

APPENDIX A-1

Channel and Ditch FMPs

Facility Maintenance Plan

Green Valley Creek - Pomerado Facility Group

Segment Names (Facility numbers):

Pomerado 1 (1-04-030)

Pomerado 2 (1-04-033)



Green Valley Creek - Pomerado Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	San Dieguito River
Watershed (Number)	San Dieguito River (1)
Hydrologic Subarea	905.22
Drainage Name (Number)	Green Valley Creek (04)
Facility Group Name	Green Valley Creek - Pomerado
Segment Name (Facility Number)	Pomerado 1 (1-04-030) Pomerado 2 (1-04-033)
Substrate	Pomerado 1 / Concrete Pomerado 2 / Concrete
Location	About 1200 feet northwest of Pomerado Road and 800 feet south of Rancho Bernardo Road
MMP Map No(s).	2, 3
Facility Inspection No.	2, 3
Other Former Names	Rancho Bernardo



Figure 1: Vicinity Map of Green Valley Creek - Pomerado Facility Group

Green Valley Creek - Pomerado Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Dieguito River Watershed Management Area; Hydrologic Subarea 905.22

Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Green Valley Creek - Pomerado

Beneficial Uses	<ul style="list-style-type: none">• Municipal and Domestic Supply (MUN)• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Industrial Process Supply (PROC)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Chloride, Manganese, Pentachlorophenol (PCP), Pesticides, Sulfates, Total Nitrogen as N

Lake Hodges (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Municipal and Domestic Supply (MUN)• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Industrial Process Supply (PROC)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Cold Freshwater Habitat (COLD)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Color, Manganese, Mercury, Nitrogen, Phosphorus, Turbidity, pH

Green Valley Creek - Pomerado Facility Group

Facility Maintenance Plan

Pomerado Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Green Valley Creek, upstream of Lake Hodges
Tributaries (listed from downstream to upstream)	Green Valley Creek
Facility Length	Approximately 1,884 feet
Top-of-Bank Width	Approximately 16–43 feet
Bottom Facility Width	Approximately 10–21 feet
Facility Depth	Approximately 7–11 feet
Adjacent Land Use	Commercial, Parks, Single-Family Residential, Transportation
As-Built Drawing Number	10556-D
Coastal Zone	No



Figure 1: May 2017, looking downstream at double box culvert

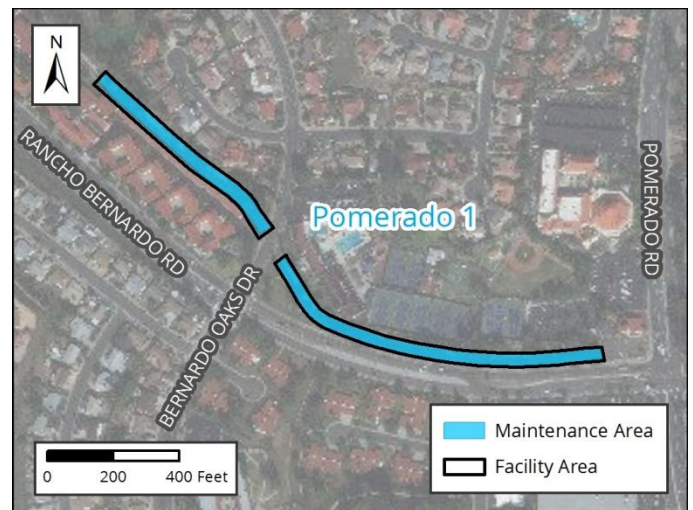


Figure 2: Vicinity Map of Pomerado Segment 1

Green Valley Creek - Pomerado Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The amount of vegetation in the segment varied from light to heavy and up to 4 feet of sediment was observed in some portions of the segment and the culverts

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	520	756	950	1,458	2,050	2,700

Hydraulic Capacity of Facility

Current Capacity 867 cfs

Proposed MWMP Maintained Capacity 1,375 cfs

Maintenance Recommendation

Remove accumulated sediment, debris, and vegetation from Station 198 to Station 888, and Station 987 to Station 2082.
Remove accumulated sediment and debris in the culvert from Station 888 to Station 987.

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Green Valley Creek - Pomerado Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Disturbed wetland (concrete-lined)• Riparian forest (southern riparian forest; concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Eucalyptus woodland• Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-000580
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric scatter
Historical Resources	
Resource Identified in APE	Channel; c. 1963 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

Green Valley Creek - Pomerado Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-1	MM-HR-2
EP-HAZ-3	Noise (NOI)
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Green Valley Creek - Pomerado Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Green Valley Creek - Pomerado
Segment Name	Pomerado 1
Facility No.	1-04-030
Facility Location	From outlet of culvert beneath the intersection of Pomerado Road and Rancho Bernardo Road to 700 feet downstream of outlet of culvert beneath Bernardo Oaks Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 198 to Station 888, and Station 987 to Station 2082. Remove accumulated sediment and debris in the culvert from Station 888 to Station 987.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 10556-D
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Green Valley Creek - Pomerado Facility Group

Facility Maintenance Plan

Facility Dimensions (Approximate)	Length: 1,884 feet Top width: 16–43 feet Bottom width: 10–21 feet Depth: 7–11 feet
Authorized Facility Maintenance Area	Length: Channel: 1,785 feet; Culvert: 99 feet Width: 16–43 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, boom truck, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper, mower
Schedule	Up to approximately 61 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<p>Palm Removal Methodology:</p> <ol style="list-style-type: none"> 1. Man in boom truck or use of crane cuts section of the palm tree from top to bottom. 2. Crane lowers cut material in the channel. 3. Bobcat/skid-steer in channel pushes cut material to loading point. 4. Gradall/excavator scoops material from channel at loading area. 5. Gradall/excavator dumps material on stockpile area or directly into dump truck. 6. If stockpiled, gradall/excavator scoops material from stockpile to dump truck. <p>Routine Maintenance:</p> <ol style="list-style-type: none"> 1. Two Bobcat/skid-steers enter or are lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steers push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation

Green Valley Creek - Pomerado Facility Group

Facility Maintenance Plan

Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: No <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	<p>Conduct post-maintenance procedures as follows:</p> <ol style="list-style-type: none"> 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Green Valley Creek – Pomerado Facility Group

Facility Maintenance Plan

Pomerado Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Green Valley Creek, immediately upstream of Green Valley Creek (Pomerado Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 2,972 feet
Top-of-Bank Width	Approximately 17-50 feet
Bottom Facility Width	Approximately 7-17 feet
Facility Depth	Approximately 6-14 feet
Adjacent Land Use	Commercial, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	13623-D, 10784-D, & 10566-D
Coastal Zone	No



Figure 1: May 2017, looking upstream at upstream end of segment

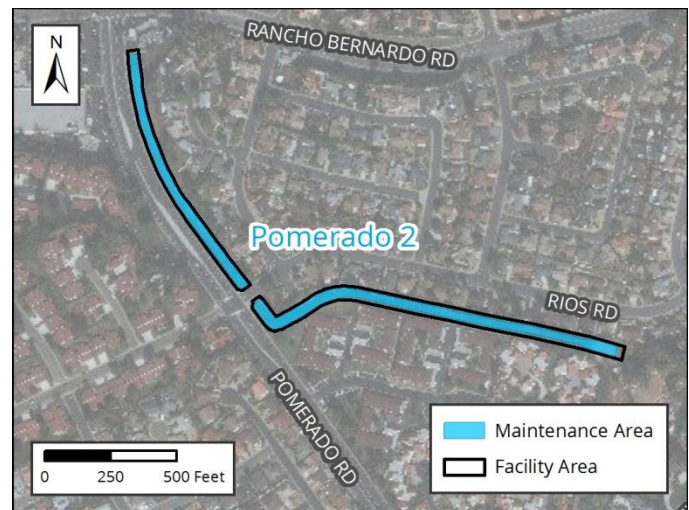


Figure 2: Vicinity Map of Pomerado Segment 2

Green Valley Creek – Pomerado Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The amount of vegetation in the segment varied from light to heavy and up to 4 feet of sediment was observed in some portions of the segment and the culverts

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	520	756	950	1,458	2,050	2,700

Hydraulic Capacity of Facility

Current Capacity 770 cfs

Proposed MWMP Maintained Capacity 1,164 cfs

Maintenance Recommendation

Remove accumulated sediment, debris, and vegetation from Station 2510 to Station 3510, and Station 3581 to Station 5037. Remove accumulated sediment and debris in the culvert from Station 2082 to Station 2510, and Station 3510 to Station 3581.

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Green Valley Creek – Pomerado Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

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|----------------------------|---|
| Facility Vegetation | <ul style="list-style-type: none">• Developed concrete-lined channel• Disturbed wetland (concrete-lined)• Freshwater marsh (concrete-lined)• Ornamental plantings (concrete-lined) |
|----------------------------|---|

- | | |
|----------------------------|--|
| Adjacent Vegetation | <ul style="list-style-type: none">• Developed land• Disturbed land• Eucalyptus woodland• Ornamental plantings |
|----------------------------|--|

Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting and roosting.
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MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
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Mitigation Within Facility	None
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Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources

Resource Identified in APE	P-37-000581
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric scatter

Historical Resources

Resource Identified in APE	Channel; c. 1963 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

Green Valley Creek – Pomerado Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
Solid Waste (SW)	MM-HR-1
EP-SW-2	MM-HR-2
EP-SW-3	Noise (NOI)
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Green Valley Creek – Pomerado Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Green Valley Creek - Pomerado
Segment Name	Pomerado 2
Facility No.	1-04-033
Facility Location	From edge of jurisdictional boundary to inlet of culvert beneath the intersection of Pomerado Road and Rancho Bernardo Road
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 2510 to Station 3510, and Station 3581 to Station 5037. Remove accumulated sediment and debris in the culvert from Station 2082 to Station 2510, and Station 3510 to Station 3581.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 13623-D, 10784-D, & 10566-D
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Green Valley Creek – Pomerado Facility Group

Facility Maintenance Plan

Facility Dimensions (Approximate)	Length: 2,972 feet Top width: 17–50 feet Bottom width: 7–17 feet Depth: 6–14 feet
Authorized Facility Maintenance Area	Length: Channel: 2,456 feet; Culvert: 499 feet Width: 17–50 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Downstream Reach: Crane, boom truck, Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper Upstream Reach: Crane, boom truck, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck,
Schedule	Up to approximately 32 working days
Maintenance Crew	Approximately 8–12 people

Green Valley Creek – Pomerado Facility Group

Facility Maintenance Plan

Routine Maintenance Procedures	<p>Palm Removal Methodology:</p> <ol style="list-style-type: none"> 1. Man in boom truck or use of crane cuts section of the palm tree from top to bottom. 2. Crane lowers cut material in the channel. 3. Bobcat/skid-steer in channel pushes cut material to loading point. 4. Gradall/excavator scoops material from channel at loading area. 5. Gradall/excavator dumps material on stockpile area or directly into dump truck. 6. If stockpiled, gradall/excavator scoops material from stockpile to dump truck. <p>Downstream reach:</p> <ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site <p>Upstream reach:</p> <ol style="list-style-type: none"> 1. Bobcat/skid-steer and loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator and loader at access/loading area 3. Gradall/excavator and loader scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego and the City of Poway

Green Valley Creek – Pomerado Facility Group

Facility Maintenance Plan

Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	<p>Conduct post-maintenance procedures as follows:</p> <ol style="list-style-type: none"> 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Los Peñasquitos Lagoon - Industrial Facility Group

Segment Names (Facility numbers):

Industrial 1 (2-01-120)

Industrial 2 (2-01-122)

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Los Peñasquitos Unnamed Tributary (01)
Facility Group Name	Los Peñasquitos Lagoon - Industrial
Segment Name (Facility Number)	Industrial 1 (2-01-120) Industrial 2 (2-01-122)
Substrate	Industrial 1 / Earthen Industrial 2 / Concrete
Location	About 150 feet west of the Interstate 5 (I-5) Local Bypass and 150 feet south of Carmel Mountain Road
MMP Map No(s).	6a
Facility Inspection No.	6a
Other Former Names	3000 Industrial Court Channel

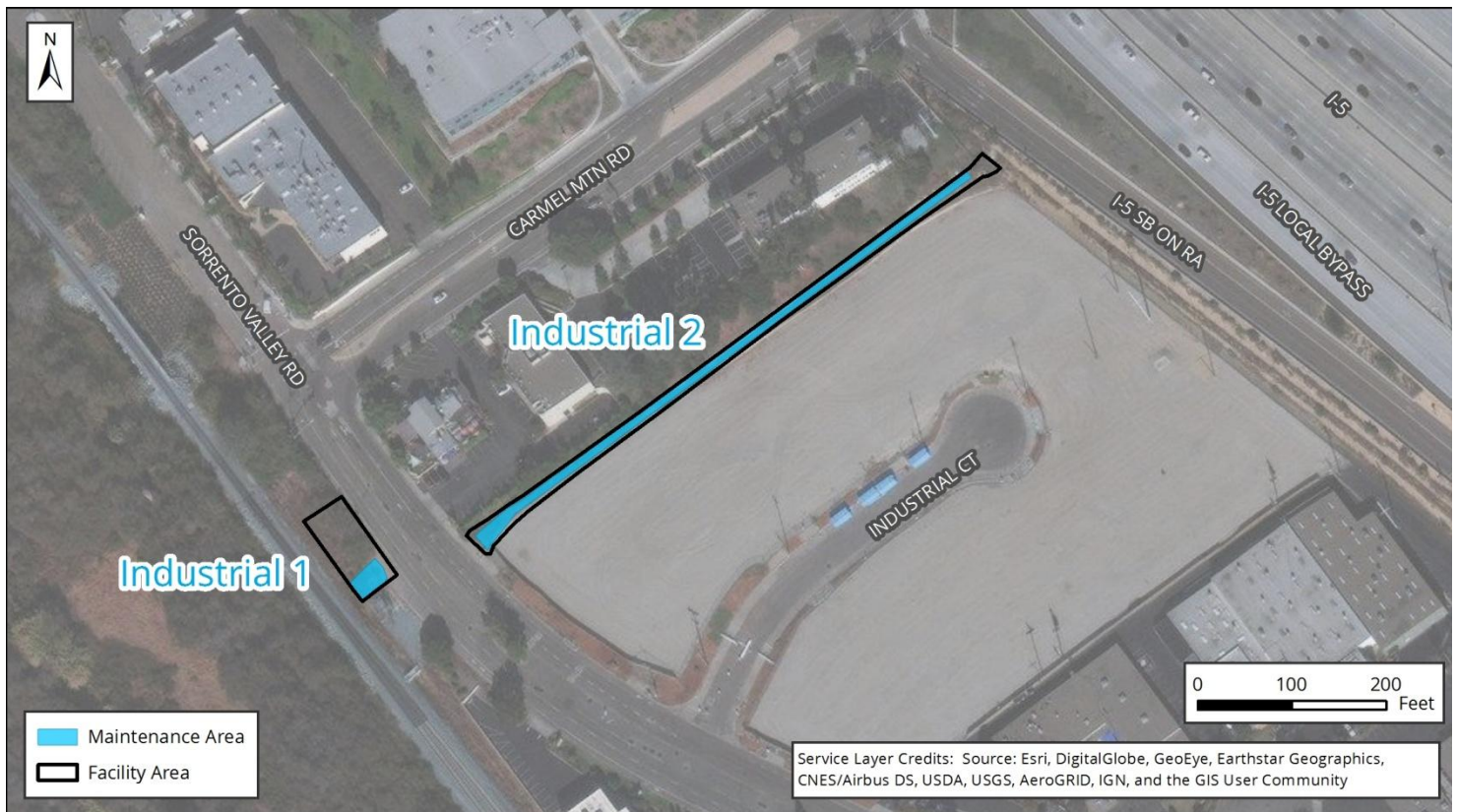


Figure 1: Vicinity Map of Los Peñasquitos Lagoon - Industrial Facility Group

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10

Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Los Peñasquitos Lagoon - Industrial

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Los Peñasquitos Lagoon (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)• Spawning, Reproduction, and/or Early Development (SPWN)• Estuarine (EST)• Marine (MAR)• Migration of Aquatic Organisms (MIGR)• Shellfish Harvesting (SHELL)
303(d) listed Impairments	Sedimentation/Siltation, Toxicity

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Industrial Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Los Peñasquitos unnamed tributary, immediately upstream of Los Peñasquitos Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 285 feet
Top-of-Bank Width	Approximately 50 feet
Bottom Facility Width	Approximately 35 feet
Facility Depth	Approximately 4–5 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Transportation
As-Built Drawing Number	10338-D
Coastal Zone	CST-PMT, N-APP-1



Figure 1: June 2018, looking downstream from the outlet headwall

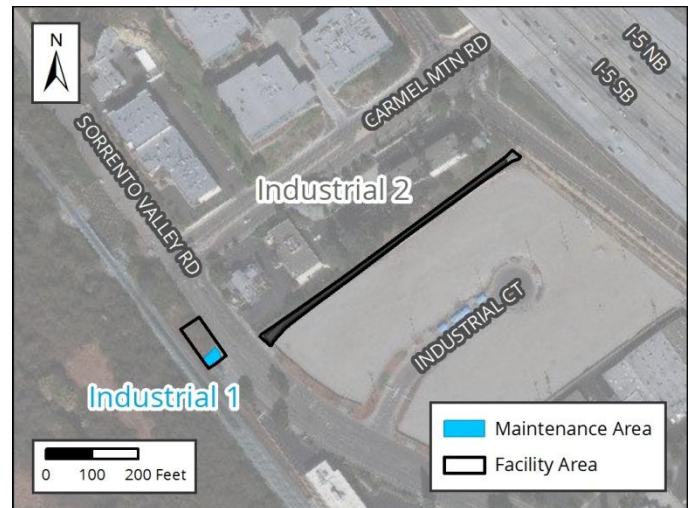


Figure 2: Vicinity Map of Industrial Segment 1

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2007: Unknown 2007 and 2009: Culvert inlet cleared 2010: Emergency excavation of sediment and vegetation January 2011 – March 2019: No maintenance conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP Emergency CDP No. 784126

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 43 (Non-Notification, No USACE File # Assigned)

401 RWQCB 401 Cert No. 10C-052 (one-time maintenance authorization)

1602 LSA Emergency Notification No. 1600-2010-0193R5

Mitigation for Previous Impacts	None required due to maintenance conducted
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Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity

In March 2010, the vegetation was dense at the downstream end. Sediment deposition was estimated to be 1.2 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	143	182	213	252	277	295

Hydraulic Capacity of Facility

Current Capacity	277 cfs
Proposed MWMP Maintained Capacity	295 cfs
Maintenance Recommendation	Remove accumulated sediment, debris and vegetation for a 25-foot length at the box culvert outlet (Station 595 to Station 620) within San Diego Metropolitan Transit Development Board (SDMTDB) right-of-way
In-Stream Post-Maintenance Erosion Control Recommendation	None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Riparian forest (southern willow forest)
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Freshwater marsh• Ornamental plantings• Riparian forest (southern willow forest)
Habitat and Wildlife	Due to its adjacency to the Multi Habitat Planning Area (MHPA) and presence of limited suitable habitat, the channel has potential to support sensitive wildlife and bird species (e.g., least Bell's vireo, southern willow flycatcher, Ridgway's rail)
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The western section of the channel is located directly east of the nearest MHPA boundary (approximately 15 feet).
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1963 earthen channel
Potential Historical Resources	Yes
Constraint Identified	

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-5
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
Land Use (LU)	MM-CR-1
EP-LU-1	MM-CR-2
Paleontological Resources (PAL)	MM-CR-3
EP-PAL-1	MM-CR-4
Solid Waste (SW)	MM-HR-1
EP-SW-2	MM-HR-2
EP-SW-3	Noise (NOI)
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Los Peñasquitos Lagoon - Industrial
Segment Name	Industrial 1
Facility No.	2-01-120
Facility Location	From outlet of culvert 200 feet southeast of the intersection of Carmel Mountain Road and Sorrento Valley Road to underneath the SDMTDB bridge
Coastal Zone	CST-PMT, N-APP-1
MWMP Proposed Maintenance	Maintenance of channel, per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris and vegetation for a 25-foot length at the box culvert outlet (Station 595 to Station 620) within San Diego Metropolitan Transit Development Board (SDMTDB) right-of-way
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Built?	Yes; 10338-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 285 feet Top width: 50 feet Bottom width: 35 feet Depth: 4-5 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

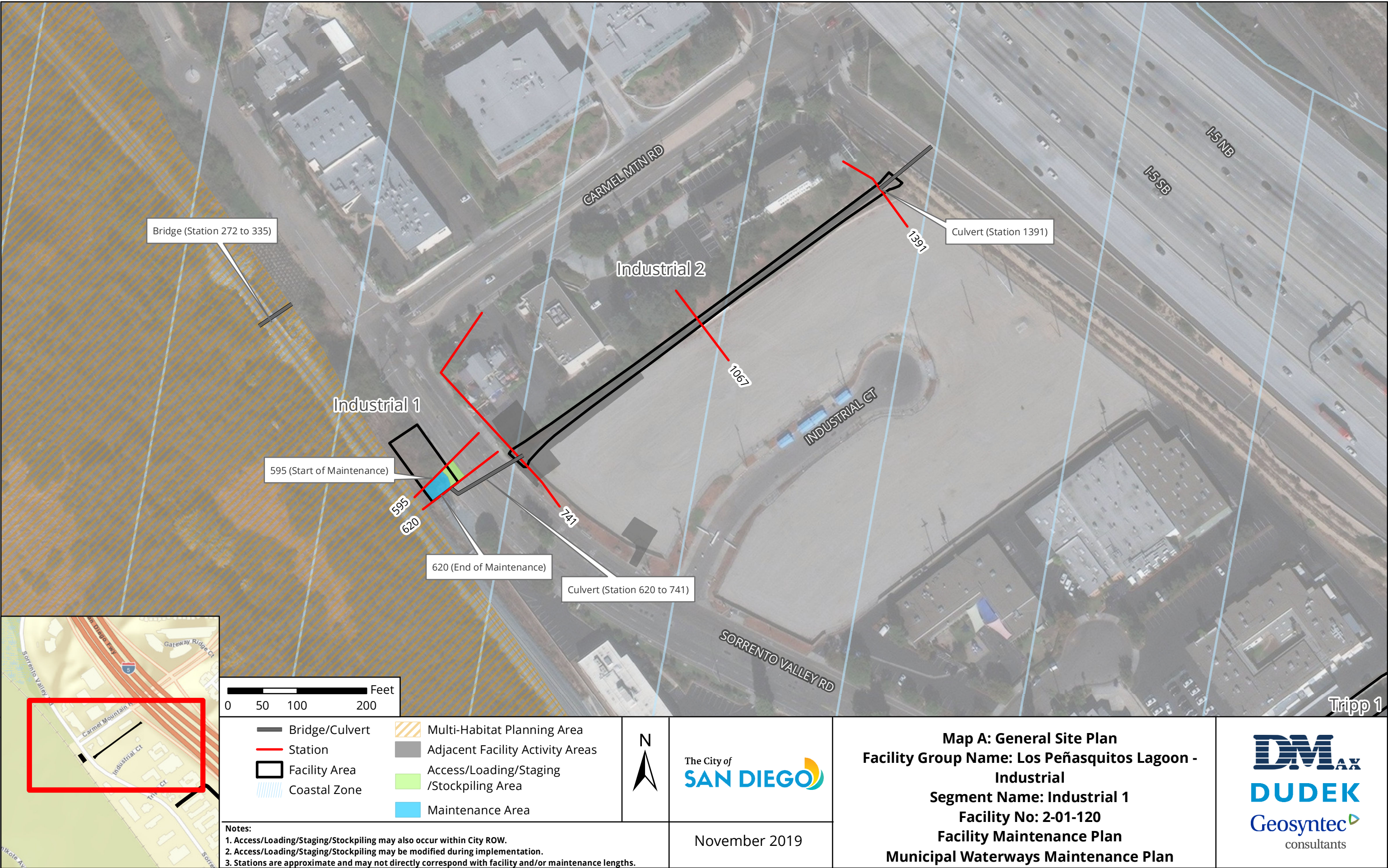
Authorized Facility Maintenance Area	Length: Channel: 25 feet Width: 39 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<p>Outside of Channel:</p> <ol style="list-style-type: none"> 1. Gradall/excavator moves along channel bank within access/loading area 2. Gradall/excavator scoops material from channel and loads dump truck 3. Dump truck hauls material to legal disposal site <p>Inside of Channel:</p> <ol style="list-style-type: none"> 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor used to power wash channel in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	Yes; coordinate with the City of San Diego and the North County Transit District

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	<p>Conduct post-maintenance procedures as follows:</p> <ol style="list-style-type: none"> 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Industrial Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bed and banks
Location Within Watershed	Lower reach of Los Peñasquitos unnamed tributary, immediately upstream of Los Peñasquitos Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 786 feet
Top-of-Bank Width	Approximately 9-20 feet
Bottom Facility Width	Approximately 2-13 feet
Facility Depth	Approximately 2-5 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Transportation
As-Built Drawing Number	10338-D
Coastal Zone	CST-PMT, N-APP-1



