected alternate (red dashed line on map). If public outrage overruns 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. 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? 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 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.

We get a window into our political reality in a 2008 article written by Attorney Ranil Gupta for the Voice of San Diego. "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 know who to call. Westfield officials asked Gonzalez, who favored the expansion, to arrange a 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 placed 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 was 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 beneficiaries are not public record.

---

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. |
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.

Comment noted.

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.
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.
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.

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

Katie Rodriques, University City Resident
2002 Dust Drive
San Diego, CA 92122
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.

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.
INTENTIONALLY LEFT BLANK
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

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Impact</td>
<td>Mitigation Measures</td>
</tr>
<tr>
<td>Land Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the North City Project conflict with adopted environmental plans for the area including an adopted local habitat conservation plan?</td>
<td>No impact.</td>
<td>No mitigation required.</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>Would the North City Project result in a substantial change to natural topography or other ground surface relief features through landform alteration?</td>
<td>No impact.</td>
</tr>
</tbody>
</table>
## Table ES-1
### Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /> 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$<em>{10}$) or 55 pounds per day of fine particulate matter (PM$</em>{2.5}$)?</td>
<td>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</td>
<td>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</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /> Would the North City Project create objectionable odors affecting a substantial number of people?</td>
<td>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</td>
<td>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</td>
</tr>
</tbody>
</table>
Table ES-1
Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Impact</td>
<td>Level of Significance</td>
</tr>
<tr>
<td></td>
<td>Mitigation Measures</td>
<td>After Mitigation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological Resources</td>
<td>The Miramar Reservoir</td>
<td>Mitigation measures</td>
</tr>
<tr>
<td></td>
<td>Alternative would result in</td>
<td>MM-BIO-1a, MM-BIO-1b, MM-BIO-2,</td>
</tr>
<tr>
<td></td>
<td>18.40 acres of impacts to</td>
<td>MM-BIO-910, as described in</td>
</tr>
<tr>
<td></td>
<td>sensitive vegetation,</td>
<td>Section 6.4, Biological</td>
</tr>
<tr>
<td></td>
<td>12.54 acres of which are</td>
<td>Resources.</td>
</tr>
<tr>
<td></td>
<td>permanent impacts while the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>remaining are temporary.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Below a Level of Significance</td>
<td></td>
</tr>
</tbody>
</table>
## Table ES-1
Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the North City Project result in an impact on City, State, or federal wetlands through direct removal, filling, hydrological interruption or other means?</td>
<td>The Miramar Reservoir Alternative would impact 0.38 acre of City regulated wetlands and 0.03 acre of state and federally regulated jurisdictional resources.</td>
<td>The San Vicente Reservoir Alternative would impact 3.02 acres of City, State, or Federally regulated wetlands.</td>
</tr>
<tr>
<td></td>
<td>Mitigation measures MM-BIO-1b, MM-BIO-2, MM-BIO-99, and MM-BIO-910, as described in Section 6.4, Biological Resources.</td>
<td>Mitigation measures MM-BIO-1b, MM-BIO-1c, MM-BIO-2, MM-BIO-78, MM-BIO-89, and MM-BIO-910, as described in Section 6.4, Biological Resources.</td>
</tr>
</tbody>
</table>
Table ES-1
Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>The Miramar Reservoir Alternative would result in direct and indirect impacts to sensitive plant and wildlife species.</td>
<td>The San Vicente Reservoir Alternative would result in direct and indirect impacts to sensitive plant and wildlife species.</td>
</tr>
<tr>
<td>Impact</td>
<td>Mitigation Measures</td>
<td>Level of Significance After Mitigation</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>No impact.</td>
<td>Mitigation measures MM-BIO-1a, MM-BIO-1b, MM-BIO-2 through MM-BIO-67, and MM-BIO-940, as described in Section 6.4, Biological Resources.</td>
<td>Below a Level of Significance</td>
</tr>
<tr>
<td>Would the North City Project conflict with provisions of adopted local habitat conservation plans or policies protecting biological resources?</td>
<td>No impact.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>
## Table ES-1
### Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the North City Project introduce land uses within or adjacent to the MHPA that would result in adverse edge effects?</td>
<td>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-910(j), as described in Section 6.4, Biological Resources. Below a Level of Significance</td>
<td>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-910(j), as described in Section 6.4, Biological Resources. Below a Level of Significance</td>
</tr>
<tr>
<td>Would the North City Project introduce invasive species into natural open space areas?</td>
<td>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</td>
<td>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</td>
</tr>
</tbody>
</table>
Table ES-1
Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th></th>
<th>San Vicente Reservoir Alternative</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Impact</td>
<td>Mitigation Measures</td>
<td>Level of Significance After Mitigation</td>
<td>Impact</td>
</tr>
<tr>
<td>Would the North City Project expose people or property to health hazards, including fire?</td>
<td>Engine-powered equipment and vehicles could increase wildfire hazards by introducing new ignition sources to areas adjacent to or within currently undeveloped areas</td>
<td>Mitigation measure MM-HAZ-1, as described in Section 6.9, Health and Safety/Hazards.</td>
<td>Below a Level of Significance</td>
<td>Engine-powered equipment and vehicles could increase wildfire hazards by introducing new ignition sources to areas adjacent to or within currently undeveloped areas.</td>
</tr>
</tbody>
</table>
Table ES-1
Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>Potential impacts related to accidental spills during operation and maintenance activities.</td>
<td>Mitigation measures MM-HAZ-2 and MM-HAZ-3, as described in Section 6.9, Health and Safety/ Hazards.</td>
</tr>
</tbody>
</table>
### Table ES-1
**Summary of Significant Environmental Impacts**

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>Potential to encounter contaminated soil or groundwater, underground storage tanks (USTs), or military munitions along pipeline corridors.</td>
<td>Mitigation measures MM-HAZ-4 and MM-HAZ-5, as described in Section 6.9, Health and Safety Hazards. Mitigation measures MM-HAZ-4 and MM-HAZ-5, as described in Section 6.9, Health and Safety Hazards.</td>
</tr>
<tr>
<td></td>
<td>Mitigation measures MM-HAZ-4 and MM-HAZ-5, as described in Section 6.9, Health and Safety Hazards.</td>
<td>Mitigation measures MM-HAZ-4 and MM-HAZ-5, as described in Section 6.9, Health and Safety Hazards. Mitigation measures MM-HAZ-4 and MM-HAZ-5, as described in Section 6.9, Health and Safety Hazards.</td>
</tr>
</tbody>
</table>
Table ES-1
Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Impact</td>
<td>Level of Significance</td>
</tr>
<tr>
<td></td>
<td>Mitigation Measures</td>
<td>After Mitigation</td>
</tr>
<tr>
<td>Historical Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the North City Project result in the alteration or destruction of a</td>
<td>Potential impacts to known</td>
<td>Potential impacts to known</td>
</tr>
<tr>
<td>prehistoric or historic archaeological site, or any adverse physical or</td>
<td>archaeological resources</td>
<td>archaeological resources</td>
</tr>
<tr>
<td>aesthetic effects to a prehistoric or historic building, structure, object,</td>
<td>inventoried within the project</td>
<td>known archaeological resources</td>
</tr>
<tr>
<td>or site?</td>
<td>boundary (HR 450) and unknown</td>
<td>and/or grave sites.</td>
</tr>
<tr>
<td></td>
<td>archaeological resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>inventoried within the project</td>
<td>Below a Level of Significance</td>
</tr>
<tr>
<td></td>
<td>boundary (HR 450) and unknown</td>
<td></td>
</tr>
<tr>
<td></td>
<td>archaeological resources and/or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>grave sites.</td>
<td></td>
</tr>
</tbody>
</table>
## Table ES-1
Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>Level of Significance After Mitigation</th>
<th>San Vicente Reservoir Alternative</th>
<th>Level of Significance After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>Potential impacts on known tribal cultural resources associated with religious or sacred uses or human remains may occur as a result of construction.</td>
<td>Mitigation measure MM-HIS-3, as described in Section 6.10, Historical Resources.</td>
<td>Potential impacts on known tribal cultural resources associated with religious or sacred uses or human remains may occur as a result of construction.</td>
<td>Mitigation measure MM-HIS-3, as described in Section 6.10, Historical Resources.</td>
</tr>
</tbody>
</table>
### Table ES-1
**Summary of Significant Environmental Impacts**