Figure 1: October 2009, looking downstream at concrete segment

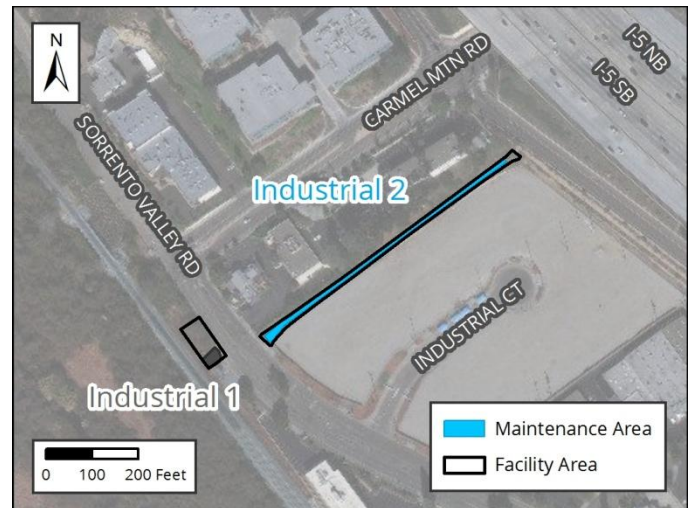


Figure 2: Vicinity Map of Industrial Segment 2

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2007: Unknown 2007 and 2009: Culvert inlet cleared 2010: Emergency excavation of sediment and vegetation January 2011 – March 2019: No maintenance conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP Emergency CDP No. 784126

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 43 (Non-Notification, No USACE File # Assigned)

401 RWQCB 401 Cert No. 10C-052 (one-time maintenance authorization)

1602 LSA Emergency Notification No. 1600-2010-0193R5

Mitigation for Previous Impacts	El Cuervo del Sur HMMP (0.004 acre) Los Peñasquitos WEP (0.012 acre)
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Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity

In March 2010, the vegetation varied from mostly clean channel to dense vegetation at the downstream end. Sediment deposition was estimated to be 1.2 feet. The concrete lining in the upstream portions of the channel were noted to be in poor condition. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	143	182	213	252	277	295

Hydraulic Capacity of Facility

Current Capacity	143 cfs
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Proposed MWMP Maintained Capacity	143 cfs
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Maintenance Recommendation	Remove accumulated sediment, debris and vegetation from Station 741 to Station 1391. Remove accumulated sediment and debris in culvert from Station 620 to Station 741. Maintain/repair existing debris fence as needed.
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In-Stream Post-Maintenance Erosion Control Recommendation	None
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¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Freshwater marsh (concrete-lined)• Riparian forest (southern willow forest)• Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Freshwater marsh• Ornamental plantings• Riparian forest (southern willow forest)
Habitat and Wildlife	Due to its adjacency to the Multi Habitat Planning Area (MHPA) and presence of limited suitable habitat, the channel has potential to support sensitive wildlife and bird species (e.g., least Bell's vireo, southern willow flycatcher, Ridgway's rail)
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The western section of the channel is located directly east of the nearest MHPA boundary (approximately 15 feet).
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1963 concrete channel
Potential Historical Resources	None
Constraint Identified	

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HAZ-3	MM-CR-1
Land Use (LU)	MM-CR-2
EP-LU-1	MM-CR-3
Solid Waste (SW)	MM-CR-4
EP-SW-2	Noise (NOI)
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Los Peñasquitos Lagoon - Industrial
Segment Name	Industrial 2
Facility No.	2-01-122
Facility Location	From 150 feet west of Interstate 5 (I-5) Local Bypass to inlet of culvert 200 feet southeast of the intersection of Carmel Mountain Road and Sorrento Valley Road
Coastal Zone	CST-PMT, N-APP-1
MWMP Proposed Maintenance	Maintenance of channel, per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris and vegetation from Station 741 to Station 1391. Remove accumulated sediment and debris in culvert from Station 620 to Station 741. Maintain/repair existing debris fence as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 10338-D
Substrate Detail	Concrete bed and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

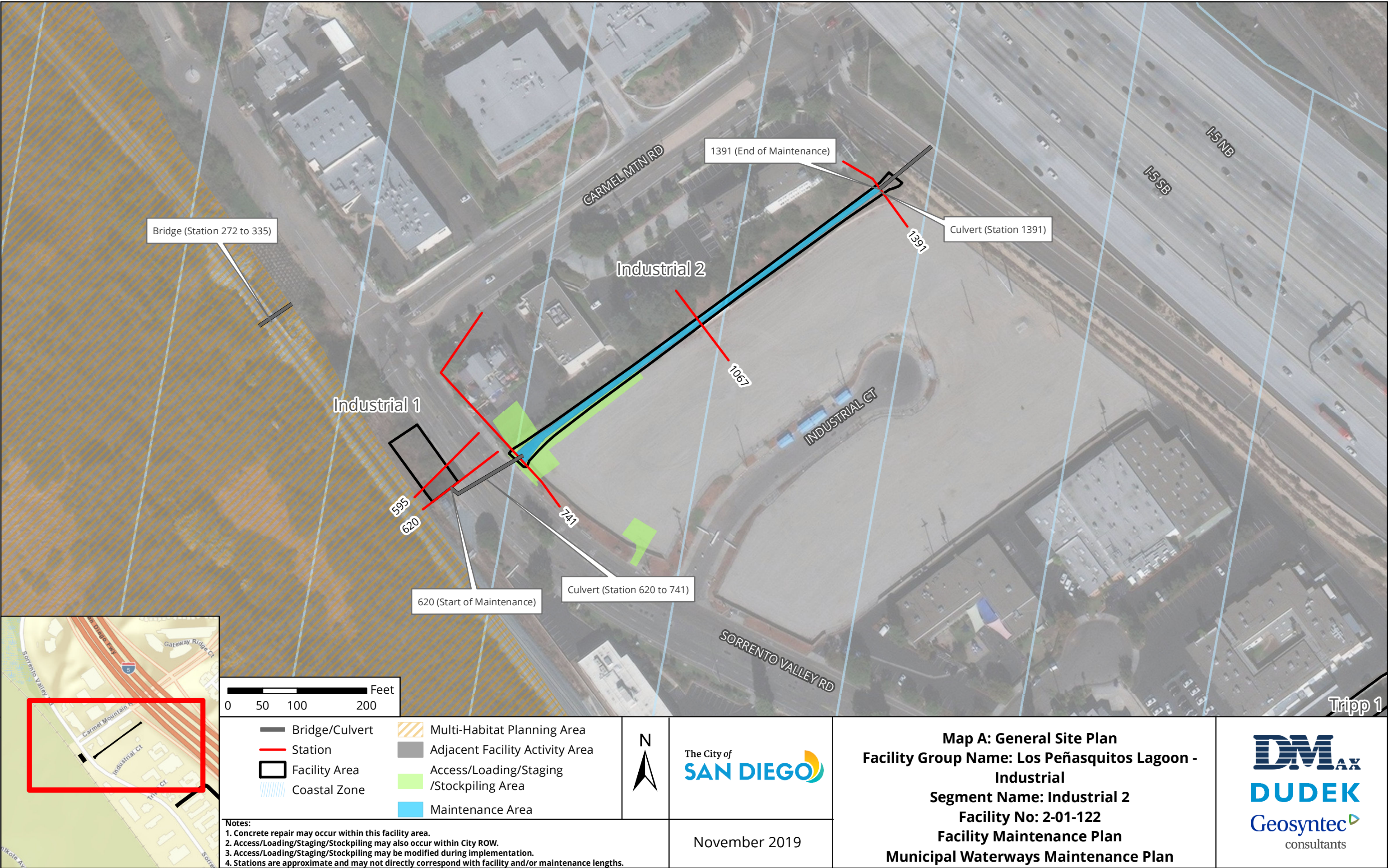
Facility Dimensions (Approximate)	Length: 786 feet Top width: 9–20 feet Bottom width: 2–13 feet Depth: 2–5 feet
Authorized Facility Maintenance Area	Length: Channel: 650 feet; Culvert: 121 feet Width: 9–20 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor used to power wash channel in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	Yes; coordinate with the City of San Diego and the North County Transit District
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Los Peñasquitos Lagoon - Industrial Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Los Peñasquitos Lagoon - Tripp Facility Group

Segment Name (Facility number):
Tripp 1 (2-01-130)



Los Peñasquitos Lagoon - Tripp Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Los Peñasquitos Unnamed Tributary (01)
Facility Group Name	Los Peñasquitos Lagoon - Tripp
Segment Name (Facility Number)	Tripp 1 (2-01-130)
Substrate	Tripp 1 / Concrete
Location	West of Interstate 5 (I-5), east of Sorrento Valley Road, and about 200 feet south of Tripp Court
MMP Map No(s).	6
Facility Inspection No.	6
Other Former Names	Tripp Court Channel, 11689 Sorrento Valley Rd



Figure 1: Vicinity Map of Los Peñasquitos Lagoon - Tripp Facility Group

Los Peñasquitos Lagoon - Tripp Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10

Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Los Peñasquitos Lagoon - Tripp

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Los Peñasquitos Lagoon (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)• Spawning, Reproduction, and/or Early Development (SPWN)• Estaurine (EST)• Marine (MAR)• Migration of Aquatic Organisms (MIGR)• Shellfish Harvesting (SHELL)
303(d) listed Impairments	Sedimentation/Siltation, Toxicity

Los Peñasquitos Lagoon - Tripp Facility Group

Facility Maintenance Plan

Tripp Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Los Peñasquitos unnamed tributary, immediately upstream of Los Peñasquitos Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,835 feet
Top-of-Bank Width	Approximately 22 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 2-5 feet
Adjacent Land Use	Industrial, Transportation
As-Built Drawing Number	11935-D, 11935-6-D, 11935-7-D, & 11530-1-D
Coastal Zone	N-APP-1



Figure 1: August 2014, looking downstream at double-barrel 57-inch RCP culvert entrance; downstream end of facility group

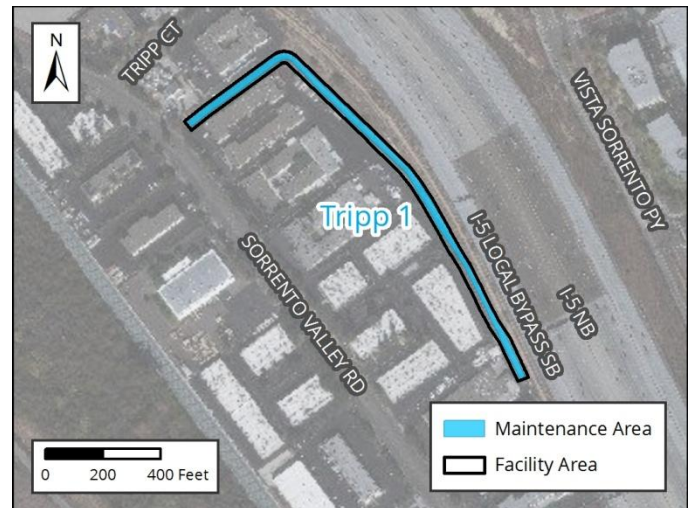


Figure 2: Vicinity Map of Tripp Segment 1

Los Peñasquitos Lagoon - Tripp Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2007: Unknown 2007: Routine maintenance conducted 2010: Emergency maintenance excavation of sediment and vegetation January 2011 – March 2019: No maintenance conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP Emergency CDP No. 784126

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 43 (Non-Notification, No USACE File # Assigned)

401 RWQCB 401 Cert No. 10C-052 (one-time maintenance authorization)

1602 LSA Emergency Notification No. 1600-2010-0193R5

Mitigation for Previous Impacts	El Cuervo del Sur HMMP (0.046 acre) Los Peñasquitos WEP (0.138 acre)
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Los Peñasquitos Lagoon - Tripp Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity

In August 2014, the segment was observed to have light to moderate vegetation with dense vegetation at the downstream end. Sediment deposition at the downstream end was estimated to be 3 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	269	325	408	447	500	534

Hydraulic Capacity of Facility

Current Capacity	267 cfs
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Proposed MWMP Maintained Capacity	267 cfs
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Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 658 to Station 2493. Remove accumulated sediment, debris, and vegetation from culvert at Station 658. Maintain/repair existing debris fence as needed.
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In-Stream Post-Maintenance Erosion Control Recommendation	None
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¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Los Peñasquitos Lagoon - Tripp Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Freshwater marsh (concrete-lined)• Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Ornamental plantings
Habitat and Wildlife	Although this ditch does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the channel extents and area of vegetation present are limited such that it is unlikely for wildlife to use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The ditch is located approximately 590 feet east of the nearest MHPA boundary.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-036415
Resource Type	Distribution line
Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Los Peñasquitos Lagoon - Tripp Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-5
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-1	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HAZ-3	MM-CR-1
Solid Waste (SW)	MM-CR-2
EP-SW-2	MM-CR-3
EP-SW-3	MM-CR-4
EP-SW-4	Noise (NOI)
EP-SW-5	MM-NOI-1
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Los Peñasquitos Lagoon - Tripp Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Los Peñasquitos Lagoon - Tripp
Segment Name	Tripp 1
Facility No.	2-01-130
Facility Location	From 1,700 feet south east of Tripp Court cul-de-sac to a pipe which conveys flow under Sorrento Valley Road
Coastal Zone	N-APP-1
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 658 to Station 2493. Remove accumulated sediment, debris, and vegetation from culvert at Station 658. Maintain/repair existing debris fence as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 11935-D, 11935-6-D, 11935-7-D, & 11530-1-D
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Los Peñasquitos Lagoon - Tripp Facility Group

Facility Maintenance Plan

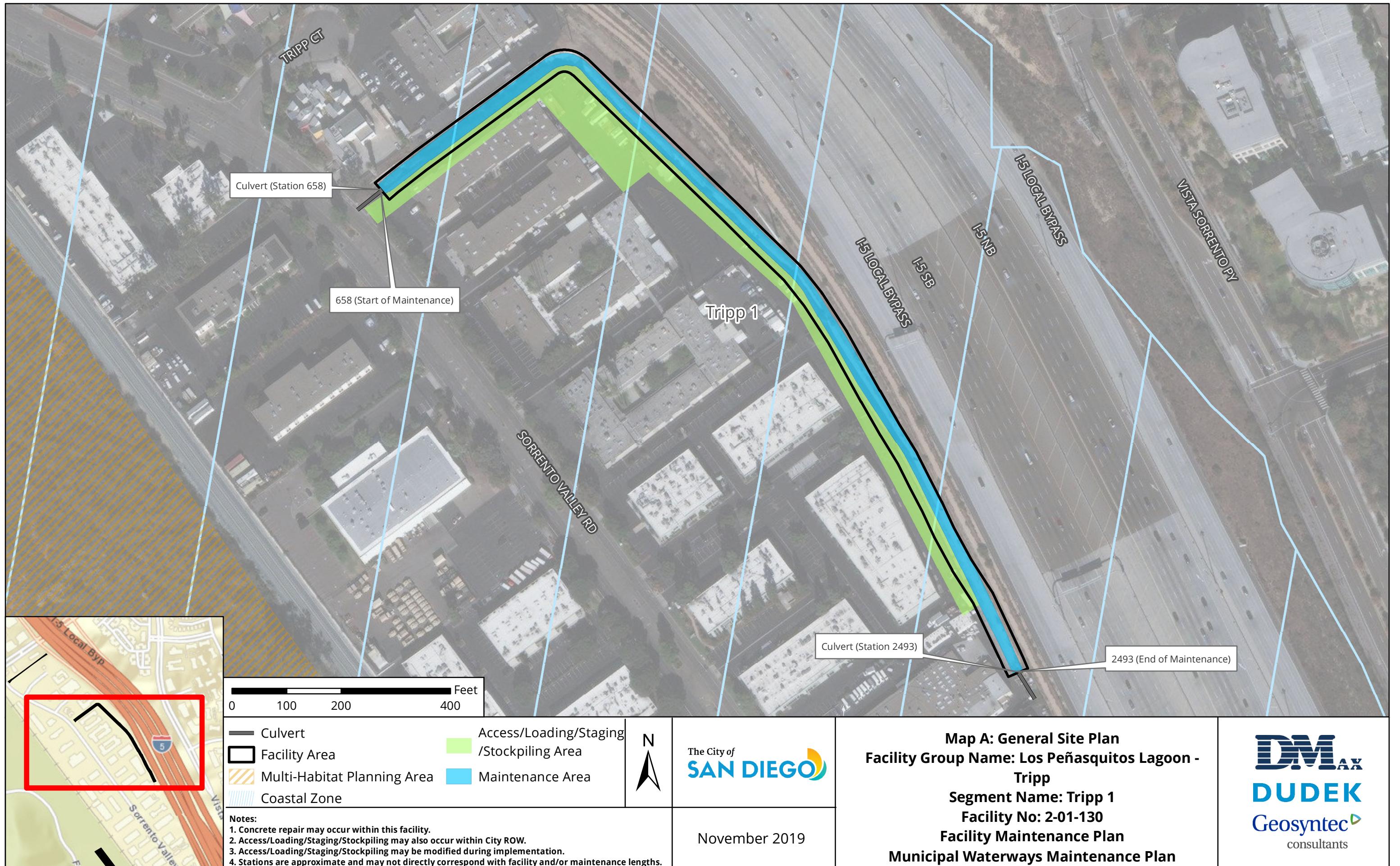
Facility Dimensions (Approximate)	Length: 1,835 feet Top width: 22 feet Bottom width: 4 feet Depth: 2-5 feet
Authorized Facility Maintenance Area	Length: Ditch: 1,835 feet Width: 22 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator, which scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor used to flush pipes in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Los Peñasquitos Lagoon - Tripp Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Facility Maintenance Plan

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Segment Names (Facility numbers):

Black Mountain 1 (2-01-200)

Black Mountain 2 (2-01-210)



Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Los Peñasquitos Canyon Creek Unnamed Tributary (01)
Facility Group Name	Los Peñasquitos Canyon Creek - Black Mountain
Segment Name (Facility Number)	Black Mountain 1 (2-01-200) Black Mountain 2 (2-01-210)
Substrate	Black Mountain 1 / Earthen Black Mountain 2 / Earthen
Location	About 200 feet south of Truman Street and north of Mercy Road
MMP Map No(s).	5a, 5b
Facility Inspection No.	5a, 5b
Other Former Names	None



Figure 1: Vicinity Map of Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10

Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Los Peñasquitos Canyon Creek - Black Mountain

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Los Peñasquitos Creek (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphate, Total Dissolved Solids, Toxicity

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Black Mountain Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and riprap banks
Location Within Watershed	Lower reach of Los Peñasquitos Canyon Creek (unnamed tributary), immediately upstream of Los Peñasquitos Canyon Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,027 feet
Top-of-Bank Width	Approximately 36–45 feet
Bottom Facility Width	Approximately 8–26 feet
Facility Depth	Approximately 5–11 feet
Adjacent Land Use	Open Space, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	20575-D
Coastal Zone	No



Figure 1: April 2017, looking downstream at segment



Figure 2: Vicinity Map of Black Mountain Segment 1

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA None

CDP N/A

SDP None

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The vegetation observed ranged from light to dense. Sediment deposition was estimated to be 1 to 2 feet at the energy dissipater, the riprap drop structures in the channel, and in the culvert.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	378	481	561	670	750	833

Hydraulic Capacity of Facility

Current Capacity 470 cfs

Proposed MWMP Maintained Capacity 650 cfs

Maintenance Recommendation

Remove accumulated sediment, debris, and vegetation from the energy dissipater at Station 1000 to Station 1092, from the drop structures at Station 827 to Station 869 and Station 960 to Station 1000.

Remove accumulated sediment and debris in the culvert between Station 93 and Station 168.

Trim the vegetation from the earthen channel bottom from Station 168 to Station 1120.

In-Stream Post-Maintenance Erosion Control Recommendation

Yes; see Appendix A-4
Location: Station to be determined

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

- | | |
|----------------------------|--|
| Facility Vegetation | <ul style="list-style-type: none">• Disturbed wetland (palm-dominated)• Freshwater marsh• Natural flood channel• Riparian scrub (mulefat scrub) |
|----------------------------|--|

- | | |
|----------------------------|---|
| Adjacent Vegetation | <ul style="list-style-type: none">• Coastal sage scrub• Developed land• Eucalyptus woodland• Ornamental plantings• Riparian forest (southern willow forest) |
|----------------------------|---|

Habitat and Wildlife	The channel itself has limited potential to support sensitive species or other wildlife since it does not contain sensitive habitat. However, eucalyptus woodland and riparian forest (southern willow forest) adjacent to the channel could support raptors and other migratory bird species. Coastal sage scrub is also present adjacent to the channel and has potential to support coastal California gnatcatcher.
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MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The channel is located directly north (approximately 40 feet) of the nearest MHPA boundary, which is within Los Peñasquitos Creek.
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Mitigation Within Facility	None
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Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources

Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources

Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Hydrology (HYD)	MM-BIO-7
EP-HYD-1	Noise (NOI)
Land Use (LU)	MM-NOI-1
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Los Peñasquitos Canyon Creek - Black Mountain
Segment Name	Black Mountain 1
Facility No.	2-01-200
Facility Location	From outlet of culvert 200 feet southwest of the intersection of Black Mountain Road and Truman Street to north side of Canyonside Park Driveway
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of existing earthen channel with rip-rap side banks per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from the energy dissipator at Station 1000 to Station 1092, from the drop structures at Station 827 to Station 869 and Station 960 to Station 1000. Remove accumulated sediment and debris in the culvert between Station 93 and Station 168. Trim the vegetation from the earthen channel bottom from Station 168 to Station 1120.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation Riprap replacement
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	Yes; see Appendix A-4
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Built?	Yes; 20575-D

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

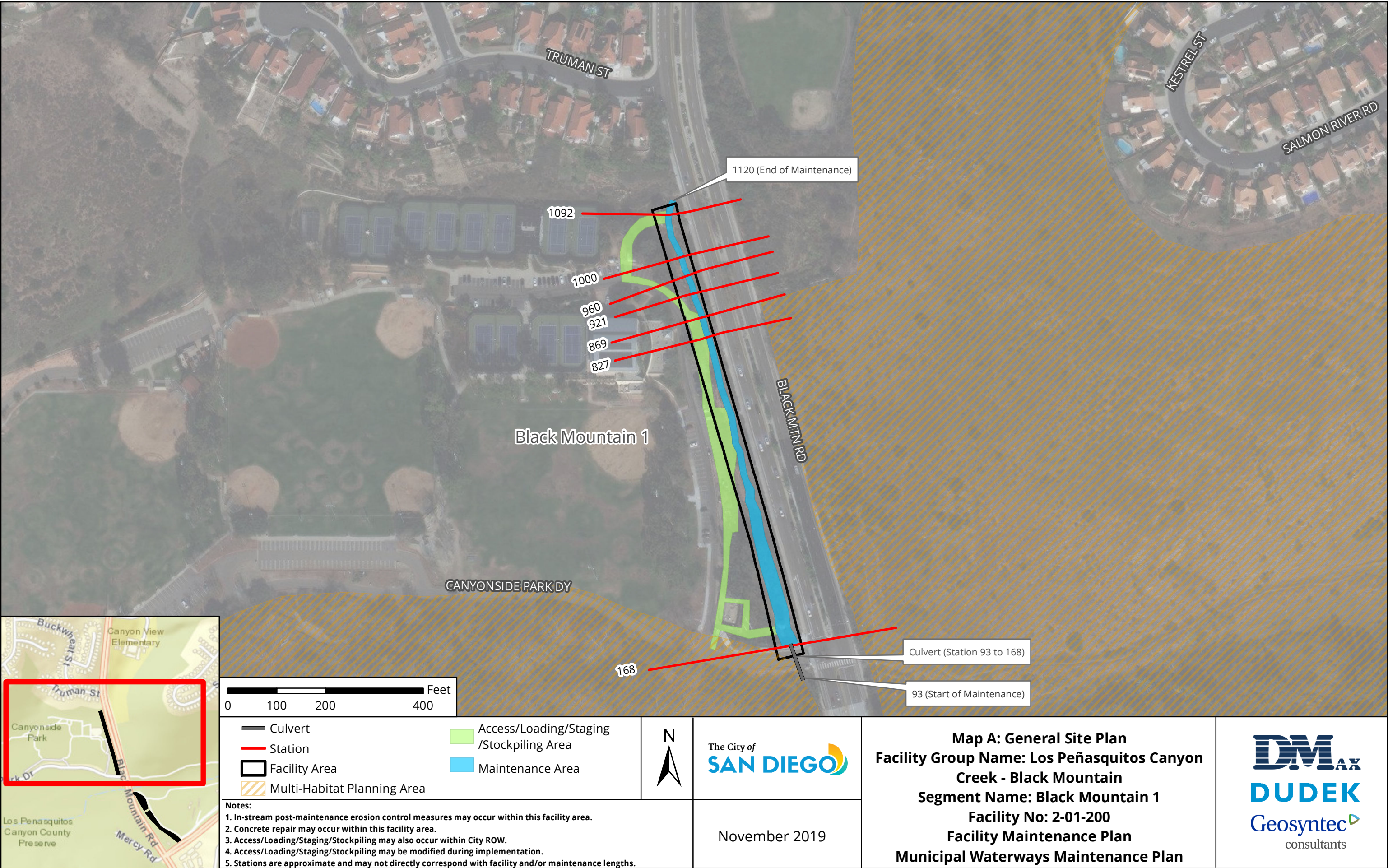
Substrate Detail	Earthen bottom and riprap banks
Facility Dimensions (Approximate)	Length: 1,027 feet Top width: 36–45 feet Bottom width: 8–26 feet Depth: 5–11 feet
Authorized Facility Maintenance Area	Length: Channel: 952 feet; Culvert: 75 feet Width: 12–30 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, long reach excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30–45 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes (If access on Canyonside Community Park driveway is used); coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Black Mountain Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Los Peñasquitos Canyon Creek (unnamed tributary), immediately upstream of Los Peñasquitos Canyon Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,931 feet
Top-of-Bank Width	Approximately 24-136 feet
Bottom Facility Width	Approximately 16.5-90 feet
Facility Depth	Approximately 5-13 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Transportation
As-Built Drawing Number	16065-1-D
Coastal Zone	No



Figure 1: April 2017, looking upstream at quadruple-barrel 6-foot-diameter RCP storm drain outlet at Mercy Road

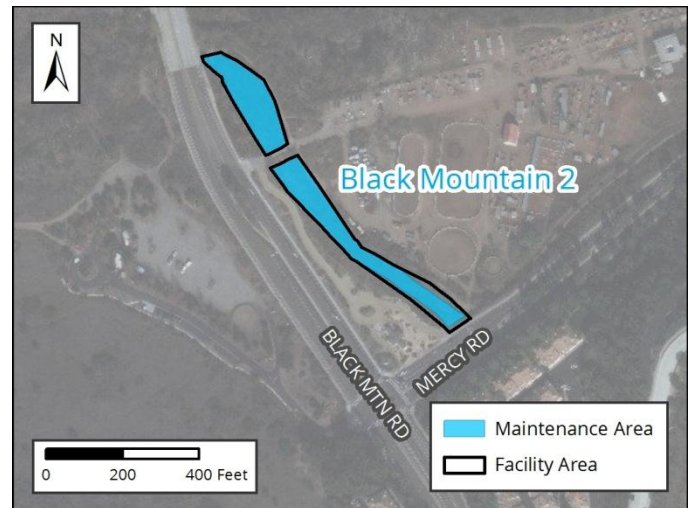


Figure 2: Vicinity Map of Black Mountain Segment 2

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA None

CDP N/A

SDP None

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity Dense vegetation was observed throughout the segment and sediment deposition varied from 1 to 3 feet

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	913	1,151	1,348	1,603	1,792	1,982

Hydraulic Capacity of Facility

Current Capacity 1,000 cfs

Proposed MWMP Maintained Capacity 1,295 cfs

Maintenance Recommendation

Remove accumulated sediment, debris, and vegetation from bottom of the earthen segment from Station 87 to Station 422, and from Station 433 to Station 1057.
Trim vegetation on banks from Station 87 to Station 422 and Station 433 to Station 1057.
Remove accumulated sediment and debris in culverts from Station 78 to Station 87, and from Station 422 to Station 433.

In-Stream Post-Maintenance Erosion Control Recommendation Yes; see Appendix A-4
Location: Station to be determined

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Freshwater marsh• Natural flood channel• Riparian forest (southern willow forest)
Adjacent Vegetation	<ul style="list-style-type: none">• Coastal sage scrub• Chamise chaparral• Developed land• Disturbed coastal sage scrub (Baccharis-dominated)• Eucalyptus woodland• Ornamental plantings• Riparian forest (southern willow forest)
Habitat and Wildlife	The channel has a high potential to support sensitive and migratory bird species, such as least Bell's vireo, due to the presence of extensive suitable habitat (e.g., riparian forest [southern willow forest]) both within and adjacent to the facility. Coastal sage scrub is also present adjacent to the channel, which could support coastal California gnatcatcher.
MHPA	The northern section of the facility is located within the Multi Habitat Planning Area (MHPA) which is connected to Los Peñasquitos Creek
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-1	MM-BIO-6
EP-HAZ-3	MM-BIO-7
Hydrology (HYD)	Noise (NOI)
EP-HYD-1	MM-NOI-1
Land Use (LU)	
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Los Peñasquitos Canyon Creek - Black Mountain
Segment Name	Black Mountain 2
Facility No.	2-01-210
Facility Location	From storm drain system outlet north of Mercy Road to beneath the Los Peñasquitos Canyon trail which discharges to Los Peñasquitos Creek
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from bottom of the earthen segment from Station 87 to Station 422, and from Station 433 to Station 1057. Trim vegetation on banks from Station 87 to Station 422 and Station 433 to Station 1057. Remove accumulated sediment and debris in culverts from Station 78 to Station 87, and from Station 422 to Station 433.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Built?	Yes; 16065-1-D
Substrate Detail	Earthen bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

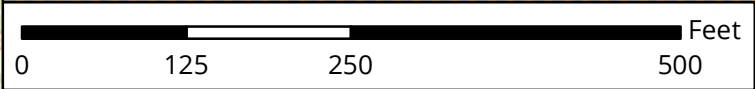
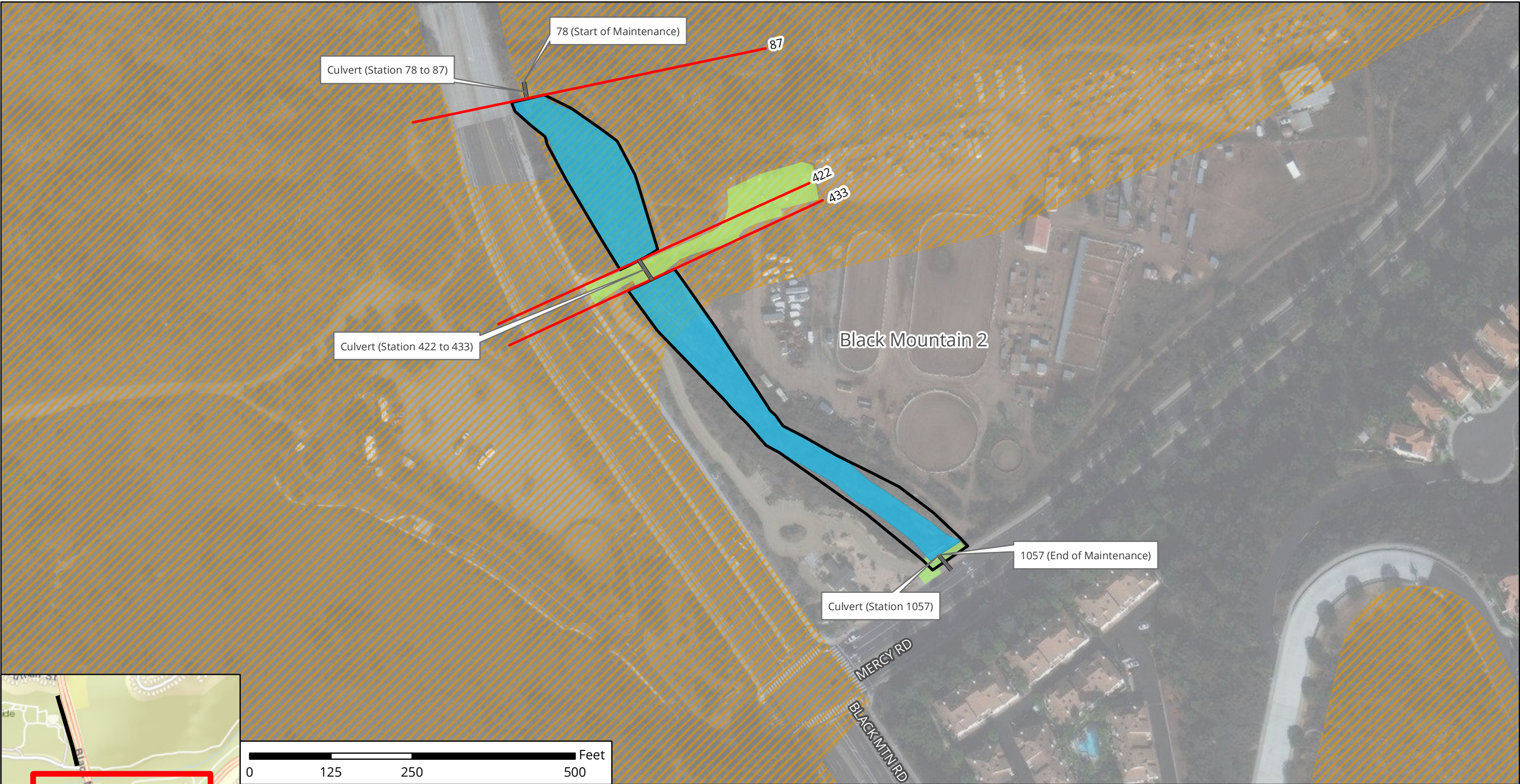
Facility Dimensions (Approximate)	Length: 1,931 feet Top width: 24–136 feet Bottom width: 16.5–90 feet Depth: 5–13 feet
Authorized Facility Maintenance Area	Length: Channel: 959 feet; Culvert: 20 feet Width: 19–43 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30–45 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert	Access/Loading/Staging/Stockpiling Area
Station	Maintenance Area
Facility Area	
Multi-Habitat Planning Area	



November 2019

Map A: General Site Plan
Facility Group Name: Los Peñasquitos Canyon Creek - Black Mountain
Segment Name: Black Mountain 2
Facility No: 2-01-210
Facility Maintenance Plan
Municipal Waterways Maintenance Plan



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Soledad Canyon Creek - Sorrento Facility Group

Segment Names (Facility numbers):

Roselle 1 (2-03-000)

Roselle 2 (2-03-002)

SorValRd 1 (2-03-004) (See
Appendix A-5)

SorValRd 2 (2-03-006) (See
Appendix A-5)

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Soledad Canyon Creek (03)
Facility Group Name	Soledad Canyon Creek - Sorrento
Segment Name (Facility Number)	Roselle 1 (2-03-000) Roselle 2 (2-03-002) SorValRd 1 (2-03-004) (See Appendix A-5) SorValRd 2 (2-03-006) (See Appendix A-5)
Substrate	Roselle 1 / Earthen Roselle 2 / Concrete SorValRd 1 / Earthen SorValRd 2 / Earthen
Location	Bordered by Carroll Canyon Road, Sorrento Valley Road, and Roselle Street
MMP Map No(s).	11, 12, 13, 14, 15
Facility Inspection No.	11, 12, 13, 14
Other Former Names	Sorrento Creek Segment 1 – Reach 2 Segment 2 – Reach 3 Segment 2 – Reach 3, Soledad Creek Channel

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

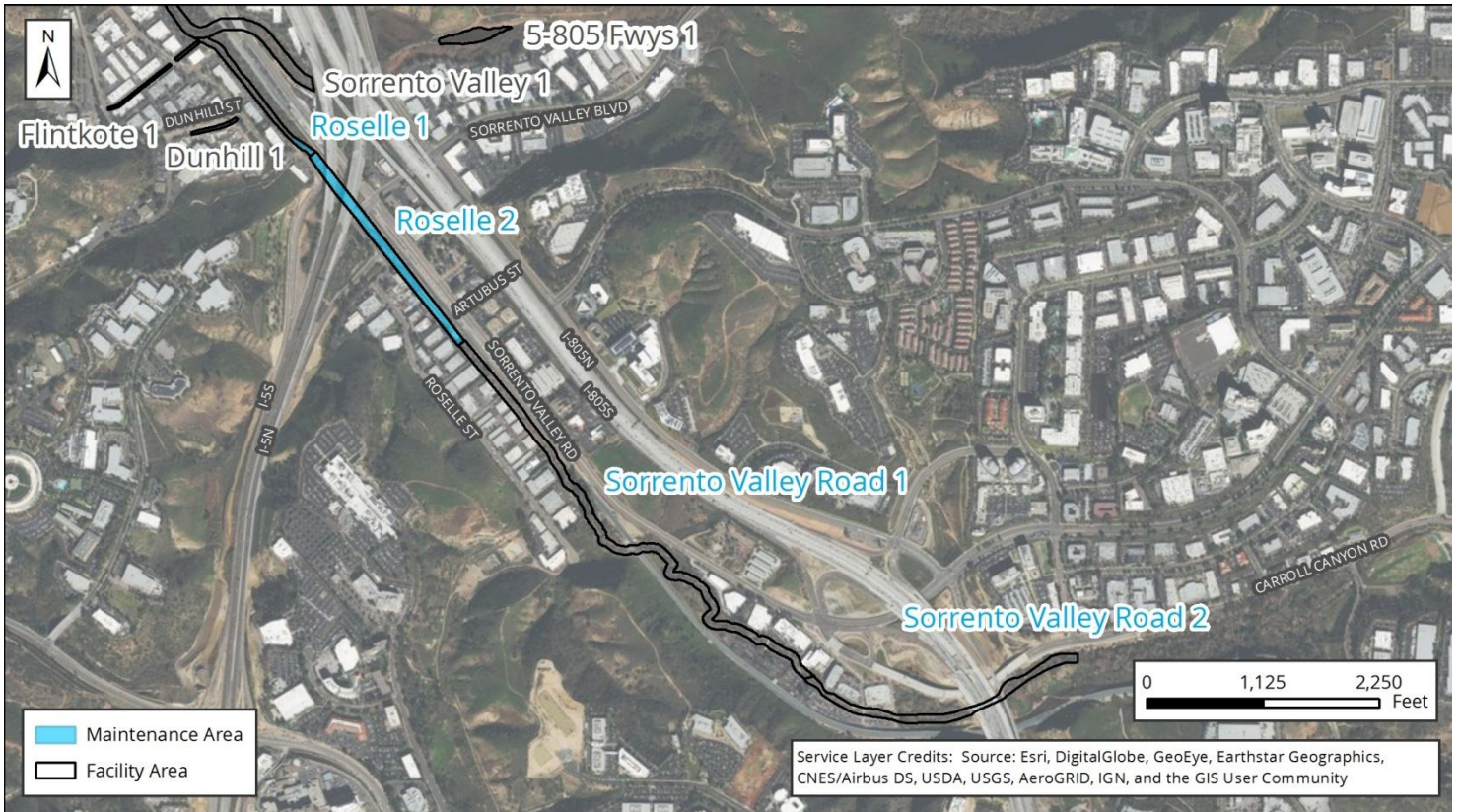


Figure 1: Vicinity Map of Soledad Canyon Creek - Sorrento Facility Group

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10

Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Soledad Canyon Creek - Sorrento

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Cold Freshwater Habitat (COLD)• Wildlife Habitat (WILD)
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303(d) listed Impairments	Sediment Toxicity, Selenium
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Los Peñasquitos Creek (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)
------------------------	--

303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphate, Total Dissolved Solids, Toxicity
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Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Roselle Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom, earthen and partial riprap banks
Location Within Watershed	Lower reach of Soledad Canyon Creek, immediately upstream of Los Peñasquitos Lagoon
Tributaries (listed from downstream to upstream)	Soledad Canyon Creek Unnamed Tributary, Carroll Canyon Creek Soledad Canyon Creek – Flintkote Soledad Canyon Creek – Dunhill
Facility Length	Approximately 1,554 feet
Top-of-Bank Width	Approximately 10–60 feet
Bottom Facility Width	Approximately 10–20 feet
Facility Depth	Approximately 5–10 feet
Adjacent Land Use	Commercial, Industrial, Office, Open Space, Transportation
As-Built Drawing Number	Doc No. A0000128 (Caltrans)
Coastal Zone	CST-APP, N-APP-1



Figure 1: January 2016, looking downstream at the upstream end

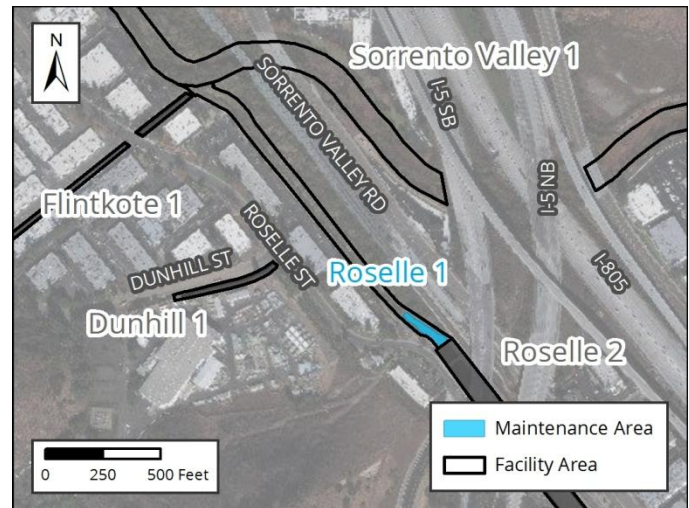


Figure 2: Vicinity Map of Roselle Segment 1

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	1998: Excavation of sediment and vegetation conducted throughout segment 2011: Emergency excavation of sediment and vegetation in downstream section of channel 2016: Emergency excavation of vegetation and sediment in upstream section of channel January 2017 – March 2019: No maintenance conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP CDP No. 6-99-101 (expired November 2017)

SDP SDP No. 2034245 (2017 Addendum)

404 RGP 63 USACE File #SPL-2016-00198-RAG (expired July 2016)

401 WDR Order No. 96-32 401 Cert No. 995007000-BAH (covered under ACOE RGP 63 SPL-2010-01177-MBS permit); & R9-2013-0116 (expired March 2017)

1602 CDFW SAA No. 5-265-97 (expired October 2002) & 1600-2006-0183-R5 (expires August 2026)

Mitigation for Previous Impacts	El Cuervo Wetland Area WMMP (2000) (6.6 acres) Famosa Slough Off-Site Salt Marsh Mitigation (0.1 acre)
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Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity

In January 2016, the channel was observed to have moderate to dense vegetation with a sediment and debris depth of up to 18 inches deep. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	220	730	1,500	3,100	4,500	6,700

Hydraulic Capacity of Facility

Current Capacity	1,500 cfs
Proposed MWMP Maintained Capacity	1,500 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the 215-foot transition zone (Station 3716 to Station 3931)
In-Stream Post-Maintenance Erosion Control Recommendation	None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Freshwater marsh• Riparian forest (southern willow forest)• Riparian scrub (southern willow scrub)
Adjacent Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Developed land• Disturbed land• Disturbed wetland (Arundo-dominated)• Ornamental plantings• Riparian forest (southern willow forest)
Habitat and Wildlife	The vegetation contained within the facility provides potential nesting and/or foraging habitat for raptors, migratory bird species, and sensitive bird species (e.g., least Bell's vireo, southern willow flycatcher, and Ridgeway's rail)
MHPA	The downstream portion of facility is contained within Multi Habitat Planning Area (MHPA) however proposed maintenance is not within or adjacent to the MHPA.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-001010
Resource Type	Destroyed Prehistoric artifact scatter
Historical Resources	
Resource Identified in APE	Channel; c. 1963–1974 earthen channel
Potential Historical Resources	None
Constraint Identified	

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HAZ-3	MM-CR-1
Solid Waste (SW)	MM-CR-2
EP-SW-2	MM-CR-3
EP-SW-3	MM-CR-4
EP-SW-4	Noise (NOI)
EP-SW-5	MM-NOI-1
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Soledad Canyon Creek - Sorrento
Segment Name	Roselle 1
Facility No.	2-03-000
Facility Location	From the downstream end of Roselle 2 segment to 900 feet northeast of the intersection of Dunhill Street and Roselle Street
Coastal Zone	CST-APP, N-APP-1
MWMP Proposed Maintenance	Maintenance of channel per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from the 215-foot transition zone (Station 3716 to Station 3931)
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; Doc No. A0000128 (Caltrans)
Substrate Detail	Earthen bottom, earthen and partial riprap banks
Facility Dimensions (Approximate)	Length: 1,554 feet Top width: 10–60 feet Bottom width: 10–20 feet Depth: 5–10 feet
Authorized Facility Maintenance Area	Length: Channel: 215 feet Width: 23–48 feet
Maintenance Quantities	To be determined at time of maintenance

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

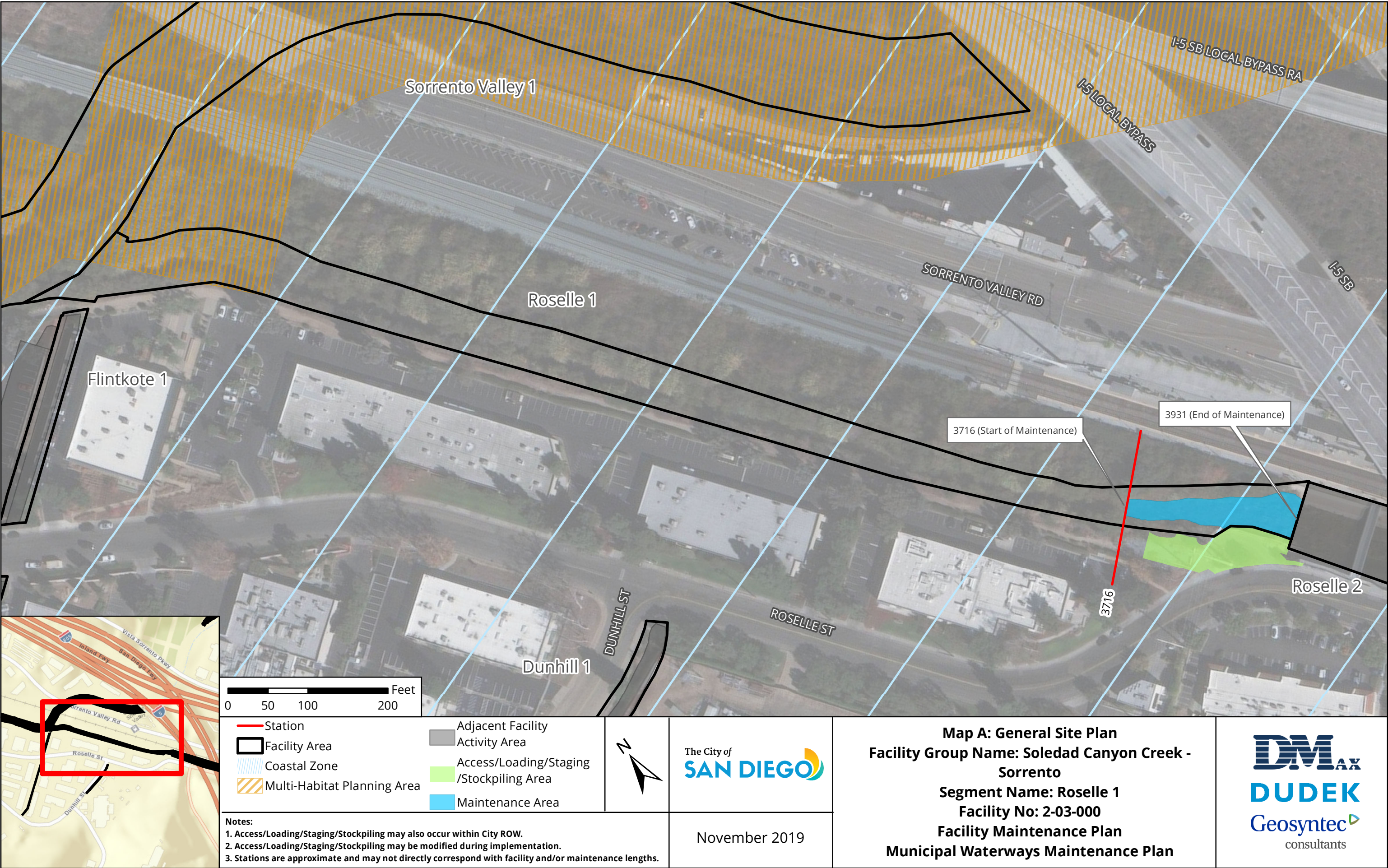
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, long reach excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 20–30 working days
Maintenance Crew	Approximately 10–18 people
Routine Maintenance Procedures	<p>Outside of Channel:</p> <ol style="list-style-type: none"> 1. Gradall/excavator and long reach excavator move along channel bank within access/loading area 2. Excavators scoop material from channel and load dump truck 3. Dump truck hauls material to legal disposal site <p>Inside of Channel:</p> <ol style="list-style-type: none"> 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator and long reach excavator at access/loading area stationed above channel bank 3. Excavators scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with Metropolitan Transit System (MTS) and the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Roselle Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Soledad Canyon Creek, immediately upstream of Soledad Canyon Creek (Segment 1)
Tributaries (listed from downstream to upstream)	Carroll Canyon Creek
Facility Length	Approximately 2,314 feet
Top-of-Bank Width	Approximately 93 feet
Bottom Facility Width	Approximately 63 feet
Facility Depth	Approximately 5-10 feet
Adjacent Land Use	Commercial, Industrial, Office, Open Space, Parks, Public Facilities and Utilities, Transportation
As-Built Drawing Number	Doc No. A0000128 (Caltrans)
Coastal Zone	CST-APP



Figure 1: January 2016, looking upstream from the northwest side of the I-5 overpass



Figure 2: Vicinity Map of Roselle Segment 2

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2014 – 2017: Routine maintenance conducted December 2015 – March 2016: Emergency concrete replacement of upstream 397 feet March 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	City issued Emergency CDP No. 818358 (expired April 2011) & 2012 Master CDP No. A-6-NOC11-086 (expires November 2019)
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00198-RAG (expired July 2016); NWP 33 USACE File #SPL-2013-00432-MBS (expired March 2017)
401	RWQCB 401 Cert No. R9-2013-0116 (expired March 2017); 401 Cert. No. R9-069C-062 (one-time event); & 401 Cert. File No. 995007000-BAH (covered under ACOE RGP 63 SPL-2010-01177-MBS permit)
1602	CDFW SAA No. 1600-2013-0120-R5 (expired July 2018); CDFW Notification 2011-0002-R5 (OpLaw); CDFW SAA No. 1600-2006-0183-R5 (expires August 2026)
Mitigation for Previous Impacts	El Cuervo del Sur HMMP (1.85 acres) Los Peñasquitos WEP (5.35 acres)