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Impact</td>
<td>Mitigation Measures</td>
</tr>
<tr>
<td>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?</td>
<td>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.</td>
<td>Mitigation measures <strong>MM-NOI-1</strong> through <strong>MM-NOI-4</strong>, as described in Section 6.12, Noise.</td>
</tr>
</tbody>
</table>
Table ES-1  
Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Impact</td>
<td>Mitigation Measures</td>
</tr>
<tr>
<td>Paleontological Resources</td>
<td>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.</td>
<td>Mitigation measure <strong>MM-PALEO-1</strong> as described in Section 6.13, Paleontological Resources.</td>
</tr>
</tbody>
</table>
Table ES-1
Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Impact</td>
<td>Level of Significance After Mitigation</td>
</tr>
<tr>
<td>Public Utilities</td>
<td>Impacts related to conflicts with existing utilities may be potentially significant.</td>
<td>Mitigation measure MM-PU-1, as described in Section 6.15, Public Utilities.</td>
</tr>
</tbody>
</table>
### Table ES-1
Summary of Significant Environmental Impacts

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Miramar Reservoir Alternative</th>
<th>San Vicente Reservoir Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Impact</td>
<td>Mitigation Measures</td>
</tr>
<tr>
<td>Transportation, Circulation, and Parking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>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?</td>
<td>Construction of the Morena Pipelines and North City Pipeline would exceed significance thresholds for roadway segments and intersections, and impacts would be potentially significant.</td>
<td>Mitigation measure MM-TRAF-1 as described in Section 6.16, Transportation, Circulation and Parking.</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Discretionary Action/Approval/Permit</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certification of the North City Project EIR</td>
<td>City of San Diego</td>
</tr>
<tr>
<td>Approval of funding for the North City Project</td>
<td>Bureau of Reclamation</td>
</tr>
<tr>
<td>Approval of funding under the Water Infrastructure Finance and Innovation Act Program for the North City Project</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>Property and Easement Acquisition</td>
<td>City of San Diego; County of San Diego; City of Santee (San Vicente Reservoir Alternative Only)</td>
</tr>
<tr>
<td>Construction and Encroachment Permit(s)</td>
<td>City of San Diego; County of San Diego; City of Santee (San Vicente Reservoir Alternative Only)</td>
</tr>
<tr>
<td>Traffic Control Permit</td>
<td>City of San Diego (Transportation and Stormwater Department)</td>
</tr>
<tr>
<td>Groundwater Discharge Permit</td>
<td>City of San Diego (Public Utilities Department)</td>
</tr>
<tr>
<td>Site Development Permit</td>
<td>City of San Diego</td>
</tr>
<tr>
<td>Encroachment Permit</td>
<td>California Department of Transportation</td>
</tr>
<tr>
<td>Right of Entry Permit &amp; Dual Right of Entry Permit</td>
<td>Metropolitan Transit System/North County Transit District</td>
</tr>
<tr>
<td>Easement Amendments and Acquisition</td>
<td>Metropolitan Transit System</td>
</tr>
<tr>
<td>Section 401 Permit – Water Quality Certification</td>
<td>State Water Resources Control Board/Regional Water Quality Control Board</td>
</tr>
<tr>
<td>Section 404 Permit – Clean Water Act</td>
<td>U.S. Army Corps of Engineers</td>
</tr>
<tr>
<td>Section 1602 Streambed Alteration Agreement</td>
<td>California Department of Fish and Wildlife</td>
</tr>
<tr>
<td>Air Quality Permit to Construct/Permit to Operate</td>
<td>San Diego Air Pollution Control District</td>
</tr>
<tr>
<td>National Pollution Discharge Elimination Permit</td>
<td>San Diego Regional Water Quality Control Board</td>
</tr>
<tr>
<td>Waste Discharge Requirements</td>
<td>San Diego Regional Water Quality Control Board</td>
</tr>
<tr>
<td>DWQ Construction General Permit, including the stormwater pollution prevention plan</td>
<td>State Water Resources Control Board/Regional Water Quality Control Board</td>
</tr>
<tr>
<td>Domestic Water Supply Permit Amendment</td>
<td>State Water Resource Control Board, Division of Drinking Water</td>
</tr>
<tr>
<td>Obstruction Evaluation/Airport Airspace Analysis (OE/AAA), Form 7460-1</td>
<td>Federal Aviation Administration</td>
</tr>
<tr>
<td>Easement Amendments and Acquisition</td>
<td>MCAS Miramar/Department of Defense</td>
</tr>
<tr>
<td>Amendment of Property Easement</td>
<td>Department of Veteran's Affairs</td>
</tr>
<tr>
<td>Multi-Habitat Planning Area Boundary Line Adjustment for the SANDER Mitigation Site (approved July 12, 2017)</td>
<td>City of San Diego, Multiple Species Conservation Program, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service</td>
</tr>
</tbody>
</table>
INTENTIONALLY LEFT BLANK
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 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 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 (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 ReuseDraft 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 processes 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 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 five 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 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**