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity

In January 2016, the channel was observed to have vegetation vary from dense at the downstream end to relatively clean concrete at the upstream end. Sediment deposition was estimated to be 1.5 feet at the downstream end to 0.5 feet in the upstream portion. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	220	730	1,500	3,100	4,500	6,700

Hydraulic Capacity of Facility

Current Capacity	1,500 cfs
Proposed MWMP Maintained Capacity	1,900 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 3931 to Station 6245
In-Stream Post-Maintenance Erosion Control Recommendation	None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Freshwater marsh (concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Disturbed wetland (Arundo-dominated)• Ornamental plantings• Riparian forest (southern willow forest)
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, potential nesting and/or foraging habitat for raptors, migratory bird species, and sensitive bird species (e.g., least Bell's vireo, southern willow flycatcher, and Ridgeway's Rail) is present upstream and downstream of the channel section.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundaries are located approximately 580 feet to the west and 590 feet to the east. The MHPA is also downstream within Los Peñasquitos Creek.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-001010
Resource Type	Destroyed Prehistoric artifact scatter
Historical Resources	
Resource Identified in APE	Channel; c. 1963–1974 concrete channel
Potential Historical Resources	None
Constraint Identified	

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HAZ-3	MM-CR-1
Solid Waste (SW)	MM-CR-2
EP-SW-2	MM-CR-3
EP-SW-3	MM-CR-4
EP-SW-4	Noise (NOI)
EP-SW-5	MM-NOI-1
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Soledad Canyon Creek - Sorrento
Segment Name	Roselle 2
Facility No.	2-03-002
Facility Location	From the downstream end of Soledad Canyon Creek - Sorrento Valley Road 1 segment to the upstream end of Roselle 1 segment, bordered by Sorrento Valley Road
Coastal Zone	CST-APP
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 3931 to Station 6245
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; Doc No. A0000128 (Caltrans)
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

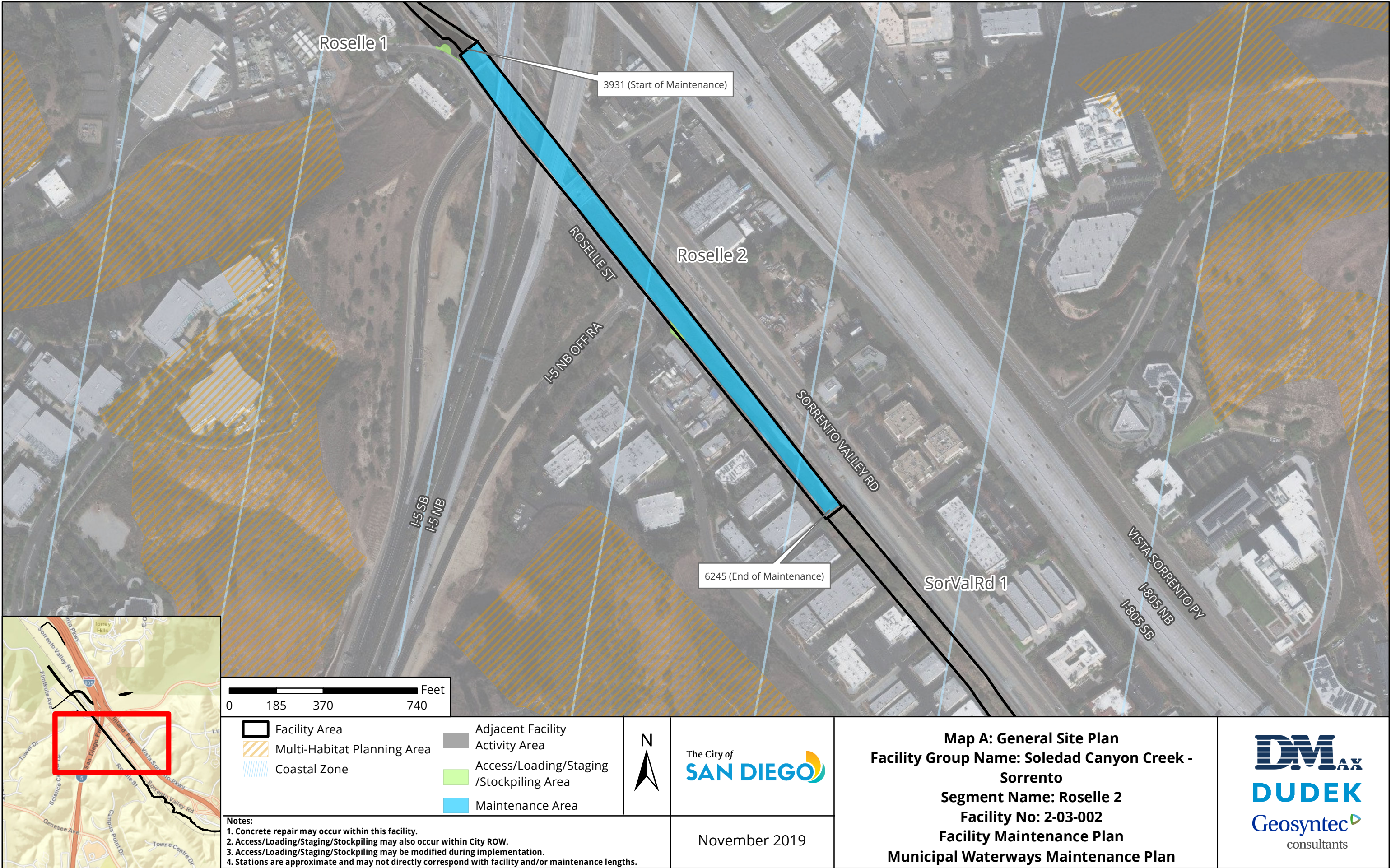
Facility Dimensions (Approximate)	Length: 2,314 feet Top width: 93 feet Bottom width: 63 feet Depth: 5–10 feet
Authorized Facility Maintenance Area	Length: Channel: 2,314 feet Width: 93 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 20–30 working days
Maintenance Crew	Approximately 10–18 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer, loader, and dump truck enter or are lowered into channel at access/loading area 2. Gradall/excavator is stationed on pad within channel and/or at access/loading area 3. Bobcat/skid-steer makes piles for loader 4. Gradall/excavator makes piles for loader and/or loads dump truck 5. Loader loads dump truck 6. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with Metropolitan Transit System (MTS) and the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Soledad Canyon Creek - Sorrento Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Carroll Canyon Creek - Carroll Facility Group

Segment Name (Facility number):
Carroll Canyon 1 (2-03-012)



Carroll Canyon Creek - Carroll Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Carroll Canyon Creek (03)
Facility Group Name	Carroll Canyon Creek - Carroll
Segment Name (Facility Number)	Carroll Canyon 1 (2-03-012)
Substrate	Carroll Canyon 1 / Earthen and concrete
Location	Runs parallel to Carroll Canyon Road with El Camino Memorial Park located to the north and a parking lot located to the south
MMP Map No(s).	17
Facility Inspection No.	17
Other Former Names	Soledad Creek Channel

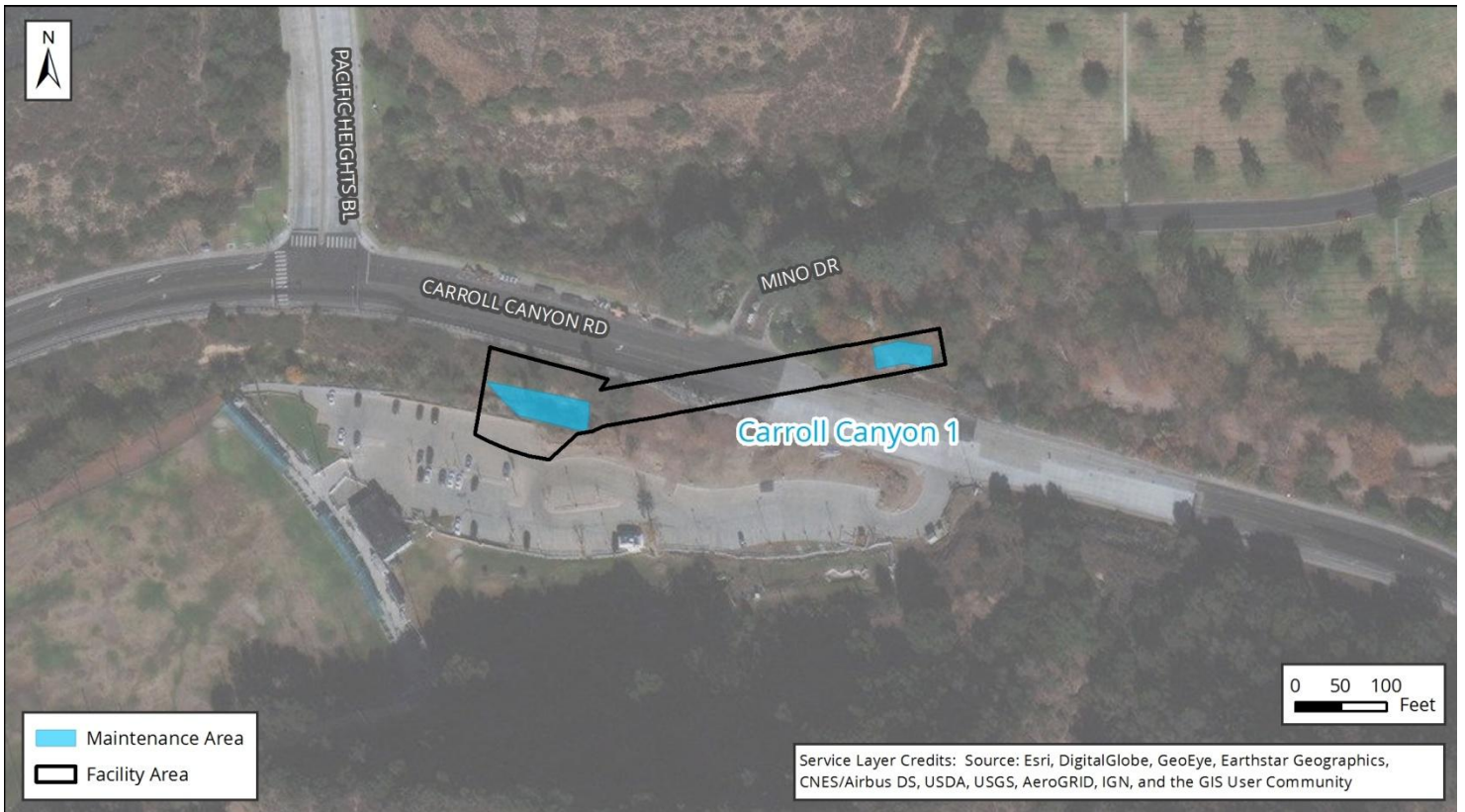


Figure 1: Vicinity Map of Carroll Canyon Creek - Carroll Facility Group

Carroll Canyon Creek - Carroll Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10

Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Carroll Canyon Creek - Carroll

Beneficial Uses

303(d) listed Impairments	No impairments recorded on the 303(d) List
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Carroll Canyon (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Cold Freshwater Habitat (COLD)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Toxicity

Carroll Canyon Creek - Carroll Facility Group

Facility Maintenance Plan

Carroll Canyon Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail¹	Stations 17-98: Earthen bottom and banks Stations 98-178: Earthen bottom and riprap banks Stations 178-497: Culvert Stations 497-537: Concrete bottom and earthen banks Stations 537-577: Earthen bottom and banks
Location Within Watershed	Lower reach of Carroll Canyon Creek (unnamed tributary), immediately upstream of Carroll Canyon Creek (unnamed tributary)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 560 feet
Top-of-Bank Width	Approximately 45 feet
Bottom Facility Width	Approximately 14-28 feet
Facility Depth	Approximately 5 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Parks, Transportation
As-Built Drawing Number	21569-D & 26930-D
Coastal Zone	No



Figure 1: May 2017, sediment and cobbles accumulated on concrete inlet apron upstream of the culvert

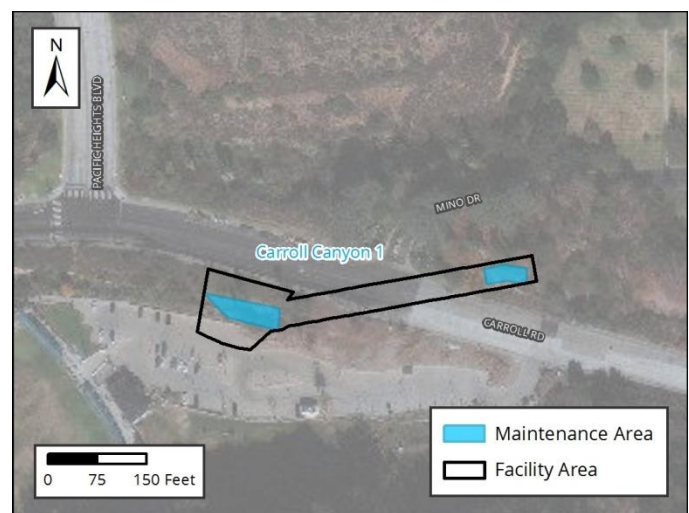


Figure 2: Vicinity Map of Carroll Canyon Segment 1

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Carroll Canyon Creek - Carroll Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment January 2017 – March 2019: No maintenance conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 RGP 63 USACE File #SPL-2016-00035-MG

401 RGP 63 Verification No. R9-2016-0057;821245;lhonma

1602 LSA Emergency Notification submitted 02/2016

Mitigation for Previous Impacts El Cuervo del Sur HMMP (0.03 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.²

Current Conditions Affecting Facility Capacity	The segment was observed to have minimal vegetation and up to 2.2 feet of sediment and cobble in the channel and the culvert
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Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	363	655	1,000	1,846	3,000	4,500

Hydraulic Capacity of Facility

Current Capacity	400 cfs
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Proposed MWMP Maintained Capacity	900 cfs
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Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from channel bottom and temporary diversion berm from Station 58 to 178 and from Station 497 to Station 561. Remove sediment and debris in culvert from Station 178 to Station 497.
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In-Stream Post-Maintenance Erosion Control Recommendation	None
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² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Carroll Canyon Creek - Carroll Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Natural flood channel• Ornamental plantings
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed coastal sage scrub• Disturbed freshwater marsh• Disturbed land• Disturbed riparian forest (southern riparian forest)• Natural flood channel• Ornamental plantings• Riparian forest (southern willow forest)• Riparian scrub
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife. However, suitable habitat (e.g., riparian scrub [southern willow scrub] and coastal sage scrub) is present in the areas surrounding the facility and may support sensitive bird species such as least Bell's vireo and coastal California gnatcatcher.
MHPA	Nearly the entire facility on both sides of Carroll Canyon Road is located within the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Carroll Canyon Creek - Carroll Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Land Use (LU)	MM-BIO-7
EP-LU-1	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
Solid Waste (SW)	MM-CR-1
EP-SW-2	MM-CR-2
EP-SW-3	MM-CR-3
EP-SW-4	MM-CR-4
EP-SW-5	Noise (NOI)
EP-SW-6	MM-NOI-1
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Carroll Canyon Creek - Carroll Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Carroll Canyon Creek - Carroll
Segment Name	Carroll Canyon 1
Facility No.	2-03-012
Facility Location	From the north side of Carroll Canyon Rd, approximately 315 feet east of Pacific Heights Boulevard, to the south side of Carroll Canyon Rd, approximately 715 feet east of Pacific Heights Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of Carroll Canyon Road culvert and portion of channel per previous emergency maintenance approvals and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation³	Remove accumulated sediment, debris, and overgrown vegetation from channel bottom and temporary diversion berm from Station 58 to 178 and from Station 497 to Station 561. Remove sediment and debris in culvert from Station 178 to Station 497.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 21569-D & 26930-D

³ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Carroll Canyon Creek - Carroll Facility Group Facility Maintenance Plan

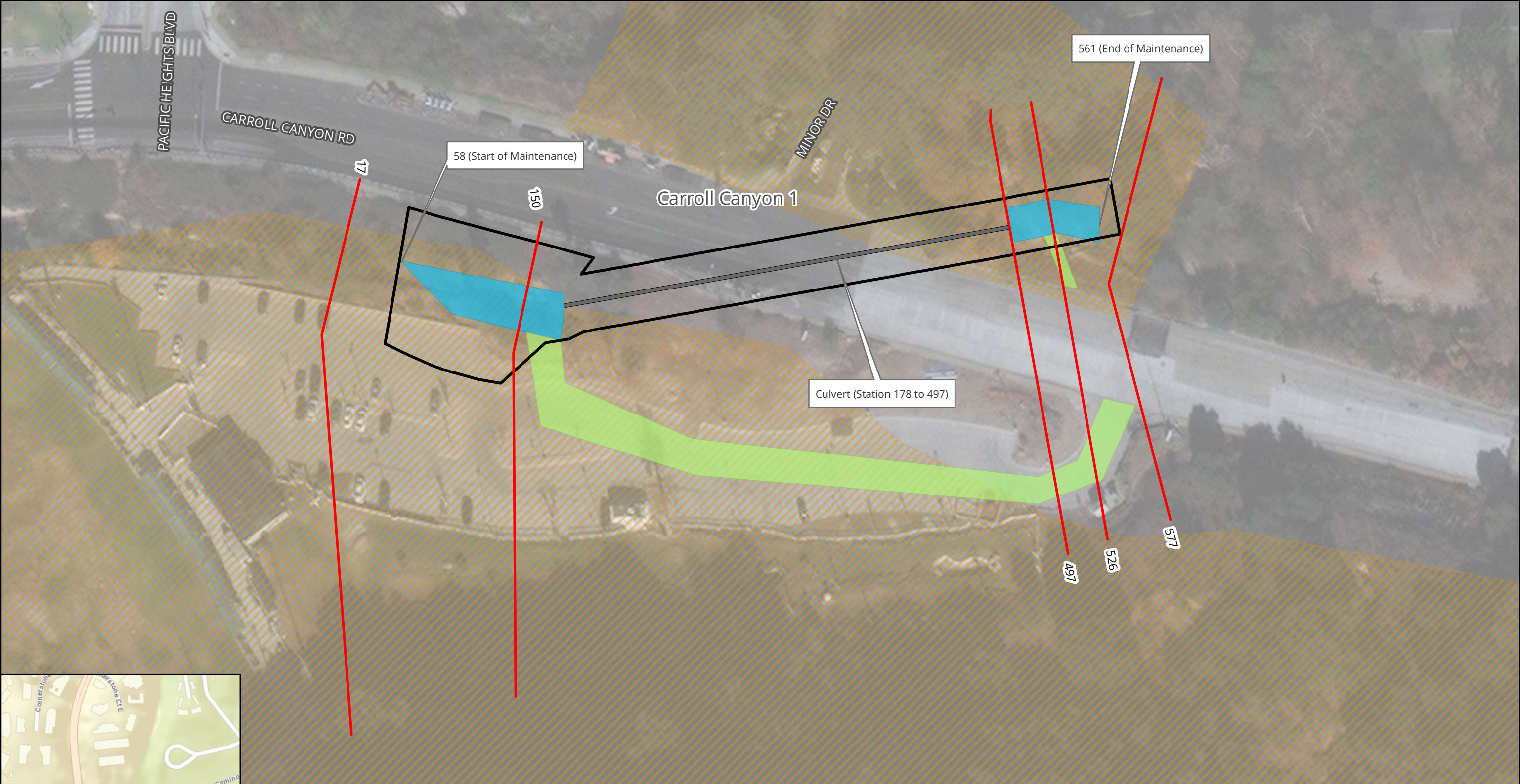
Substrate Detail³	Stations 17-98: Earthen bottom and banks Stations 98-178: Earthen bottom and riprap banks Stations 178-497: Culvert Stations 497-537: Concrete bottom and earthen banks Stations 537-577: Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 560 feet Top width: 45 feet Bottom width: 14-28 feet Depth: 5 feet
Authorized Facility Maintenance Area	Length: Channel: 184 feet; Culvert: 319 feet Width: 25-32 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Kubota tractor (or similar style tractor), bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	Upstream Reach: <ol style="list-style-type: none"> 1. Tractor enters channel at access/loading area 2. Tractor scoops material from culverts and make piles for loader 3. Loader scoops material from channel and loads dump truck at access/loading area 4. Dump truck hauls material to legal disposal site Downstream Reach: <ol style="list-style-type: none"> 1. Tractor enters channel at access/loading area 2. Tractor scoops material from culverts and make piles for bulldozer/track-steer 3. Bulldozer/track-steer pushes material to Gradall/excavator 4. Gradall/excavator loads dump trucks 5. Dump truck hauls material to legal disposal site
Traffic Control	No

Carroll Canyon Creek - Carroll Facility Group

Facility Maintenance Plan

Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species⁴:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	<p>Conduct post-maintenance procedures as follows:</p> <ol style="list-style-type: none"> 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

⁴ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Culvert	Access/Loading/Staging /Stockpiling Area
Station	Maintenance Area
Facility Area	
Multi-Habitat Planning Area	

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.



November 2019

Map A: General Site Plan
Facility Group Name: Carroll Canyon Creek - Carroll
Segment Name: Carroll Canyon 1
Facility No: 2-03-012
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Soledad Canyon Creek - Flintkote Facility Group

Segment Name (Facility number):
Flintkote 1 (2-03-100)

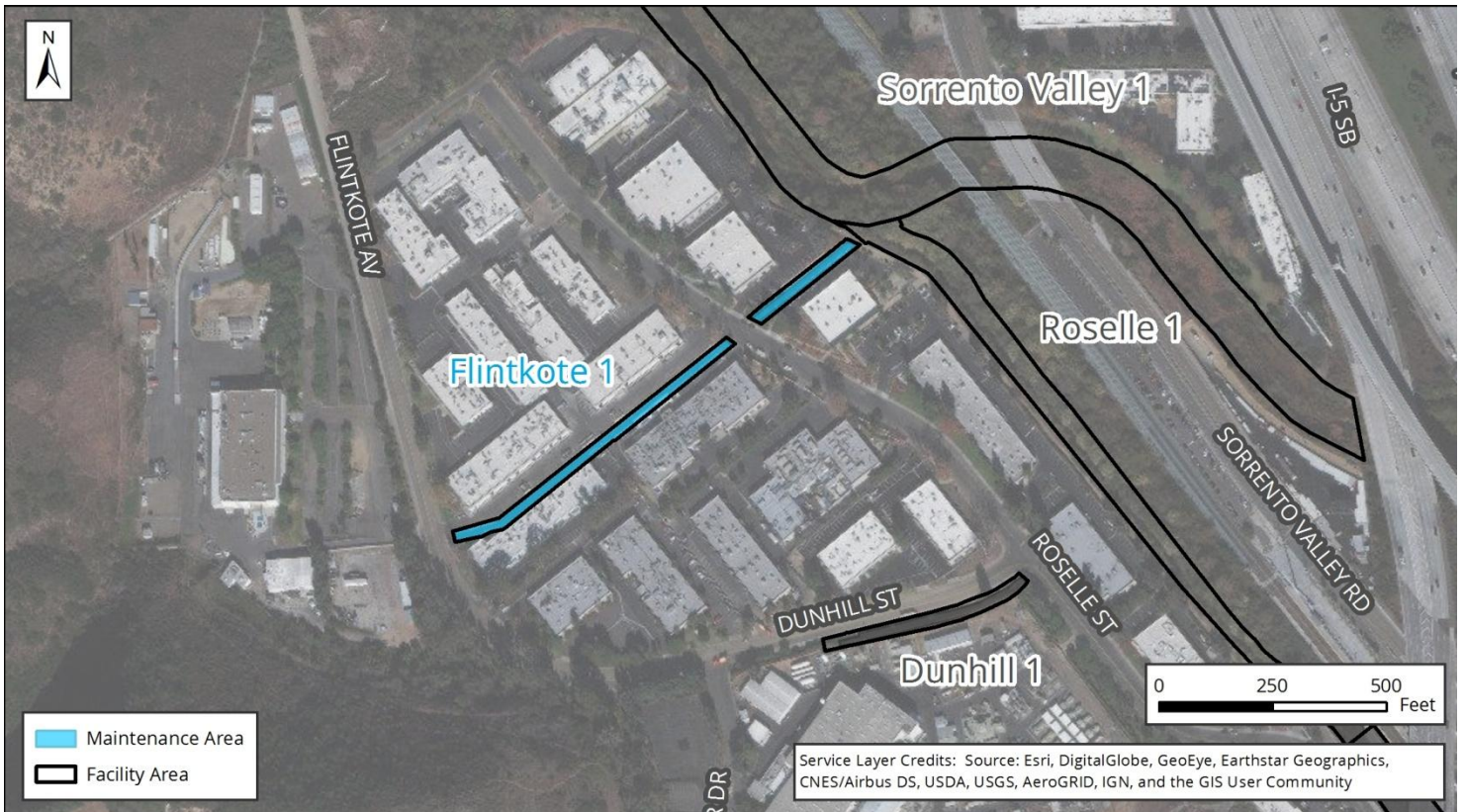


Soledad Canyon Creek - Flintkote Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Soledad Canyon Creek Unnamed Tributary (03)
Facility Group Name	Soledad Canyon Creek - Flintkote
Segment Name (Facility Number)	Flintkote 1 (2-03-100)
Substrate	Flintkote 1 / Concrete
Location	About 700 feet northwest of the intersection of Tower Road and Flintkote Avenue and south of Soledad Canyon Creek
MMP Map No(s).	9
Facility Inspection No.	9
Other Former Names	Sorrento/Soledad Canyon - Reach 7



Soledad Canyon Creek - Flintkote Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10

Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Soledad Canyon Creek - Flintkote

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Cold Freshwater Habitat (COLD)• Wildlife Habitat (WILD)
303(d) listed Impairments	Sediment Toxicity, Selenium

Los Peñasquitos Creek (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphate, Total Dissolved Solids, Toxicity

Soledad Canyon Creek - Flintkote Facility Group

Facility Maintenance Plan

Flintkote Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Soledad Canyon Creek unnamed tributary, immediately upstream of Soledad Canyon Creek (Roselle Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,075 feet
Top-of-Bank Width	Approximately 16–25 feet
Bottom Facility Width	Approximately 8 feet
Facility Depth	Approximately 4 feet
Adjacent Land Use	Industrial, Open Space, Transportation
As-Built Drawing Number	None
Coastal Zone	N-APP-1



Figure 1: June 2018, taken from Roselle Street looking southwest



Figure 2: Vicinity Map of Flintkote Segment 1

Soledad Canyon Creek - Flintkote Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance

Prior to 2011: Unknown
2011 – 2013: No maintenance conducted
2014 – 2017: Routine maintenance conducted
April 2017 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891
CDP 2012 Master CDP No. A-6-NOC11-086-A1 (expires November 2019)
SDP SDP No. 2034245 (2017 Addendum)
404 NWP 33 USACE File #SPL-2013-00432-MBS (expired March 2017)
401 RWQCB 401 Cert No. R9-2013-0116 (expired March 2017)
1602 CDFW SAA No. 1600-2013-0120-R5 (expired 2018)

Mitigation for Previous Impacts

El Cuervo del Sur HMMP (0.06 acre)
Los Peñasquitos WEP (0.18 acre)

Soledad Canyon Creek - Flintkote Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity

In April 2013, the ditch was observed to have vegetation varying from clear to dense and the sediment deposition was estimated to be 1.25 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	76	97	112	133	145	155

Hydraulic Capacity of Facility

Current Capacity	60 cfs
Proposed MWMP Maintained Capacity	80 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 50 to Station 300 and Station 383 to Station 1125. Remove accumulated sediment and debris in culvert from Station 300 to Station 383.
In-Stream Post-Maintenance Erosion Control Recommendation	None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Soledad Canyon Creek - Flintkote Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Freshwater marsh• Riparian forest (southern willow forest)• Riparian scrub (southern willow scrub)
Habitat and Wildlife	The ditch itself is concrete-lined and has a low potential to support habitat for nesting birds or special-status species. However, Ridgway's rail has been known to occur in the area, and daily surveys should be conducted during maintenance to ensure no rails have entered the ditch. Additionally, within 500 feet of the ditch boundary, raptor nesting habitat and coastal sage scrub suitable for coastal California gnatcatcher (within the Multi Habitat Planning Area [MHPA]) is present.
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The downstream portion of the ditch is approximately 70 feet west of the MHPA boundary and the upstream portion is approximately 430 feet north of the MHPA boundary.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1963–1974 concrete channel
Potential Historical Resources	None
Constraint Identified	

Soledad Canyon Creek - Flintkote Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	MM-BIO-7
EP-HAZ-3	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
Land Use (LU)	MM-CR-1
EP-LU-1	MM-CR-2
Solid Waste (SW)	MM-CR-3
EP-SW-2	MM-CR-4
EP-SW-3	Noise (NOI)
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Soledad Canyon Creek - Flintkote Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Soledad Canyon Creek - Flintkote
Segment Name	Flintkote 1
Facility No.	2-03-100
Facility Location	From Flintkote Avenue to outlet of culvert 100 feet east of Roselle Street
Coastal Zone	N-APP-1
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 50 to Station 300 and Station 383 to Station 1125. Remove accumulated sediment and debris in culvert from Station 300 to Station 383.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	None
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Soledad Canyon Creek - Flintkote Facility Group

Facility Maintenance Plan

Facility Dimensions (Approximate)	Length: 1,075 feet Top width: 16–25 feet Bottom width: 8 feet Depth: 4 feet
Authorized Facility Maintenance Area	Length: Ditch: 992 feet; Culvert: 83 feet Width: 16–25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 6–8 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/Excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor used to power wash concrete ditch in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Soledad Canyon Creek - Flintkote Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Soledad Canyon Creek - Dunhill Facility Group

Segment Name (Facility number):
Dunhill 1 (2-03-150)



Soledad Canyon Creek - Dunhill Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Soledad Canyon Creek Unnamed Tributary (03)
Facility Group Name	Soledad Canyon Creek - Dunhill
Segment Name (Facility Number)	Dunhill 1 (2-03-150)
Substrate	Dunhill 1 / Earthen
Location	About 300 feet east of the intersection of Tower Road and Dunhill Street, and west of the intersection of Roselle Street and Dunhill Street
MMP Map No(s).	10
Facility Inspection No.	10
Other Former Names	Sorrento/Soledad Canyon - Reach 8 and Soledad/Sorrento Creek Channel

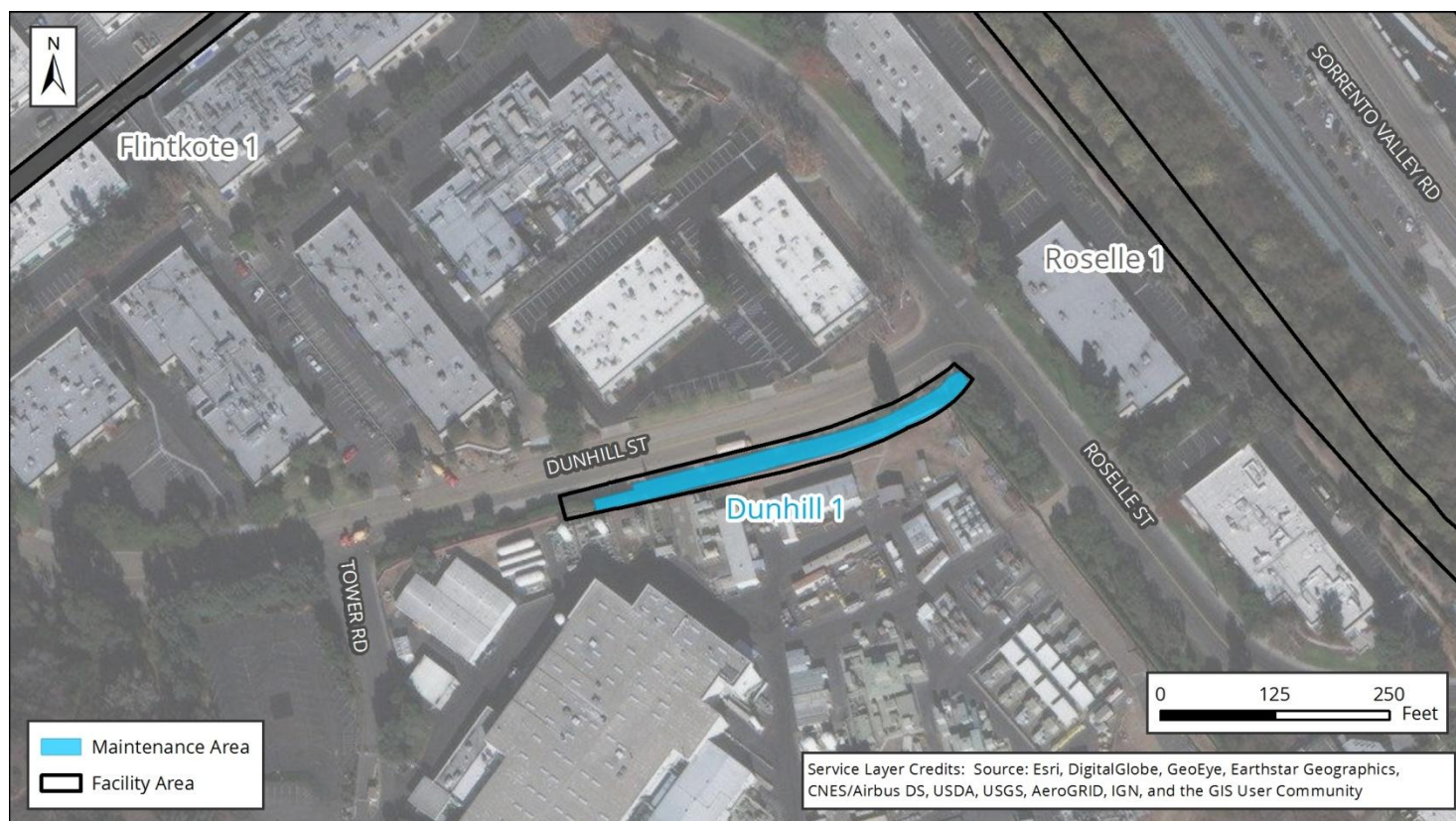


Figure 1: Vicinity Map of Soledad Canyon Creek - Dunhill Facility Group

Soledad Canyon Creek - Dunhill Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10

Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Soledad Canyon Creek - Dunhill

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Cold Freshwater Habitat (COLD)• Wildlife Habitat (WILD)
303(d) listed Impairments	Sediment Toxicity, Selenium

Los Peñasquitos Creek (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphate, Total Dissolved Solids, Toxicity

Soledad Canyon Creek - Dunhill Facility Group

Facility Maintenance Plan

Dunhill Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Soledad Canyon Creek unnamed tributary, immediately upstream of Soledad Canyon Creek (Roselle Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 430 feet
Top-of-Bank Width	Approximately 30 feet
Bottom Facility Width	Approximately 10 feet
Facility Depth	Approximately 5 feet
Adjacent Land Use	Industrial, Open Space, Transportation
As-Built Drawing Number	None
Coastal Zone	CST-APP



Figure 1: May 2017, looking downstream at vegetation and sediment in Dunhill segment

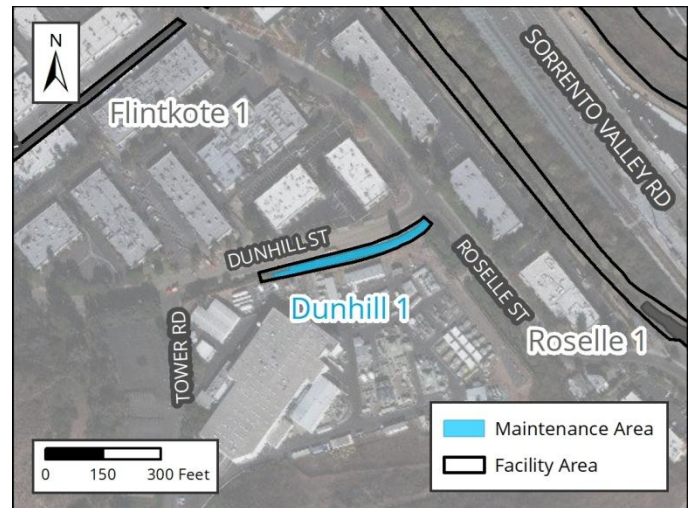


Figure 2: Vicinity Map of Dunhill Segment 1

Soledad Canyon Creek - Dunhill Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP None

SDP SDP No. 2034245 (2017 Addendum)

404 N/A; No permit required

401 N/A; No Permit Required

1602 N/A; No Permit Required

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The vegetation was observed to range from light to dense and sediment deposition was estimated to range from 6 inches to 3 feet

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	248	321	372	445	486	521

Hydraulic Capacity of Facility

Current Capacity 120 cfs

Proposed MWMP Maintained Capacity 125 cfs

Maintenance Recommendation

Remove accumulated sediment, debris, and vegetation from bottom of the facility from Station 329 to Station 759.
Repair bank at approximately from Station 715 to Station 759 on the north (street) side.
Maintain/repair existing debris fence as needed.

In-Stream Post-Maintenance Erosion Control Recommendation

Yes; see Appendix A-4
Location: Station to be determined

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Soledad Canyon Creek - Dunhill Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Disturbed wetland• Freshwater marsh
Adjacent Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Developed land• Disturbed land• Disturbed wetland (Arundo-dominated)• Ornamental plantings• Riparian forest (southern willow forest)
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility, but there is some potential for Ridgway's rail to occur in the channel due to adjacency to historic observation locations
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 570 feet southwest of the channel location.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1962 earthen channel
Potential Historical Resources	None
Constraint Identified	

Soledad Canyon Creek - Dunhill Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Geologic Resources (GEO)	MM-BIO-5
EP-GEO-1	MM-BIO-6
Health and Safety/Hazards (HAZ)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HAZ-3	MM-CR-1
Hydrology (HYD)	MM-CR-2
EP-HYD-1	MM-CR-3
Solid Waste (SW)	MM-CR-4
EP-SW-2	Noise (NOI)
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Soledad Canyon Creek - Dunhill Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Soledad Canyon Creek - Dunhill
Segment Name	Dunhill 1
Facility No.	2-03-150
Facility Location	From a storm drain outfall just east of the intersection of Tower Road and Dunhill Street to inlet of culvert that passes under Roselle Street
Coastal Zone	CST-APP
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original designs and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from bottom of the facility from Station 329 to Station 759. Repair bank at approximately from Station 715 to Station 759 on the north (street) side. Maintain/repair existing debris fence as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary diversions Vegetation trimming Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Soledad Canyon Creek - Dunhill Facility Group

Facility Maintenance Plan

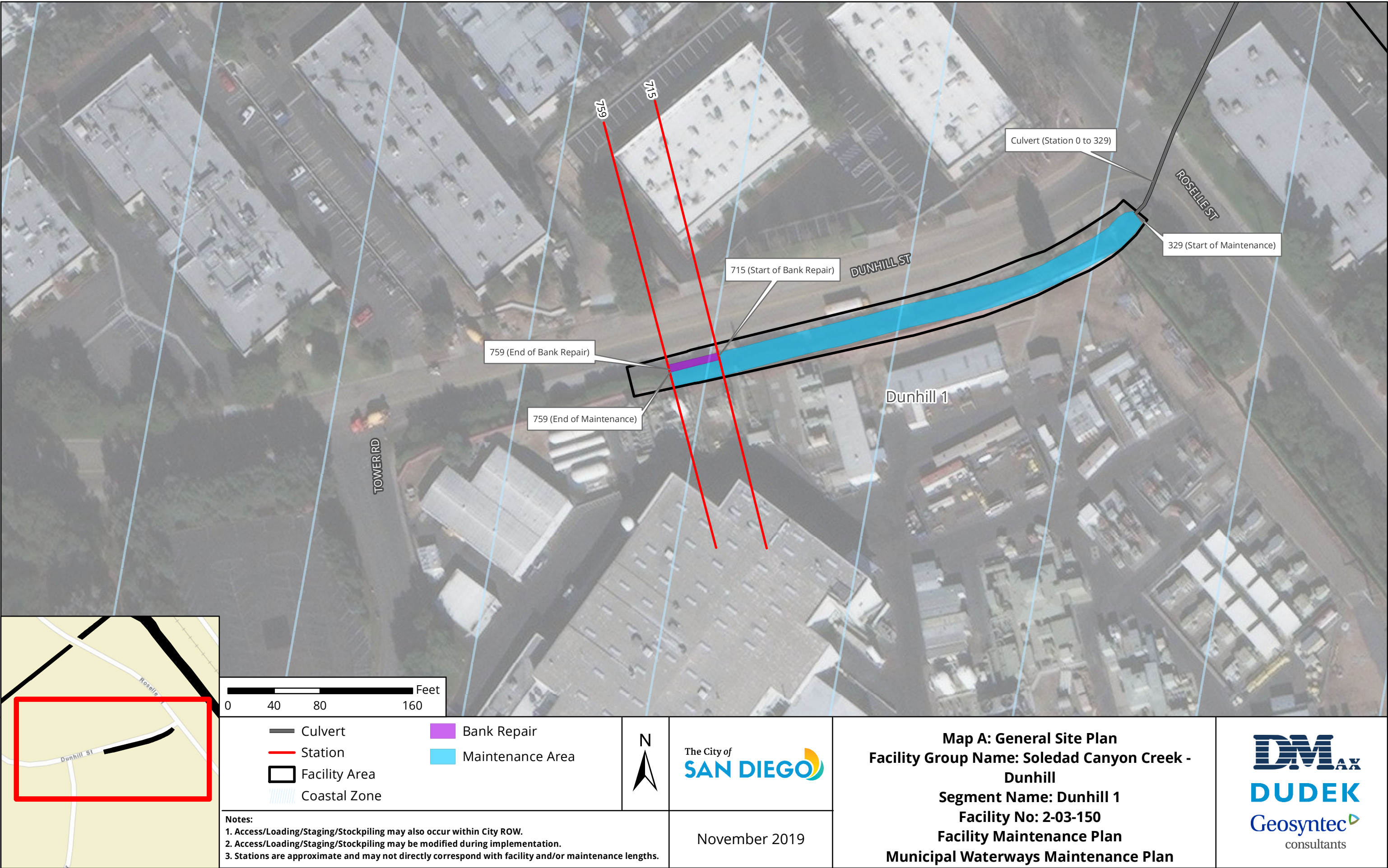
Facility Dimensions (Approximate)	Length: 430 feet Top width: 30 feet Bottom width: 10 feet Depth: 5 feet
Authorized Facility Maintenance Area	Length: Channel: 430 feet Width: 20 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8-10 people
Routine Maintenance Procedures	<p>Outside of Channel:</p> <ol style="list-style-type: none"> 1. Gradall/excavator moves along channel bank within access/loading area 2. Gradall/excavator scoops material from channel and loads dump truck 3. Dump truck hauls material to legal disposal site <p>Inside of Channel:</p> <ol style="list-style-type: none"> 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego

Soledad Canyon Creek - Dunhill Facility Group

Facility Maintenance Plan

Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	<p>Yes; see Appendix A-4</p> <p>Location: Station to be determined</p>
Post-Maintenance Procedures	<p>Conduct post-maintenance procedures as follows:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Other Notes	None

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Chicarita Creek - Via San Marco Facility Group

Segment Name (Facility number):
Via San Marco 1 (2-05-140)



Chicarita Creek - Via San Marco Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.20
Drainage Name (Number)	Chicarita Creek Unnamed Tributary (05)
Facility Group Name	Chicarita Creek - Via San Marco
Segment Name (Facility Number)	Via San Marco 1 (2-05-140)
Substrate	Via San Marco 1 / Concrete
Location	Bordered by Carmel Mountain Road to the west, residential development to the north and south, and Interstate 15 (I-15) to the east
MMP Map No(s).	4
Facility Inspection No.	4
Other Former Names	None



Figure 1: Vicinity Map of Chicarita Creek - Via San Marco Facility Group

Chicarita Creek - Via San Marco Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.20

Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Chicarita Creek - Via San Marco

Beneficial Uses

303(d) listed Impairments	No impairments recorded on the 303(d) List
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Chicarita Creek (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)
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303(d) listed Impairments	No impairments recorded on the 303(d) list
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Chicarita Creek - Via San Marco Facility Group

Facility Maintenance Plan

Via San Marco Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Gunite bottom and banks
Location Within Watershed	Unnamed tributary to Chicarita Creek, upstream of Chicarita Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 797 feet
Top-of-Bank Width	Approximately 7-12 feet
Bottom Facility Width	Approximately 3-6 feet
Facility Depth	Approximately 2-3 feet
Adjacent Land Use	Multi-Family Residential, Public Facilities and Utilities, Transportation
As-Built Drawing Number	11668-7-D
Coastal Zone	No



Figure 1: July 2017, photo depicts failure of gunite bottom of ditch, looking upstream



Figure 2: Vicinity Map of Via San Marco Segment 1

Chicarita Creek - Via San Marco Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The ditch was observed to have light vegetation and estimated to have 4-6 inches of sediment deposition

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	127	162	190	228	256	284

Hydraulic Capacity of Facility

Current Capacity 96 cfs

Proposed MWMP Maintained Capacity 112 cfs

Maintenance Recommendation

Remove accumulated sediment, debris, and vegetation from Station 179 to Station 481, and Station 501 to Station 896.
Remove accumulated sediment and debris in the culverts at Station 179, and from Station 481 to Station 501.
Repair failed gunite ditch bottom lining from Station 209 to Station 451 and 531 to Station 896.

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Chicarita Creek - Via San Marco Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Eucalyptus woodland• Ornamental plantings
Habitat and Wildlife	The ditch does not contain suitable vegetation for sensitive species. However, raptors could use the ornamental vegetation and eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 900 feet south west of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1972 concrete channel
Potential Historical Resources	None
Constraint Identified	

Chicarita Creek - Via San Marco Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-6
EP-BIO-6	Noise (NOI)
Health and Safety/Hazards (HAZ)	MM-NOI-1
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Chicarita Creek - Via San Marco Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Chicarita Creek - Via San Marco
Segment Name	Via San Marco 1
Facility No.	2-05-140
Facility Location	From south side of Carmel Mountain Road northeast of the intersection with Via San Marco to north of the Caminito Quevedo cul-de-sac
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 179 to Station 481, and Station 501 to Station 896. Remove accumulated sediment and debris in the culverts at Station 179, and from Station 481 to Station 501. Repair failed gunite ditch bottom lining from Station 209 to Station 451 and 531 to Station 896.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 11668-7-D
Substrate Detail	Gunite bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Chicarita Creek - Via San Marco Facility Group

Facility Maintenance Plan

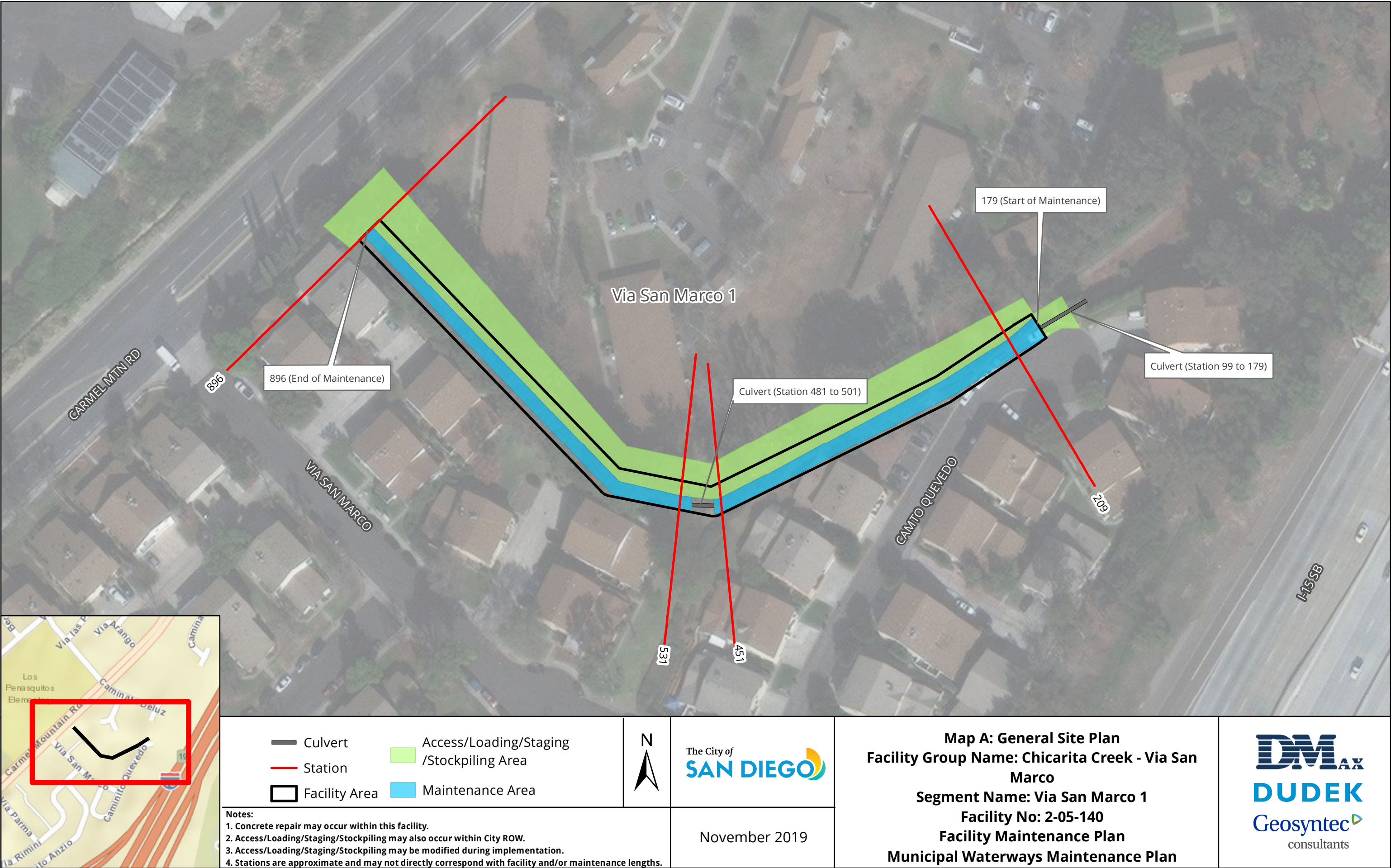
Facility Dimensions (Approximate)	Length: 797 feet Top width: 7-12 feet Bottom width: 3-6 feet Depth: 2-3 feet
Authorized Facility Maintenance Area	Length: Ditch: 697 feet; Culvert: 20 feet Width: 7-12 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area. Note: where Bobcat/skid-steer cannot access, work will be completed by hand. 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Chicarita Creek - Via San Marco Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Torrey Pines - Torrey Facility Group