<table>
<thead>
<tr>
<th>Regulations or Guidelines</th>
<th>Number of Constituents and Parameters</th>
<th>Purified Water Results</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>California Department of Public Health Goals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Drinking Water MCLs</td>
<td>90</td>
<td>Meets All Regulations</td>
<td>Primary drinking water MCLs are enforceable, human health-based water quality limits.</td>
</tr>
</tbody>
</table>
Table 2-1
AWPF Demonstration Project Monitoring Results

<table>
<thead>
<tr>
<th>Regulations or Guidelines</th>
<th>Number of Constituents and Parameters</th>
<th>Purified Water Results</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Drinking Water MCLs</td>
<td>18</td>
<td>Meets All Regulations</td>
<td>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.</td>
</tr>
<tr>
<td>Microbial</td>
<td>4</td>
<td>Not Detected</td>
<td>Total coliform, fecal coliform, and viruses (somatic and male specific bacteriophage)</td>
</tr>
<tr>
<td>Notification Levels</td>
<td>30</td>
<td>Meets All Regulations</td>
<td>Notification levels are drinking water quality advisory limits.</td>
</tr>
<tr>
<td>Groundwater Replenishment Criteria</td>
<td>142</td>
<td>Meets All Regulations</td>
<td>Groundwater Replenishment Criteria are water quality limits specifically developed for indirect potable reuse via groundwater replenishment.</td>
</tr>
</tbody>
</table>

**Anticipated San Diego Water Board Goals for Reservoir Augmentation**

<table>
<thead>
<tr>
<th>Reservoir Limits</th>
<th>143</th>
<th>Meets All Regulations</th>
<th>Reservoir limits are EPA Numeric Criteria for Priority Pollutants and San Diego Basin Numeric Objectives.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>231</td>
<td></td>
<td>Because some contaminants and parameters are in multiple regulations/guidelines, the total of unique parameters is less than the sum.</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Radioactivity (pCi/L)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpha Radiation</td>
<td>15</td>
<td>0.016</td>
<td>0.16</td>
<td>1.02</td>
<td>ND</td>
<td>4.4</td>
<td>6.4</td>
</tr>
<tr>
<td>Beta Radiation</td>
<td>50</td>
<td>3.4</td>
<td>0.62</td>
<td>5</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>Combined Radium</td>
<td>5</td>
<td>0.27</td>
<td>0.22</td>
<td>0.57</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
</tr>
<tr>
<td>Uranium</td>
<td>20</td>
<td>0.31</td>
<td>&lt;0.019</td>
<td>2.2</td>
<td>2.4</td>
<td>2.8</td>
<td>1.8</td>
</tr>
<tr>
<td><strong>Volatile Organics (ppb)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetrachloroethylene</td>
<td>5</td>
<td>&lt;0.18</td>
<td>&lt;0.18</td>
<td>&lt;0.18</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>5</td>
<td>&lt;0.18</td>
<td>&lt;0.18</td>
<td>&lt;0.18</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
</tr>
<tr>
<td><strong>Inorganics (ppm)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>1000</td>
<td>6.1</td>
<td>&lt;5</td>
<td>16</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
</tr>
<tr>
<td>Arsenic (ppb)</td>
<td>10</td>
<td>0.77</td>
<td>&lt;0.4</td>
<td>2.2</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
</tr>
<tr>
<td>Fluoride, naturally occurring</td>
<td>2</td>
<td>0.71</td>
<td>&lt;0.02</td>
<td>0.25</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Nitrate</td>
<td>45</td>
<td>66</td>
<td>4.3</td>
<td>&lt;1</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
</tr>
<tr>
<td>Nitrite as N</td>
<td>1000</td>
<td>&lt;100</td>
<td>&lt;10</td>
<td>&lt;10</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
</tr>
<tr>
<td>Selenium (ppb)</td>
<td>50</td>
<td>1.1</td>
<td>&lt;0.28</td>
<td>0.87</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
</tr>
<tr>
<td><strong>Secondary Standards (ppm)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td>250</td>
<td>270</td>
<td>&lt;5</td>
<td>71</td>
<td>99.2</td>
<td>103</td>
<td>112</td>
</tr>
<tr>
<td>Color (units)</td>
<td>15</td>
<td>15</td>
<td>&lt;3</td>
<td>&lt;3</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>Iron (ppb)</td>
<td>300</td>
<td>69</td>
<td>&lt;1.1</td>
<td>18</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
</tr>
<tr>
<td>Manganese (ppb)</td>
<td>50</td>
<td>72</td>
<td>&lt;0.2</td>
<td>2.8</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
<td>&lt;DLR</td>
</tr>
<tr>
<td>Odor (TON)</td>
<td>3</td>
<td>10</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>ND</td>
<td>ND</td>
<td>1</td>
</tr>
<tr>
<td>Specific Conductance (µmhos/cm)</td>
<td>900</td>
<td>1500</td>
<td>26</td>
<td>670</td>
<td>985</td>
<td>993</td>
<td>1010</td>
</tr>
</tbody>
</table>
## Table 2-2
### Comparison Summary of Contaminants with Federal and State Drinking Water Standards