Segment Name (Facility number):
Torrey Pines 1 (3-00-120)



Torrey Pines - Torrey Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.30
Drainage Name (Number)	Scripps (00)
Facility Group Name	Torrey Pines - Torrey
Segment Name (Facility Number)	Torrey Pines 1 (3-00-120)
Substrate	Torrey Pines 1 / Earthen
Location	About 700 feet west of La Jolla Scenic Drive North, and east of the intersection of Torrey Pines Road and Pottery Park Driveway
MMP Map No(s).	N/A
Facility Inspection No.	304
Other Former Names	Pottery Canyon



Figure 1: Vicinity Map of Torrey Pines - Torrey Facility Group

Torrey Pines - Torrey Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.30

Adopted TMDLs	None, but drains to La Jolla ASBS, so ASBS special protections apply
Highest Priority Water Quality Condition	Bacteria

Torrey Pines - Torrey

Beneficial Uses	<ul style="list-style-type: none">• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)
303(d) listed Impairments	No impairments recorded on the 303(d) List

NA (First downstream water body)

Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) list

Torrey Pines - Torrey Facility Group

Facility Maintenance Plan

Torrey Pines Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Scripps Channel
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,185 feet
Top-of-Bank Width	Approximately 12–40 feet
Bottom Facility Width	Approximately 10–20 feet
Facility Depth	Approximately 0.3–5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No



Figure 1: April 2017, representative of light weeds in the channel segment

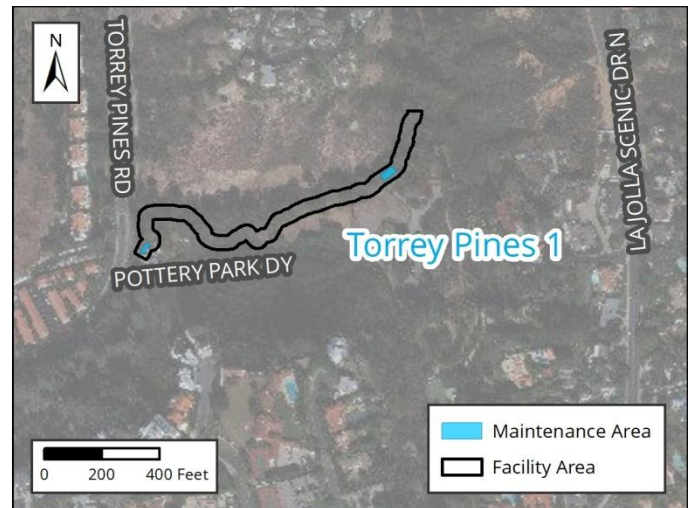


Figure 2: Vicinity Map of Torrey Pines Segment 1

Torrey Pines - Torrey Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA None

CDP N/A

SDP None

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The vegetation was observed to range from light to dense and sediment deposition estimated to be 1 foot upstream of the check dams/debris fences

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	66	83	96	114	127	141

Hydraulic Capacity of Facility

Current Capacity 60 cfs

Proposed MWMP Maintained Capacity 77 cfs

Maintenance Recommendation

Remove accumulated sediment and debris from directly upstream of each existing check dam located between Station 1282 to Station 1334.
Remove accumulated sediment, debris, and overgrown vegetation from Station 153 to Station 193.
Remove accumulated sediment, debris, and overgrown vegetation at the drop inlet at Station 153.
Maintain/repair existing debris fences as needed.

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Torrey Pines - Torrey Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Natural flood channel
Adjacent Vegetation	<ul style="list-style-type: none">• Coastal sage scrub• Developed land• Disturbed land• Eucalyptus woodland• Natural flood channel• Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within and adjacent to the facility for nesting/roosting. Other sensitive bird species could occur in sage scrub habitat adjacent to the channel (e.g. coastal California gnatcatcher).
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet west of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-031737; P-37-034756
Resource Type	Historic trash dump; pottery kiln
Historical Resources	
Resource Identified in APE	Channel; P-37-034756; 2725 Torrey Pines Rd; Pre-1953 earthen channel; pottery kiln; building more than 45 years old (not previously evaluated)
Potential Historical Resources	Yes
Constraint Identified	

Torrey Pines - Torrey Facility Group Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-1	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	Noise (NOI)
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Torrey Pines - Torrey Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Torrey Pines - Torrey
Segment Name	Torrey Pines 1
Facility No.	3-00-120
Facility Location	From an undeveloped canyon to a drop inlet adjacent to Torrey Pines Road at Pottery Park Driveway
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of existing check dams and transition to drop inlet of Torrey Pines Road culvert per Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment and debris from directly upstream of each existing check dam located between Station 1282 to Station 1334. Remove accumulated sediment, debris, and overgrown vegetation from Station 153 to Station 193. Remove accumulated sediment, debris, and overgrown vegetation at the drop inlet at Station 153. Maintain/repair existing debris fences as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Torrey Pines - Torrey Facility Group

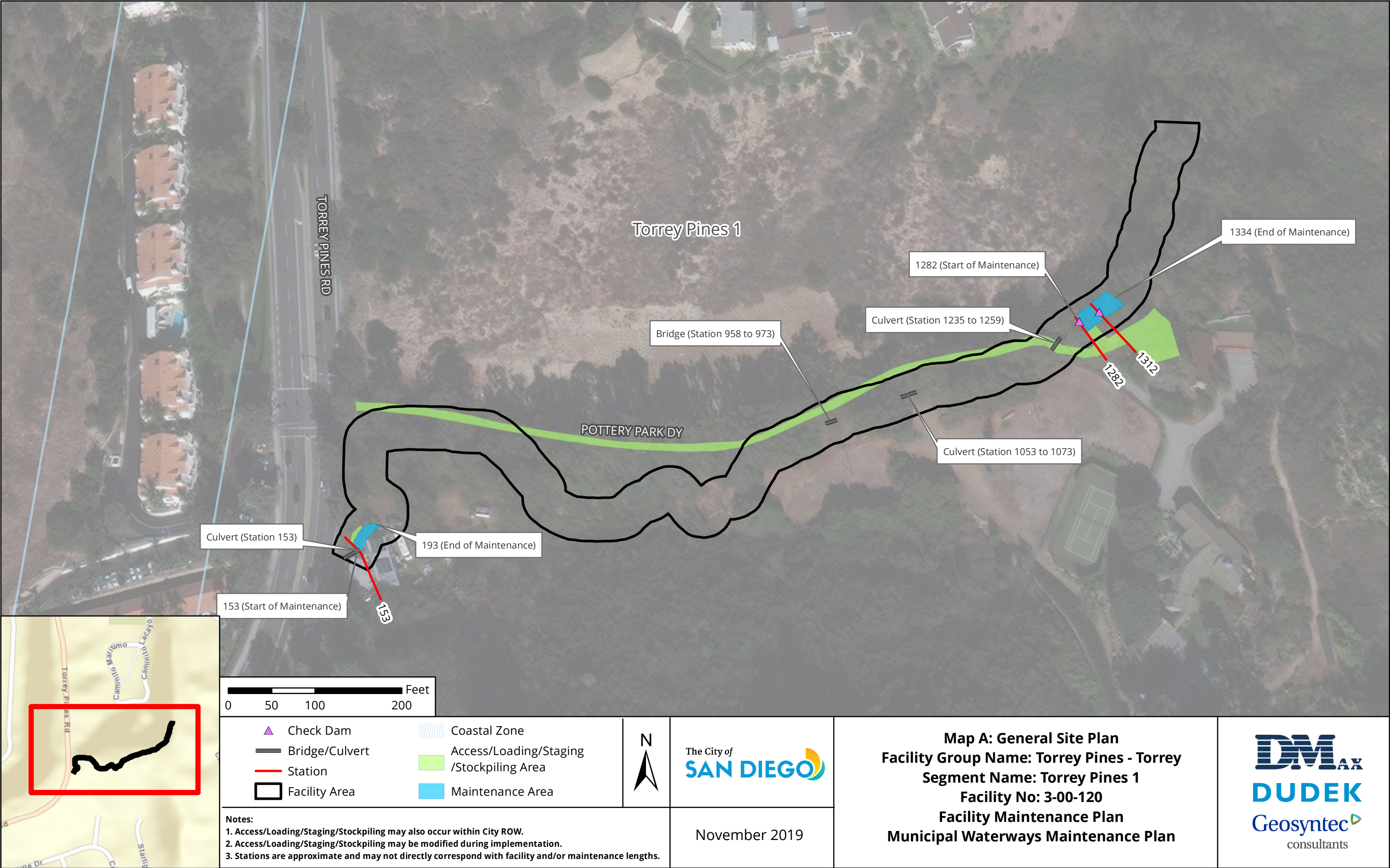
Facility Maintenance Plan

Facility Dimensions (Approximate)	Length: 1,185 feet Top width: 12–40 feet Bottom width: 10–20 feet Depth: 0.3–5 feet
Authorized Facility Maintenance Area	Length: Channel: 92 feet Width: 12–22 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Gradall/excavator, backhoe, dump truck, trash pump, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator at access/loading area scoops material from channel and loads dump truck 2. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species ³ : 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Torrey Pines - Torrey Facility Group Facility Maintenance Plan

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Possible need for check dam repair



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Mission Bay - MBHS Facility Group

Segment Names (Facility numbers):

PB-Olney 1 (3-02-101)

MBHS 1 (3-02-103)

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.40
Drainage Name (Number)	Mission Bay Unnamed Tributary (02)
Facility Group Name	Mission Bay - MBHS
Segment Name (Facility Number)	PB-Olney 1 (3-02-101) MBHS 1 (3-02-103)
Substrate	PB-Olney 1 / Earthen MBHS 1 / Concrete
Location	About 200 feet south of Grand Avenue, east of Mission Bay High School, and north of Pacific Beach Drive
MMP Map No(s).	36, 37
Facility Inspection No.	36, 37
Other Former Names	None



Figure 1: Vicinity Map of Mission Bay - MBHS Facility Group

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.40

Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Mission Bay - MBHS

Beneficial Uses

303(d) listed Impairments	No impairments recorded on the 303(d) List
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Mission Bay (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Industrial Service Supply (IND)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)• Spawning, Reproduction, and/or Early Development (SPWN)• Commercial and Sport Fishing (COMM)• Estaurine (EST)• Marine (MAR)• Migration of Aquatic Organisms (MIGR)• Shellfish Harvesting (SHELL)
303(d) listed Impairments	Eutrophic, Lead

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

PB-Olney Segment 1 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Unnamed tributary to Mission Bay, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 910 feet
Top-of-Bank Width	Approximately 20-26 feet
Bottom Facility Width	Approximately 3-5 feet
Facility Depth	Approximately 5-6 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	CST-PMT



Figure 1: September 2013, downstream end looking east. High vegetation density and growth were observed



Figure 2: Vicinity Map of PB-Olney Segment 1

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance

Prior to 2011: Unknown
2011 – 2014: No maintenance conducted
2015 – 2016: Routine maintenance conducted
January 2017 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP 2012 Master CDP No. A-6-NOC11-086-A1 (expires November 2019)

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 33 USACE File #SPL-2014-00417-MBS (expired March 2017)

401 RWQCB 401 Cert No. R9-2014-0077 (expires March 2020)

1602 CDFW did not respond to application in time, so it was automatically approved as described

Mitigation for Previous Impacts

Combined with mitigation for MBHS segment: El Cuervo del Sur HMMP (0.34 acre); Los Peñasquitos WEP (0.96 acre)

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity

In September 2013, dense vegetation and accumulated sediment throughout the earthen ditch, with a greater density of vegetation observed in the upstream section. Sediment deposition of 6 to 8 inches was observed. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	59	80	96	110	130	143

Hydraulic Capacity of Facility

Current Capacity	59 cfs
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Proposed MWMP Maintained Capacity	59 cfs
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Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of ditch from Station 1 to Station 8. Remove accumulated sediment, debris, and vegetation from the culvert opening at Station 1.
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In-Stream Post-Maintenance Erosion Control Recommendation	None
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¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">Natural flood channel
Adjacent Vegetation	<ul style="list-style-type: none">Developed concrete-lined channelDeveloped landOrnamental plantings
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility, but there is potential for Ridgway's rail to occur in the ditch due to adjacency to suitable coastal habitat and historic observation locations
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 50 feet north of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-005017
Resource Type	Prehistoric habitation

Historical Resources	
Resource Identified in APE	Channel; 1961, 1963 earthen channel
Potential Historical Resources	None
Constraint Identified	

Mission Bay - MBHS Facility Group Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-5
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	Noise (NOI)
Land Use (LU)	MM-NOI-1
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Mission Bay - MBHS
Segment Name	PB-Olney 1
Facility No.	3-02-101
Facility Location	From downstream end of MBHS 1 segment to inlet of culvert underneath the intersection of Pacific Beach Drive and Olney Street
Coastal Zone	CST-PMT
MWMP Proposed Maintenance	Maintenance of earthen ditch per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from bottom of ditch from Station 1 to Station 8. Remove accumulated sediment, debris, and vegetation from the culvert opening at Station 1.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside of facility Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen ditch
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Facility Dimensions (Approximate)	Length: 910 feet Top width: 20–26 feet Bottom width: 3–5 feet Depth: 5–6 feet
Authorized Facility Maintenance Area	Length: Ditch: 910 feet Width: 20–26 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bulldozer/track-steer enters or is lowered into ditch at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

MBHS Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Unnamed tributary to Mission Bay, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,058 feet
Top-of-Bank Width	Approximately 10 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 2 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	CST-APP, CST-PMT



Figure 1: September 2013, at upstream end of segment, just downstream of 27-inch-diameter RCP and headwall. High density of vegetation observed, and concrete ditch is not visible.



Figure 2: Vicinity Map of MBHS Segment 1

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance

Prior to 2011: Unknown
2011 – 2014: No maintenance conducted
2015 – 2016: Routine maintenance conducted
January 2017 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP 2012 Master CDP No. A-6-NOC11-086-A1 (expires November 2019)

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 33 USACE File #SPL-2014-00417-MBS (expired March 2017)

401 RWQCB 401 Cert No. RS-2014-0077 (expires March 2020)

1602 CDFW did not respond to application in time, so it was automatically approved as described

Mitigation for Previous Impacts

Combined with mitigation for PB-Olney segment: El Cuervo del Sur HMMP (0.34 acre); Los Peñasquitos WEP (0.96 acre)

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity

In September 2013, dense vegetation and sediment deposition of 3 to 4 inches was observed. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	43	58	70	80	95	104

Hydraulic Capacity of Facility

Current Capacity	10 cfs
Proposed MWMP Maintained Capacity	43 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 8 to Station 17. Removed accumulated sediment, debris, and vegetation from the culvert opening at Station 17. Maintain/repair existing debris fence as needed.
In-Stream Post-Maintenance Erosion Control Recommendation	None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Natural flood channel• Ornamental plantings
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility, but there is potential for Ridgway's rail to occur in the ditch due to adjacency to suitable coastal habitat and historic observation locations
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 870 feet to the southwest of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-005017
Resource Type	Prehistoric habitation

Historical Resources	
Resource Identified in APE	Channel; 1961, 1963 concrete channel
Potential Historical Resources	None
Constraint Identified	

Mission Bay - MBHS Facility Group Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Mission Bay - MBHS
Segment Name	MBHS 1
Facility No.	3-02-103
Facility Location	From outlet of culvert located at southwest corner of Mission Bay High School bus loading/unloading zone to upstream end of PB-Olney 1 segment
Coastal Zone	CST-APP, CST-PMT
MWMP Proposed Maintenance	Maintenance of concrete ditch per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 8 to Station 17. Removed accumulated sediment, debris, and vegetation from the culvert opening at Station 17. Maintain/repair existing debris fence as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside of ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	None
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

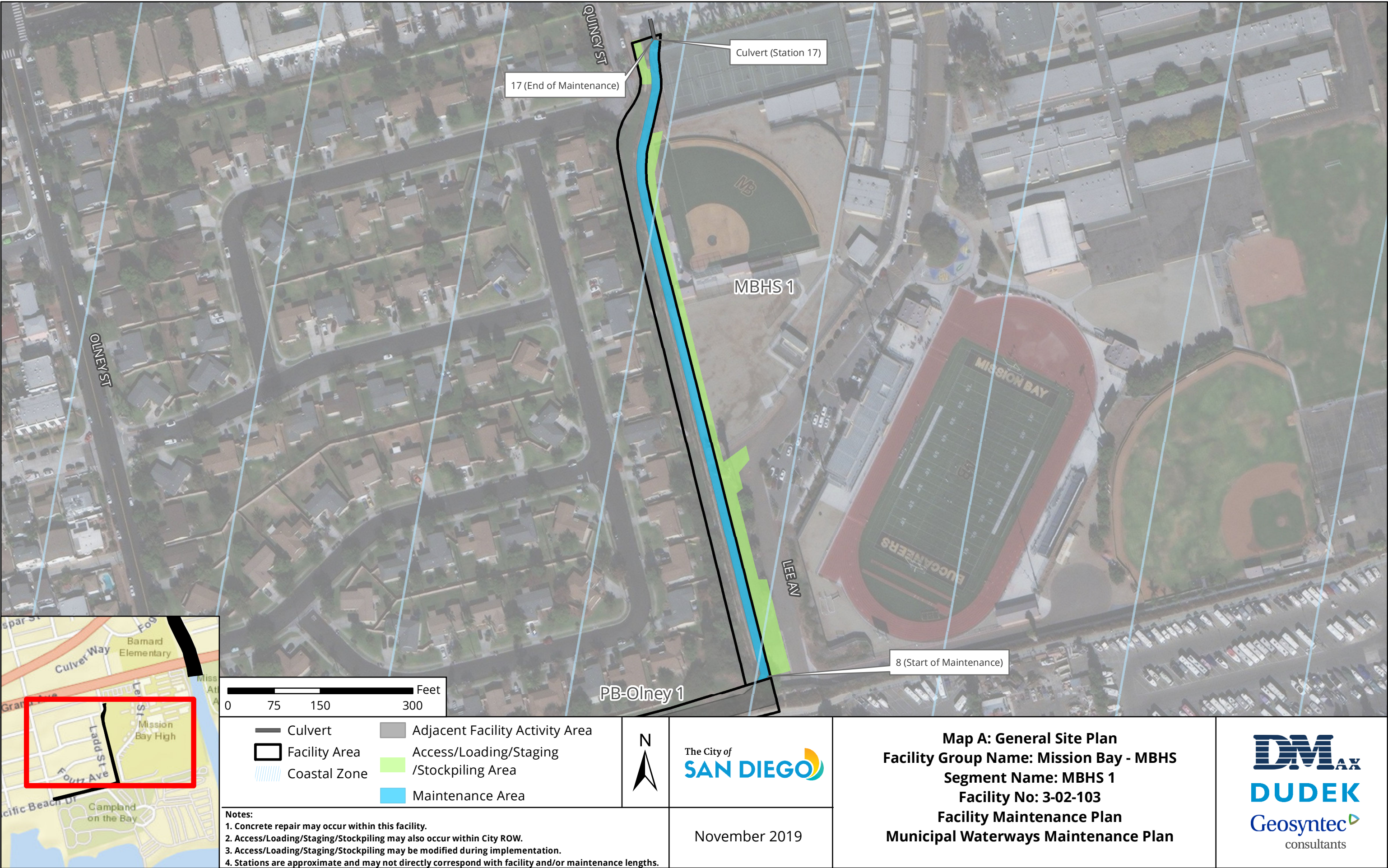
Facility Dimensions (Approximate)	Length: 1,058 feet Top width: 10 feet Bottom width: 4 feet Depth: 2 feet
Authorized Facility Maintenance Area	Length: Ditch: 1,058 feet Width: 10 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor power washes concrete portion of ditch in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	Yes; Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Mission Bay - MBHS Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Mission Bay - Mission Bay Drive Facility Group

Segment Name (Facility number):

Mission Bay Drive 1 (3-02-130)



Mission Bay - Mission Bay Drive Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.40
Drainage Name (Number)	Mission Bay Unnamed Tributary (02)
Facility Group Name	Mission Bay - Mission Bay Drive
Segment Name (Facility Number)	Mission Bay Drive 1 (3-02-130)
Substrate	Mission Bay Drive 1 / Earthen
Location	Bordered by Mission Bay Golf Course and Practice Center on the southwest and by Grand Avenue and Mission Bay Drive to the northeast
MMP Map No(s).	N/A
Facility Inspection No.	303
Other Former Names	None



Figure 1: Vicinity Map of Mission Bay - Mission Bay Drive Facility Group

Mission Bay - Mission Bay Drive Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.40

Adopted TMDLs	None
Highest Priority Water Quality Condition	Bacteria

Mission Bay - Mission Bay Drive

Beneficial Uses

303(d) listed Impairments	No impairments recorded on the 303(d) List
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Mission Bay (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)• Spawning, Reproduction, and/or Early Development (SPWN)• Commercial and Sport Fishing (COMM)• Estuarine (EST)• Marine (MAR)• Migration of Aquatic Organisms (MIGR)• Shellfish Harvesting (SHELL)
303(d) listed Impairments	Eutrophic, Lead

Mission Bay - Mission Bay Drive Facility Group

Facility Maintenance Plan

Mission Bay Drive Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Unnamed tributary to Mission Bay, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,085 feet
Top-of-Bank Width	Approximately 38–41 feet
Bottom Facility Width	Approximately 20 feet
Facility Depth	Approximately 6–7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Parks, Single-Family Residential, Transportation, Undeveloped
As-Built Drawing Number	2319-D
Coastal Zone	DEF-CER



Figure 1: July 2017, representative downstream channel segment with dense vegetation

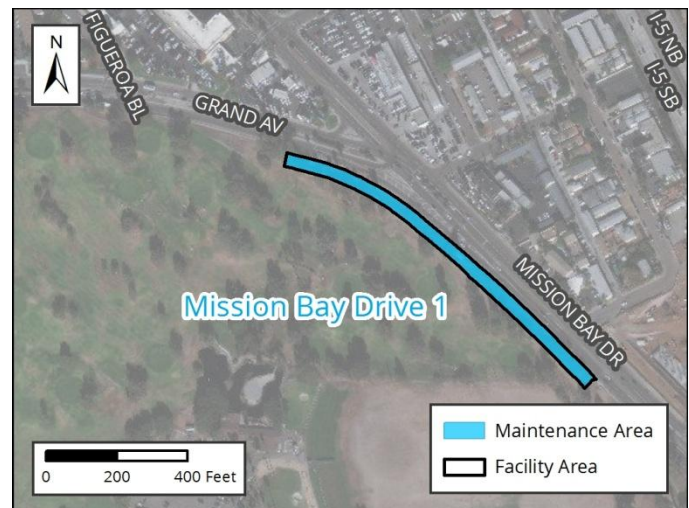


Figure 2: Vicinity Map of Mission Bay Drive Segment 1

Mission Bay - Mission Bay Drive Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	None
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity		Dense vegetation, including large trees was observed throughout the channel length. The accumulated sediment depth in the channel was estimated to range from 2 feet deep at the upstream end to 6 feet deep towards the downstream end.				
Hydrologic Peak Flows						
Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	198	250	292	347	389	432
Hydraulic Capacity of Facility						
Current Capacity				208 cfs		
Proposed MWMP Maintained Capacity				208 cfs		
Maintenance Recommendation			Remove accumulated sediment, debris, and overgrown vegetation within bed and bank from Station 245 to Station 1330. Maintain/repair existing trash rack as needed.			
In-Stream Post-Maintenance Erosion Control Recommendation				None		

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Mission Bay - Mission Bay Drive Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Disturbed freshwater marsh• Disturbed wetland• Natural flood channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Eucalyptus woodland• Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., Ridgeway's rail), the channel extents and area of vegetation present are limited such that it is unlikely for wildlife to use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-005017
Resource Type	Prehistoric habitation
Historical Resources	
Resource Identified in APE	Channel; 1956 earthen channel
Potential Historical Resources	None
Constraint Identified	

Mission Bay - Mission Bay Drive Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-5
Geologic Resources (GEO)	Noise (NOI)
EP-GEO-1	MM-NOI-1
Health and Safety/Hazards (HAZ)	
EP-HAZ-1	
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Mission Bay - Mission Bay Drive Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Mission Bay - Mission Bay Drive
Segment Name	Mission Bay Drive 1
Facility No.	3-02-130
Facility Location	From outlet of culvert underneath Grand Avenue to 500 feet southeast of intersection of Figueroa Boulevard and Grand Avenue
Coastal Zone	DEF-CER
MWMP Proposed Maintenance	Maintenance of earthen roadside channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and overgrown vegetation within bed and bank from Station 245 to Station 1330. Maintain/repair existing trash rack as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Vegetation trimming Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Earthen channel
Existing Plans and/or As-Built?	Yes; 2319-D
Substrate Detail	Earthen bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Mission Bay - Mission Bay Drive Facility Group

Facility Maintenance Plan

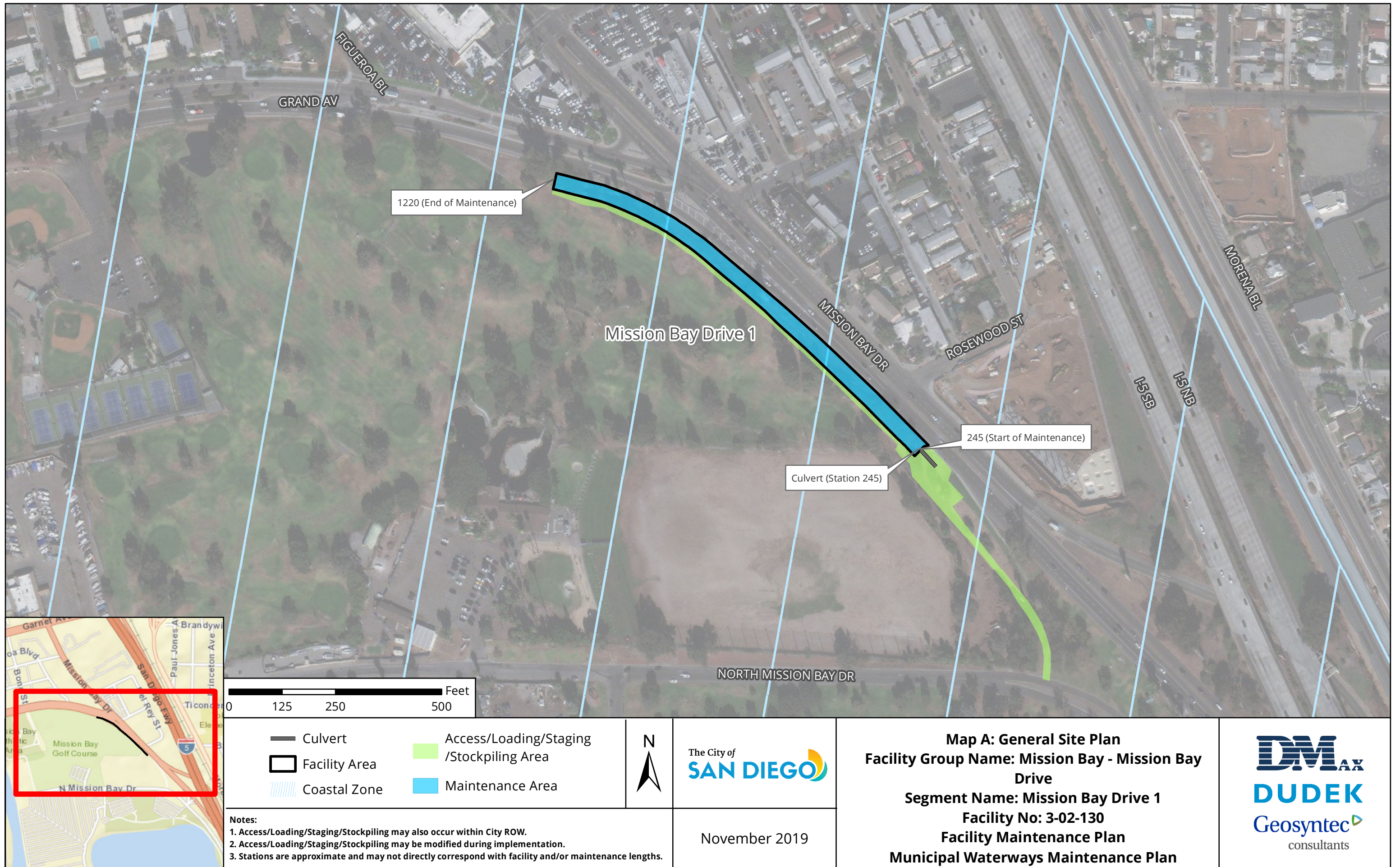
Facility Dimensions (Approximate)	Length: 1,085 feet Top width: 38–41 feet Bottom width: 20 feet Depth: 6–7 feet
Authorized Facility Maintenance Area	Length: Channel: 1,085 feet Width: 38–41 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 18–20 people
Routine Maintenance Procedures	<p>Outside of Channel:</p> <ol style="list-style-type: none"> 1. Gradall/excavator moves along channel bank within access/loading area 2. Gradall/excavator scoops material from channel and loads dump truck 3. Dump truck hauls material to legal disposal site <p>Inside of Channel:</p> <ol style="list-style-type: none"> 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego. Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation

Mission Bay - Mission Bay Drive Facility Group

Facility Maintenance Plan

Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	<p>Conduct post-maintenance procedures as follows:</p> <ol style="list-style-type: none"> 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Miramar - Engineer Facility Group

Segment Name (Facility number):
Engineer 1 (3-03-901)



Miramar - Engineer Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.40
Drainage Name (Number)	Miramar Unnamed Tributary (03)
Facility Group Name	Miramar - Engineer
Segment Name (Facility Number)	Engineer 1 (3-03-901)
Substrate	Engineer 1 / Concrete
Location	Runs parallel to Engineer Road, west of Mercury Road and is about 200 feet east of Brinell Street
MMP Map No(s).	47
Facility Inspection No.	47
Other Former Names	None



Figure 1: Vicinity Map of Miramar - Engineer Facility Group

Miramar - Engineer Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.40

Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Miramar - Engineer

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Miramar - Engineer Facility Group

Facility Maintenance Plan

Engineer Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail¹	Stations 11-293: Concrete bottom and banks Stations 293-1137: Asphalt/concrete bottom and banks Stations 1137-1232: Concrete bottom and banks
Location Within Watershed	Unnamed tributary to Mission Bay, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,220 feet
Top-of-Bank Width	Approximately 5-16.5 feet
Bottom Facility Width	Approximately 2-3 feet
Facility Depth	Approximately 1-4 feet
Adjacent Land Use	Commercial, Industrial, Office, Transportation
As-Built Drawing Number	9603-D, 9606-D, & 9601-1,2-D
Coastal Zone	No



Figure 1: November 2015, upstream portion of reach facing west, showing sediment and vegetation in ditch



Figure 2: Vicinity Map of Engineer Segment 1

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Miramar - Engineer Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 N/A; No Permit Required

401 N/A; No Permit Required

1602 N/A; No Permit Required

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.²

Current Conditions Affecting Facility Capacity In November 2015, the segment was observed to vary from clean concrete to dense vegetation and sediment deposition was estimated to be up to 1.5 feet

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	125	157	182	205	239	256

Hydraulic Capacity of Facility

Current Capacity

<10 cfs

Proposed MWMP Maintained Capacity

25 cfs

Maintenance Recommendation

Remove accumulated sediment, debris, and vegetation from Station 12 to Station 1232.

Remove accumulated sediment, debris, and vegetation from culverts at Station 12 and Station 1232.

In-Stream Post-Maintenance Erosion Control Recommendation

None

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Miramar - Engineer Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">Disturbed wetland (concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">Developed land
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 7969 Engineer Rd.; 7988 Engineer Rd.; 8025 Engineer Rd.; 8123 Engineer Rd.; 8133-8141 Engineer Rd.; 8159 Engineer Rd; 1962 concrete channel; seven buildings more than 45 years old (not previously evaluated)
Potential Historical Resources	Yes
Constraint Identified	

Miramar - Engineer Facility Group Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-BIO-5	MM-HR-1
EP-BIO-6	MM-HR-2
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-1	MM-NOI-1
EP-HAZ-3	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Miramar - Engineer Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Miramar - Engineer
Segment Name	Engineer 1
Facility No.	3-03-901
Facility Location	From outlet of a pipe located behind 8141 Engineer Road to inlet of pipe crossing beneath Engineer Road and into a storm drain system
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation³	Remove accumulated sediment, debris, and vegetation from Station 12 to Station 1232. Remove accumulated sediment, debris, and vegetation from culverts at Station 12 and Station 1232.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 9603-D, 9606-D, & 9601-1,2-D
Substrate Detail³	Stations 11-293: Concrete bottom and banks Stations 293-1137: Asphalt/concrete bottom and banks Stations 1137-1232: Concrete bottom and banks

³ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Miramar - Engineer Facility Group

Facility Maintenance Plan

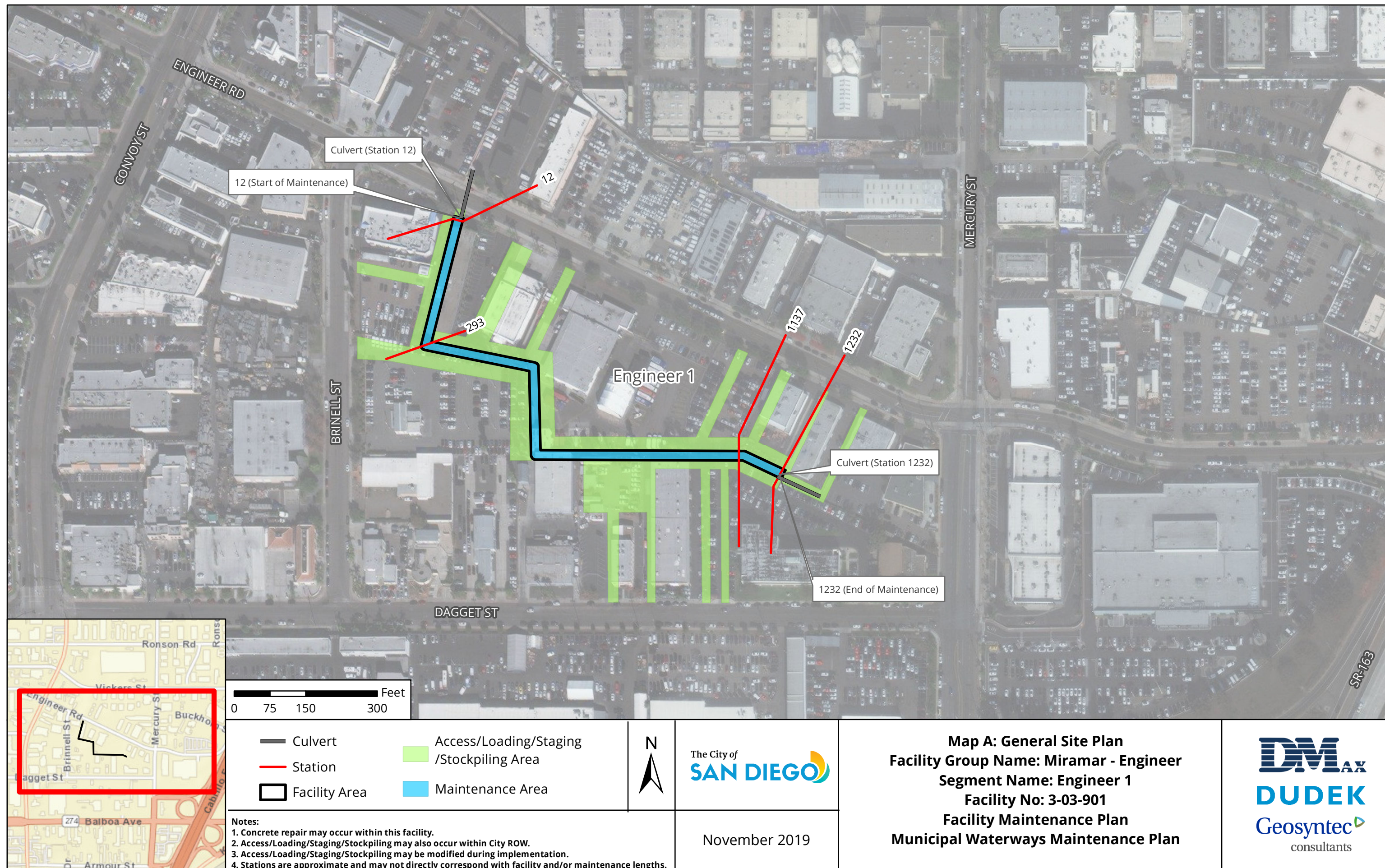
Facility Dimensions (Approximate)	Length: 1,220 feet Top width: 5–16.5 feet Bottom width: 2–3 feet Depth: 1–4 feet
Authorized Facility Maintenance Area	Length: Ditch: 1,220 feet Width: 16.5 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, boom truck, Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, fuel-powered hand tools, wheelbarrow, sweeper
Schedule	Up to approximately 60 working days
Maintenance Crew	Approximately 10–14 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Hand tools and wheelbarrow used in ditch to move material to Gradall/excavator at access/loading area 2. Gradall/excavator scoops material from ditch and loads dump truck 3. Bobcat/skid-steer enters or is lowered into ditch at access/loading area with Gradall/excavator assistance 4. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 5. Gradall/excavator/loader/crane scoops material from ditch and loads dump truck 6. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with private property owner and the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species⁴:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: No <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

⁴ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Miramar - Engineer Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Facility Maintenance Plan

Tecolote Creek - Chateau Facility Group

Segment Names (Facility numbers):

Chateau 1 (3-04-055)

Chateau 2 (3-04-250)

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.50
Drainage Name (Number)	Tecolote Creek (04)
Facility Group Name	Tecolote Creek - Chateau
Segment Name (Facility Number)	Chateau 1 (3-04-055)
Substrate	Chateau 1 / Concrete
Location	About 200 feet south of Renex Place, parallel to Chateau Drive, and south of Castleton Way
MMP Map No(s).	40, 41, 42, 314
Facility Inspection No.	40, 41, 42, 314
Other Former Names	None

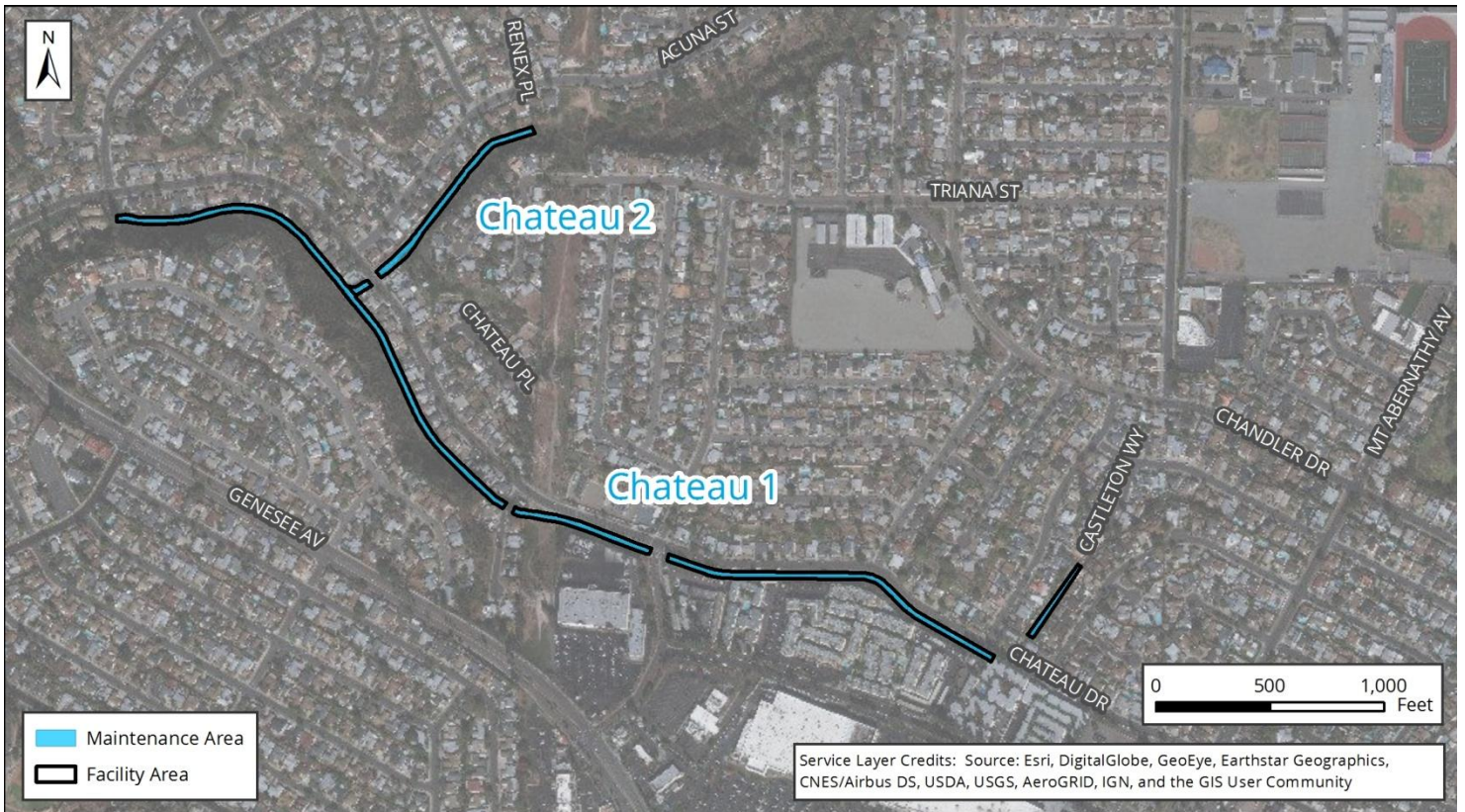


Figure 1: Vicinity Map of Tecolote Creek - Chateau Facility Group

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.50

Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Tecolote Creek - Chateau

Beneficial Uses	<ul style="list-style-type: none">• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Selenium, Toxicity, Turbidity, Zinc

Mission Bay (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)• Spawning, Reproduction, and/or Early Development (SPWN)• Commercial and Sport Fishing (COMM)• Estuarine (EST)• Marine (MAR)• Migration of Aquatic Organisms (MIGR)• Shellfish Harvesting (SHELL)
303(d) listed Impairments	Eutrophic, Lead

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Chateau Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete/gunite bottom and banks
Location Within Watershed	Upper reach of Tecolote Creek, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 5,270 feet
Top-of-Bank Width	Approximately 19-23 feet
Bottom Facility Width	Approximately 3-10.5 feet
Facility Depth	Approximately 4.5-5.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	10208-6A-D, 10208-7A-D, 11473-2-D, 10476-D, 19248-3-D & 4295-D
Coastal Zone	No



Figure 1: May 2017, upstream of double 5-foot-wide by 4-foot-high RCB culvert beneath Derrick Drive



Figure 2: Vicinity Map of Chateau Segment 1

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
February 2012: Routine maintenance conducted
2015/2016: Minor concrete repair conducted
January 2017 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 CDFW SAA No. 1600-2011-0361-R5 (expired 1/31/2017)

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The channel was observed to be relatively clean with minor sediment, debris and vegetation in some locations

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	324	467	640	883	1,100	1,500

Hydraulic Capacity of Facility

Current Capacity 334 cfs

Proposed MWMP Maintained Capacity 334 cfs

Maintenance Recommendation

Remove accumulated sediment, debris, and vegetation from Station 959 to Station 3301, Station 3351 to Station 3970, Station 4064 to Station 5607, and Station 5851 to Station 6229.
Remove accumulated sediment and debris in culverts from Station 3301 to 3351, Station 3970 to Station 4064, and Station 5607 to Station 5851.

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Coastal sage scrub• Developed land• Disturbed coastal sage scrub• Disturbed land• Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife, but sage scrub habitat suitable for sensitive species, including coastal California gnatcatcher, is present in areas adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 850 feet to the west of the ditch within Tecolote Canyon.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1963–1969 concrete channel
Potential Historical Resources	None
Constraint Identified	

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Tecolote Creek - Chateau
Segment Name	Chateau 1
Facility No.	3-04-055
Facility Location	From storm drain system outlet southwest of the Castleton Way cul-de-sac to inlet of culvert that crosses beneath Genesee Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 959 to Station 3301, Station 3351 to Station 3970, Station 4064 to Station 5607, and Station 5851 to Station 6229. Remove accumulated sediment and debris in culverts from Station 3301 to 3351, Station 3970 to Station 4064, and Station 5607 to Station 5851.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 10208-6A-D, 10208-7A-D, 11473-2-D, 10476-D, 19248-3-D & 4295-D
Substrate Detail	Concrete/gunite bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Facility Dimensions (Approximate)	Length: 5,270 feet Top width: 19–23 feet Bottom width: 3–10.5 feet Depth: 4.5–5.5 feet
Authorized Facility Maintenance Area	Length: Channel: 4,882 feet; Culvert: 388 feet Width: 19–23 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Chateau Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Tecolote Creek, upstream of Tecolote Creek (Chateau Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,117 feet
Top-of-Bank Width	Approximately 15.5–23 feet
Bottom Facility Width	Approximately 4–10 feet
Facility Depth	Approximately 4.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	10208-6A-D, 10208-7A-D, 11473-2-D, 19248-3-D, 4295-D, 10476-10-D, & 10476-11-D
Coastal Zone	No



Figure 1: May 2017, downstream of 10-foot-wide by 3-foot-high RCB culvert beneath Chateau Drive



Figure 2: Vicinity Map of Chateau Segment 2

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown February 2012: Routine maintenance conducted 2015/2016: Minor concrete repair conducted January 2017 – March 2019: No maintenance conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 CDFW SAA No. 1600-2011-0361-R5 (expired 1/31/2017)

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity	The channel was observed to be relatively clean with minor sediment, debris and vegetation in some locations
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Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	236	295	354	387	442	491

Hydraulic Capacity of Facility

Current Capacity	196 cfs
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Proposed MWMP Maintained Capacity	435 cfs
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Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 0 to Station 105 and Station 165 to Station 1117. Remove accumulated sediment and debris in culverts from Station 105 to 165.
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In-Stream Post-Maintenance Erosion Control Recommendation	None
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¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Coastal sage scrub• Developed land• Disturbed coastal sage scrub• Disturbed land• Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife, but sage scrub habitat suitable for sensitive species, including coastal California gnatcatcher, is present in areas adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 850 feet to the west of the ditch within Tecolote Canyon.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1963–1969 concrete channel
Potential Historical Resources	None
Constraint Identified	

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Tecolote Creek - Chateau
Segment Name	Chateau 2
Facility No.	3-04-250
Facility Location	From 200 feet north of the intersection of Triana Street and Almayo Avenue to the center of Chateau segment 1
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 0 to Station 105 and Station 165 to Station 1117. Remove accumulated sediment and debris in culverts from Station 105 to 165.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 10208-6A-D, 10208-7A-D, 11473-2-D, 19248-3-D, 4295-D, 10476-10-D, & 10476-11-D
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Facility Dimensions (Approximate)	Length: 1,117 feet Top width: 15.5–23 feet Bottom width: 4–10 feet Depth: 4.5 feet
Authorized Facility Maintenance Area	Length: Channel: 1,057 feet; Culvert: 60 feet Width: 15.5–23 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 45–60 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Tecolote Creek - Chateau Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Tecolote Creek - Genesee Facility Group

Segment Name (Facility number):
Genesee 1 (3-04-160)



Tecolote Creek - Genesee Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.50
Drainage Name (Number)	Tecolote Creek Unnamed Tributary (04)
Facility Group Name	Tecolote Creek - Genesee
Segment Name (Facility Number)	Genesee 1 (3-04-160)
Substrate	Genesee 1 / Earthen
Location	Bordered by an apartment complex to the north, Genesee Avenue to the west, and residential areas to the south and east
MMP Map No(s).	N/A
Facility Inspection No.	300
Other Former Names	None



Figure 1: Vicinity Map of Tecolote Creek - Genesee Facility Group

Tecolote Creek - Genesee Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.50

Adopted TMDLs Bacteria Project I

Highest Priority Water Quality Condition Bacteria

Tecolote Creek - Genesee

Beneficial Uses

303(d) listed Impairments No impairments recorded on the 303(d) List

Tecolote Creek (First downstream water body)

Beneficial Uses

- Non-contact Water Recreation (REC-2)
- Warm Freshwater Habitat (WARM)
- Wildlife Habitat (WILD)

303(d) listed Impairments Benthic Community Effects, Cadmium, Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Selenium, Toxicity, Turbidity, Zinc

Tecolote Creek - Genesee Facility Group

Facility Maintenance Plan

Genesee Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen and riprap bottom, earthen and riprap banks
Location Within Watershed	Upper reach of Tecolote Creek unnamed tributary, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,129 feet
Top-of-Bank Width	Approximately 25–175 feet
Bottom Facility Width	Approximately 25–50 feet
Facility Depth	Approximately 8–15 feet
Adjacent Land Use	Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No



Figure 1: April 2017, looking downstream at sediment, debris, and vegetation

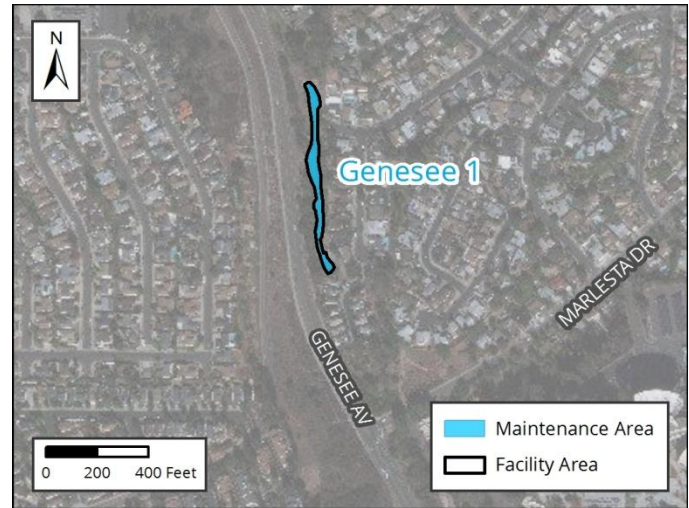


Figure 2: Vicinity Map of Genesee Segment 1

Tecolote Creek - Genesee Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA None

CDP N/A

SDP None

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The vegetation was observed to vary from heavy at the downstream end to minimal at the upstream end. Sediment deposition was estimated to be 1 to 3 feet.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	707	891	1,039	1,235	1,389	1,536

Hydraulic Capacity of Facility

Current Capacity 1,050 cfs

Proposed MWMP Maintained Capacity 1,120 cfs

Maintenance Recommendation Remove accumulated sediment, debris, and vegetation from bottom of the channel from Station 1592 to Station 2359.
Stabilize bank erosion on west bank at Station 1592.