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfate</td>
<td>250</td>
<td>180</td>
<td>&lt;0.5</td>
<td>130</td>
<td>232</td>
<td>232</td>
<td>219</td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>500</td>
<td>650</td>
<td>11</td>
<td>290</td>
<td>618</td>
<td>620</td>
<td>621</td>
</tr>
<tr>
<td>Turbidity (NTU)</td>
<td>5</td>
<td>&lt;0.024</td>
<td>&lt;0.024</td>
<td>&lt;0.024</td>
<td>0.09</td>
<td>0.17</td>
<td>0.13</td>
</tr>
<tr>
<td><strong>Other Analyses (ppm)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH (Units)</td>
<td>NR</td>
<td>6.91</td>
<td>5.89</td>
<td>7.62</td>
<td>8.1</td>
<td>8.07</td>
<td>8.23</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convene an Independent Advisory Panel</td>
<td>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.</td>
</tr>
<tr>
<td>Design, install, and operate a demonstration-scale advanced water purification facility at the NCWRP</td>
<td>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.</td>
</tr>
<tr>
<td>Perform a study of San Vicente Reservoir to establish residence time and water quality parameters and conditions of purified water in the reservoir</td>
<td>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.</td>
</tr>
</tbody>
</table>
Table 2-3
Summary of Demonstration Project Findings

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perform an energy and economic analysis</td>
<td>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.</td>
</tr>
<tr>
<td>Define the state's regulatory requirements for a full-scale reservoir augmentation project at San Vicente Reservoir.</td>
<td>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.</td>
</tr>
<tr>
<td>Perform a pipeline alignment study.</td>
<td>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.</td>
</tr>
<tr>
<td>Conduct a public outreach and education program.</td>
<td>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.</td>
</tr>
</tbody>
</table>

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.
FIGURE 2-3
City of San Diego Recycled Water Conveyance System

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**

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Components Common to Project Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morena Pump Station</td>
<td></td>
</tr>
<tr>
<td>Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)</td>
<td></td>
</tr>
<tr>
<td>North City Water Reclamation Plant (NCWRP) Expansion</td>
<td></td>
</tr>
<tr>
<td>North City Pure Water Facility (NCPWF) Influent Pump Station</td>
<td></td>
</tr>
<tr>
<td>North City Pure Water Pump Station (North City Pump Station)</td>
<td></td>
</tr>
<tr>
<td>North City Renewable Energy Facility</td>
<td></td>
</tr>
<tr>
<td>Landfill Gas Pipeline</td>
<td></td>
</tr>
<tr>
<td>Metro Biosolids Center (MBC) Improvements</td>
<td></td>
</tr>
<tr>
<td><strong>Miramar Reservoir Alternative</strong></td>
<td></td>
</tr>
<tr>
<td>North City Pure Water Facility – Miramar Reservoir (NCPWF-MR)</td>
<td></td>
</tr>
<tr>
<td>North City Pure Water Pipeline (North City Pipeline)</td>
<td></td>
</tr>
</tbody>
</table>
### Table 3-1
North City Project Components

<table>
<thead>
<tr>
<th>Project Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure Water Dechlorination Facility (Dechlorination Facility)</td>
</tr>
<tr>
<td>Miramar Water Treatment Plant (WTP) Improvements</td>
</tr>
<tr>
<td>San Vicente Reservoir Alternative</td>
</tr>
<tr>
<td>North City Pure Water Facility – San Vicente Reservoir (NCPWF-SVR)</td>
</tr>
<tr>
<td>San Vicente Reservoir Pure Water Pipeline (San Vicente Pipeline)</td>
</tr>
<tr>
<td>Mission Trails Booster Station (MTBS)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Construction Start Date</th>
<th>Construction End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morena Pump Station and Pipelines</td>
<td>4/2019</td>
<td>10/2021</td>
</tr>
<tr>
<td>NCWRP Expansion</td>
<td>10/2018</td>
<td>12/2021</td>
</tr>
<tr>
<td>NCPWF Influent Pump Station</td>
<td>1/2019</td>
<td>10/2021</td>
</tr>
<tr>
<td>North City Pump Station</td>
<td>5/2019</td>
<td>11/2021</td>
</tr>
<tr>
<td>Renewable Energy Facility</td>
<td>3/2020</td>
<td>12/2021</td>
</tr>
<tr>
<td>Landfill Gas Pipeline</td>
<td>3/2020</td>
<td>10/2021</td>
</tr>
<tr>
<td>MBC Improvements</td>
<td>4/2019</td>
<td>10/2021</td>
</tr>
<tr>
<td>Miramar Reservoir Alternative</td>
<td>10/2018</td>
<td>11/2021</td>
</tr>
<tr>
<td>North City Pipeline + Dechlorination Facility</td>
<td>11/2018</td>
<td>10/2021</td>
</tr>
<tr>
<td>Miramar WTP Improvements</td>
<td>7/2020</td>
<td>9/2021</td>
</tr>
<tr>
<td>San Vicente Reservoir Alternative</td>
<td>10/2018</td>
<td>11/2021</td>
</tr>
<tr>
<td>NCPWF-SVR</td>
<td>10/2018</td>
<td>11/2021</td>
</tr>
<tr>
<td>San Vicente Pipeline + MTBS</td>
<td>12/2018</td>
<td>5/2021</td>
</tr>
<tr>
<td>MTBS</td>
<td>5/2019</td>
<td>9/2021</td>
</tr>
</tbody>
</table>

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 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-diameter 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>
<thead>
<tr>
<th>Project Component</th>
<th>Estimated Energy Use (kWh/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miramar Reservoir Alternative</td>
<td></td>
</tr>
<tr>
<td>Morena Pump Station</td>
<td>25,458,000</td>
</tr>
<tr>
<td>NCWRP Expansion</td>
<td>32,498,000</td>
</tr>
<tr>
<td>NCPWF Influent Pump Station</td>
<td>3,942,000</td>
</tr>
<tr>
<td>NCPWF</td>
<td>42,209,000</td>
</tr>
<tr>
<td>North City Pump Station</td>
<td>19,230,000</td>
</tr>
<tr>
<td>North City Renewable Energy Facility (building usage)</td>
<td>2,628,000</td>
</tr>
<tr>
<td>MBC Upgrades</td>
<td>15,884,000</td>
</tr>
<tr>
<td>Dechlorination Facility</td>
<td>44,000</td>
</tr>
<tr>
<td>Miramar WTP Improvements</td>
<td>586,000</td>
</tr>
<tr>
<td>Reduction in Collection System and Wastewater Treatment</td>
<td>(15,598,000)</td>
</tr>
<tr>
<td><strong>Total Miramar Reservoir Alternative</strong></td>
<td><strong>126,881,000</strong></td>
</tr>
</tbody>
</table>