In-Stream Post-Maintenance Erosion Control Recommendation Yes; see Appendix A-4
Location: Station to be determined

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Tecolote Creek - Genesee Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Disturbed freshwater marsh• Disturbed wetland• Eucalyptus woodland• Riparian forest (coast live oak)• Riparian forest (southern riparian forest)
Adjacent Vegetation	<ul style="list-style-type: none">• Coastal sage scrub• Developed land• Disturbed coastal sage scrub• Disturbed land• Disturbed wetland• Ornamental plantings• Riparian forest (coast live oak)• Riparian forest (southern riparian forest)
Habitat and Wildlife	The habitat contained within the facility primarily provides habitat for nesting and/or foraging raptor species. Other sensitive bird species (e.g. coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the channel.
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The channel is situated in close proximity to the MHPA boundary, which is located approximately 50 feet to the west.
Mitigation Within Facility	None

Tecolote Creek - Genesee Facility Group Facility Maintenance Plan

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources

Resource Identified in APE	None
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Resource Identified Adjacent to APE	None
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Resource Type	N/A
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Historical Resources

Resource Identified in APE	Channel; 3406 Aveley Place; c. 1964 earthen channel; building more than 45 years old (not previously evaluated)
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Potential Historical Resources	Yes
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Constraint Identified	
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Tecolote Creek - Genesee Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
Hydrology (HYD)	MM-HR-1
EP-HYD-1	MM-HR-2
Land Use (LU)	Noise (NOI)
EP-LU-1	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Tecolote Creek - Genesee Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Tecolote Creek - Genesee
Segment Name	Genesee 1
Facility No.	3-04-160
Facility Location	From outlet of culvert near an apartment complex to culvert under Marlesta Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from bottom of the channel from Station 1592 to Station 2359. Stabilize bank erosion on west bank at Station 1592.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Vegetation trimming Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen and riprap bottom, earthen and riprap banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Tecolote Creek - Genesee Facility Group

Facility Maintenance Plan

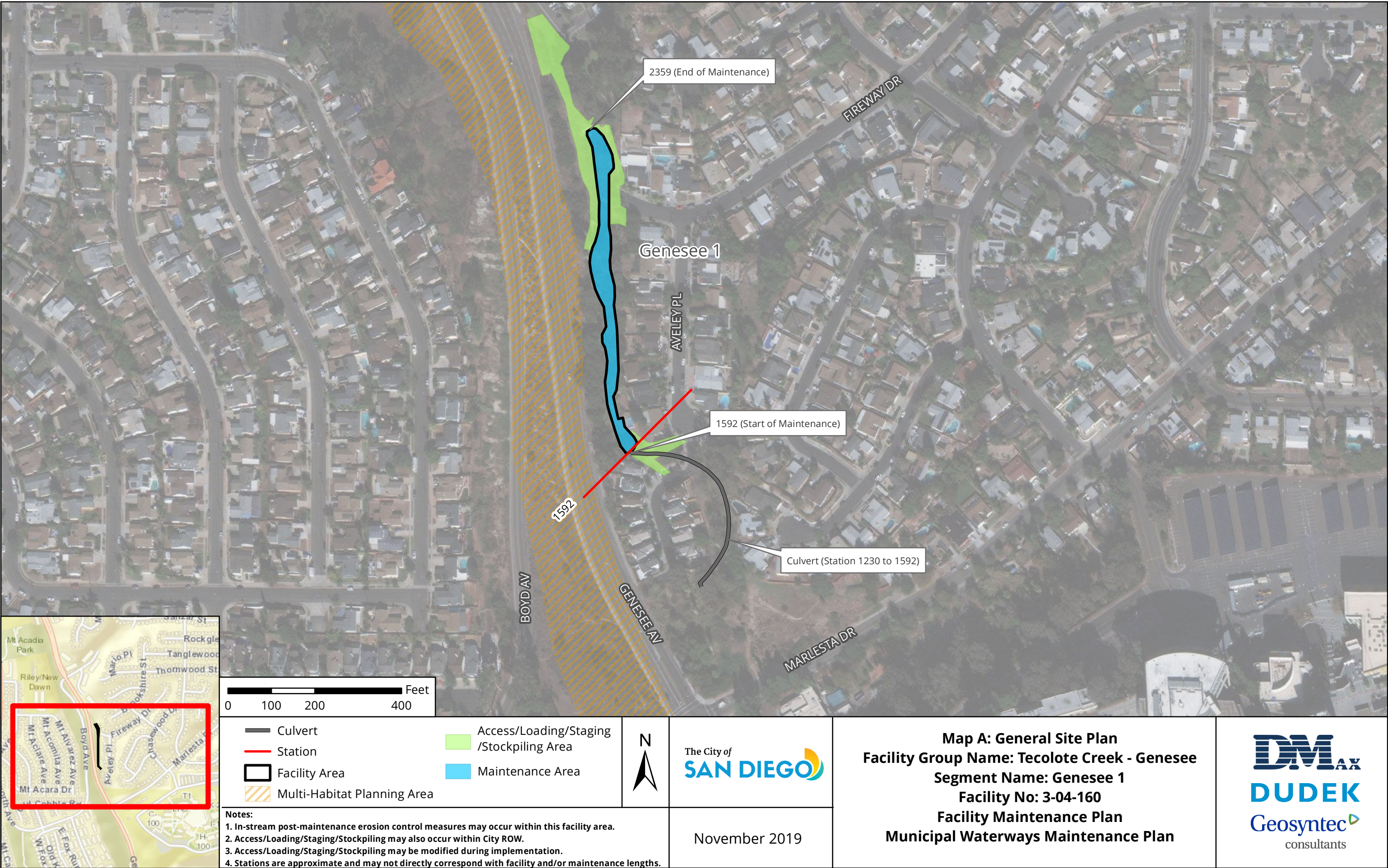
Facility Dimensions (Approximate)	Length: 1,129 feet Top width: 25–175 feet Bottom width: 25–50 feet Depth: 8–15 feet
Authorized Facility Maintenance Area	Length: Channel: 767 feet Width: 20.5–60 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 20–25 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator and loader at access/loading area 3. Gradall/excavator and loader scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Tecolote Creek - Genesee Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

San Diego River - Nimitz Facility Group

Segment Names (Facility numbers):

Nimitz 1 (4-01-103)

Nimitz 2 (4-01-105)

Nimitz 3 (4-01-107)



San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	San Diego River Unnamed Tributary (01)
Facility Group Name	San Diego River - Nimitz
Segment Name (Facility Number)	Nimitz 1 (4-01-103) Nimitz 2 (4-01-105) Nimitz 3 (4-01-107)
Substrate	Nimitz 1 / Earthen Nimitz 2 / Concrete Nimitz 3 / Earthen
Location	About 200 feet south of the intersection of W Point Loma Boulevard and Nimitz Boulevard, and north of Bill Cleator Community Park
MMP Map No(s).	82
Facility Inspection No.	82
Other Former Names	Nimitz Channel



Figure 1: Vicinity Map of San Diego River - Nimitz Facility Group

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11

Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

San Diego River - Nimitz

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Nimitz Segment 1 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of San Diego River unnamed tributary, upstream of the San Diego River
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 116 feet
Top-of-Bank Width	Approximately 35 feet
Bottom Facility Width	Approximately 7 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Single-Family Residential, Transportation
As-Built Drawing Number	32750-D
Coastal Zone	No



Figure 1: April 2017, looking downstream at dual 54-inch diameter RCP culvert inlet

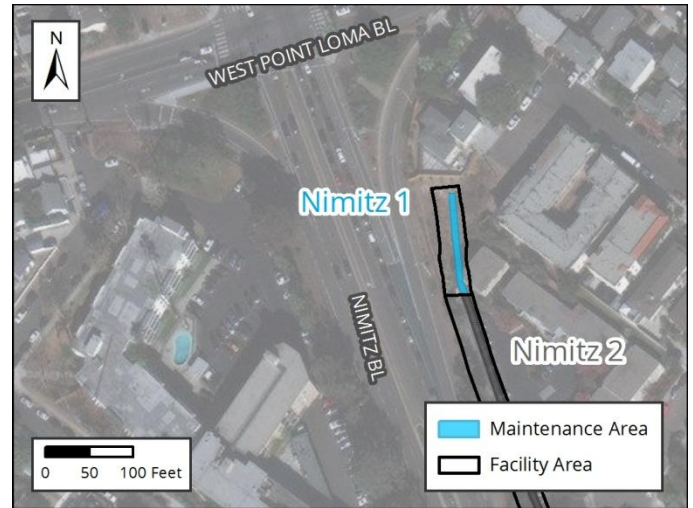


Figure 2: Vicinity Map of Nimitz Segment 1

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted, except hand removal of non-native vegetation, trash, and debris
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity		The vegetation was observed to range from moderate to dense and evidence of sediment deposition was noted				
Hydrologic Peak Flows						
Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	227	290	339	407	456	505
Hydraulic Capacity of Facility						
Current Capacity				120 cfs		
Proposed MWMP Maintained Capacity				339 cfs		
Maintenance Recommendation			Remove accumulated sediment, debris, and vegetation from bottom of earthen ditch near entrance of culvert from Station 118 to Station 234			
In-Stream Post-Maintenance Erosion Control Recommendation				None		

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Natural flood channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Eucalyptus woodland• Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	Noise (NOI)
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	San Diego River - Nimitz
Segment Name	Nimitz 1
Facility No.	4-01-103
Facility Location	From the downstream end of Nimitz 2 segment to 200 feet south of the intersection of W Point Loma Boulevard and Nimitz Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from bottom of earthen ditch near entrance of culvert from Station 118 to Station 234
Maintenance Activities	Vegetation grubbing, trimming, and removal Sediment removal Invasive plant species treatment and removal
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen ditch
Existing Plans and/or As-Built?	Yes; 32750-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 116 feet Top width: 35 feet Bottom width: 7 feet Depth: 7 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Authorized Facility Maintenance Area	Length: Ditch: 116 feet Width: 11 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer and/or bulldozer/track-steer enter or are lowered into ditch at access/loading area 2. Bobcat/skid-steer and/or bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: <ol style="list-style-type: none">1. Demobilize equipment2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed4. Remove temporary BMPs5. Update maintenance record6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Nimitz Segment 2 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of San Diego River unnamed tributary, immediately upstream of San Diego River unnamed tributary (Nimitz Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 291 feet
Top-of-Bank Width	Approximately 7 feet
Bottom Facility Width	Approximately 7 feet
Facility Depth	Approximately 4 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Parks, Single-Family Residential, Transportation
As-Built Drawing Number	14958-D
Coastal Zone	No



Figure 1: April 2017, looking downstream at sediment and debris at upstream end of concrete ditch



Figure 2: Vicinity Map of Nimitz Segment 2

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted, except hand removal of non-native vegetation, trash, and debris
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity			The segment was observed to be mostly clean with sediment, debris accumulation occurring at the transition to Nimitz 1			
Hydrologic Peak Flows						
Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	227	290	339	407	456	505
Hydraulic Capacity of Facility						
Current Capacity				15 cfs		
Proposed MWMP Maintained Capacity				80 cfs		
Maintenance Recommendation			Remove accumulated sediment, debris, and vegetation from Station 234 to Station 525			
In-Stream Post-Maintenance Erosion Control Recommendation				None		

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Eucalyptus woodland• Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within and adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	San Diego River - Nimitz
Segment Name	Nimitz 2
Facility No.	4-01-105
Facility Location	From the downstream end of Nimitz 3 segment to the upstream end of Nimitz 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch, per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 234 to Station 525
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 14958-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 291 feet Top width: 7 feet Bottom width: 7 feet Depth: 4 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

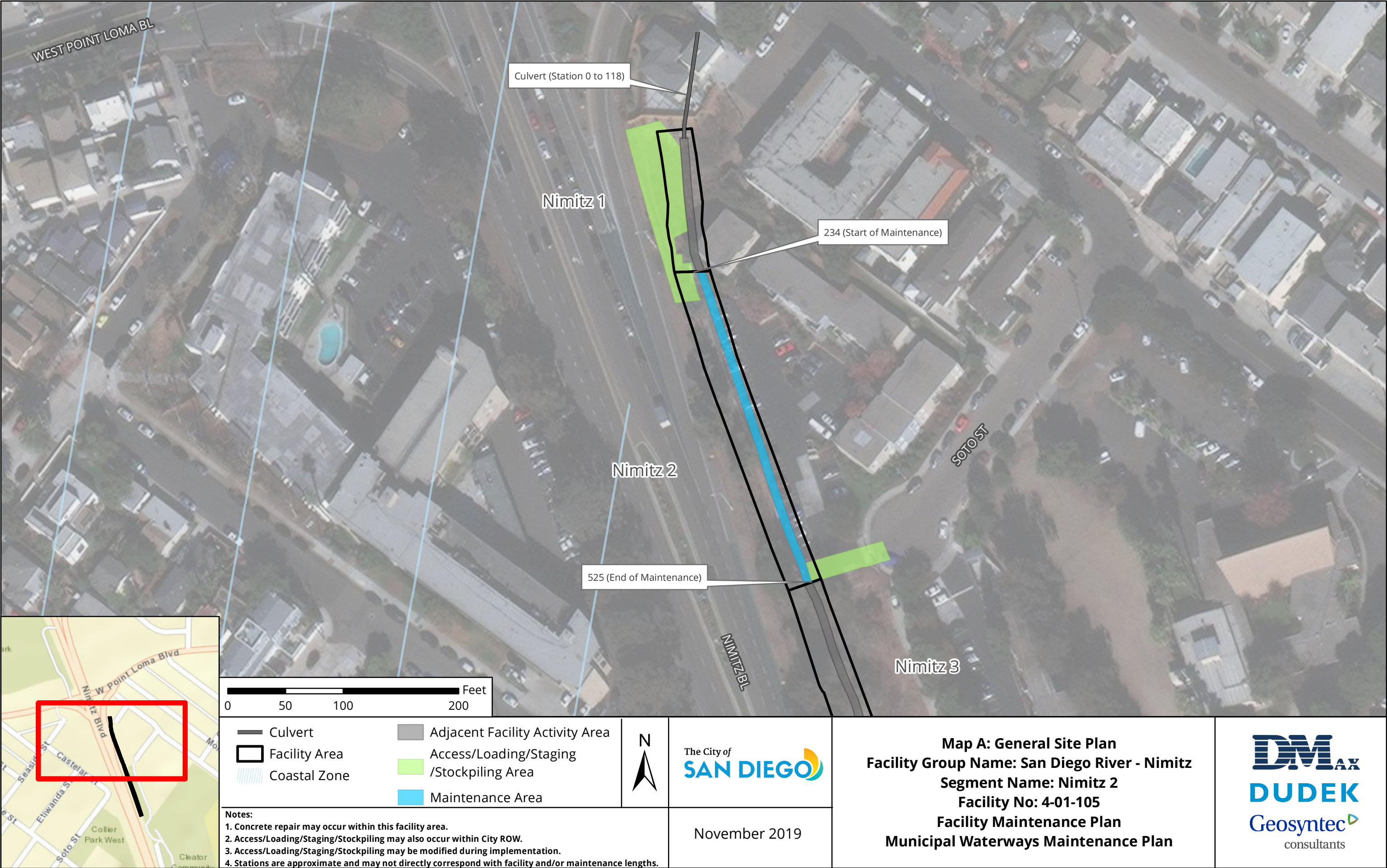
Authorized Facility Maintenance Area	Length: Ditch: 291 feet Width: 7 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Nimitz Segment 3 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of San Diego River unnamed tributary, immediately upstream of San Diego River unnamed tributary (Nimitz Segment 2)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 476 feet
Top-of-Bank Width	Approximately 100 feet
Bottom Facility Width	Approximately 7 feet
Facility Depth	Approximately 6.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Parks, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	No



Figure 1: April 2017, looking downstream near upstream end of facility



Figure 2: Vicinity Map of Nimitz Segment 3

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted, except hand removal of non-native vegetation, trash, and debris
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity		In March 2016, the vegetation was observed to range from moderate to dense with little evidence of sediment deposition				
Hydrologic Peak Flows						
Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	227	290	339	407	456	505
Hydraulic Capacity of Facility						
Current Capacity				227 cfs		
Proposed MWMP Maintained Capacity				290 cfs		
Maintenance Recommendation			Trim vegetation from the bottom of the earthen ditch from Station 525 to Station 1001			
In-Stream Post-Maintenance Erosion Control Recommendation				None		

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Natural flood channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Eucalyptus woodland• Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within and adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	Noise (NOI)
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	San Diego River - Nimitz
Segment Name	Nimitz 3
Facility No.	4-01-107
Facility Location	From 1,500 feet north of the intersection of Famosa Boulevard and Nimitz Boulevard to the upstream end of Nimitz 2 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen ditch per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Trim vegetation from the bottom of the earthen ditch from Station 525 to Station 1001
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen ditch
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 476 feet Top width: 100 feet Bottom width: 7 feet Depth: 6.5 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

Authorized Facility Maintenance Area	Length: Ditch: 476 feet Width: 11 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer and/or bulldozer/track-steer enter or are lowered into ditch at access/loading area 2. Fuel powered hand tools used to trim vegetation 3. Bobcat/skid-steer and/or bulldozer/track-steer transports material to Gradall/excavator or dump truck at access/loading area 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

San Diego River - Nimitz Facility Group

Facility Maintenance Plan

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

San Diego River - Valeta Facility Group

Segment Name (Facility number):
Valeta 1 (4-01-120)



San Diego River - Valeta Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	San Diego River Unnamed Tributary (01)
Facility Group Name	San Diego River - Valeta
Segment Name (Facility Number)	Valeta 1 (4-01-120)
Substrate	Valeta 1 / Concrete
Location	Northeast of the intersection of Valeta Street and Famosa Boulevard
MMP Map No(s).	83
Facility Inspection No.	83
Other Former Names	Famosa Channel



Figure 1: Vicinity Map of San Diego River - Valeta Facility Group

San Diego River - Valeta Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11

Adopted TMDLs Bacteria Project I

Highest Priority Water Quality Condition Bacteria

San Diego River - Valeta

Beneficial Uses

- Agricultural Supply (AGR)
- Industrial Service Supply (IND)
- Contact Water Recreation (REC-1)
- Non-contact Water Recreation (REC-2)
- Warm Freshwater Habitat (WARM)
- Wildlife Habitat (WILD)
- Rare, Threatened, or Endangered Species (RARE)

303(d) listed Impairments No impairments recorded on the 303(d) List

San Diego River (First downstream water body)

Beneficial Uses

- Agricultural Supply (AGR)
- Industrial Service Supply (IND)
- Contact Water Recreation (REC-1)
- Non-contact Water Recreation (REC-2)
- Preservation of Biological Habitats of Special Significance (BIOL)
- Warm Freshwater Habitat (WARM)
- Wildlife Habitat (WILD)
- Rare, Threatened, or Endangered Species (RARE)

303(d) listed Impairments Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

San Diego River - Valeta Facility Group

Facility Maintenance Plan

Valeta Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of San Diego River unnamed tributary, upstream of the San Diego River
Tributaries (listed from downstream to upstream)	San Diego River Unnamed Tributary
Facility Length	Approximately 161 feet
Top-of-Bank Width	Approximately 19–23.9 feet
Bottom Facility Width	Approximately 2.5–7.4 feet
Facility Depth	Approximately 5.5 feet
Adjacent Land Use	Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	13550-D
Coastal Zone	CST-APP, DEF-CER



Figure 1: April 2017, looking downstream over headwall and 48-inch-diameter and 30-inch-diameter diameter RCP culvert outlet



Figure 2: Vicinity Map of Valeta Segment 1

San Diego River - Valeta Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP None

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity Moderate to dense vegetation was observed in the segment. The sediment deposition observed in the segment ranged from 2 inches to 3 feet.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	96	123	144	173	194	215

Hydraulic Capacity of Facility

Current Capacity 55 cfs

Proposed MWMP Maintained Capacity 215 cfs

Maintenance Recommendation Remove accumulated sediment, debris, and vegetation from Station 254 to Station 415

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Valeta Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">Freshwater marsh (concrete-lined)Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">Coastal sage scrubDeveloped landDisturbed landFreshwater marshRiparian forest (southern willow forest)
Habitat and Wildlife	The habitat contained within and adjacent to the facility provides potential for nesting and/or foraging of raptor and sensitive bird species, including least Bell's vireo and Ridgway's rail
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is directly downstream of the ditch within Famosa Slough.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1969 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

San Diego River - Valeta Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-1	MM-BIO-6
EP-HAZ-3	MM-BIO-7
Land Use (LU)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-LU-1	MM-HR-1
Solid Waste (SW)	MM-HR-2
EP-SW-2	Noise (NOI)
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

San Diego River - Valeta Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	San Diego River - Valeta
Segment Name	Valeta 1
Facility No.	4-01-120
Facility Location	From northeast of the intersection of Valeta Street and Famosa Boulevard to privately maintained detention basins of Famosa Slough
Coastal Zone	CST-APP, DEF-CER
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions, Hydrology and Hydraulics recommendations, and implementation of future maintenance phasing
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 254 to Station 415
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 13550-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 161 feet Top width: 19–23.9 feet Bottom width: 2.5–7.4 feet Depth: 5.5 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Valeta Facility Group

Facility Maintenance Plan

Authorized Facility Maintenance Area	Length: Ditch: 161 feet Width: 23.9 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Gradall/excavator moves along ditch bank within access/loading area 2. If feasible, Bobcat/skid-steer enters or is lowered into ditch at access/loading area 3. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 4. Gradall/excavator scoops material from ditch and loads dump truck 5. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

San Diego River - Valeta Facility Group

Facility Maintenance Plan

Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Gradall/excavator shall avoid impacts to coastal sage scrub vegetation between parking lot and ditch



Facility Maintenance Plan

San Diego River - Camino del Rio Facility Group

Segment Names (Facility numbers):

Camino del Arroyo 1 (4-03-101)

Camino del Rio 1 (4-03-103)



San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	San Diego River Unnamed Tributary (03)
Facility Group Name	San Diego River - Camino del Rio
Segment Name (Facility Number)	Camino del Arroyo 1 (4-03-101) Camino del Rio 1 (4-03-103)
Substrate	Camino del Arroyo 1 / Concrete Camino del Rio 1 / Concrete
Location	South of Camino de la Reina, north of Interstate 8 (I-8), east of Camino del Arroyo, and west of Mission Center Road
MMP Map No(s).	81, 81a
Facility Inspection No.	81, 81a
Other Former Names	Camino de la Reina and Camino del Arroyo



Figure 1: Vicinity Map of San Diego River - Camino del Rio Facility Group

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11

Adopted TMDLs	Bacteria Project I
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Highest Priority Water Quality Condition	Bacteria
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San Diego River - Camino del Rio

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
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303(d) listed Impairments	No impairments recorded on the 303(d) List
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San Diego River (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
------------------------	--

303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity
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San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Camino del Arroyo Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of San Diego River unnamed tributary immediately upstream of the San Diego River
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 642 feet
Top-of-Bank Width	Approximately 25 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Transportation
As-Built Drawing Number	12289-D, 24613-D, 7339-D & 11-133204-34 (Caltrans)
Coastal Zone	No



Figure 1: July 2017, looking downstream



Figure 2: Vicinity Map of Camino del Arroyo Segment 1

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The amount vegetation was observed to vary from light to dense within the segment and the area in front of the culvert outlet was mostly clean. Sediment deposition was estimated to range from 2 feet at the upstream end to 0.5 feet within the left outlet.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	284	355	425	473	520	591

Hydraulic Capacity of Facility

Current Capacity 440 cfs

Proposed MWMP Maintained Capacity 445 cfs

Maintenance Recommendation Remove accumulated sediment, debris, and vegetation from Station 581 to Station 1223

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Developed land• Disturbed land• Ornamental plantings• Riparian scrub (southern willow scrub; concrete-lined)
Habitat and Wildlife	Although this ditch does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the ditch extents and area of vegetation present are limited such that it is unlikely for wildlife to use the ditch for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 450 feet north of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; Pre-1964 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-5
Health and Safety/Hazards (HAZ)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HAZ-1	MM-HR-1
EP-HAZ-3	MM-HR-2
Solid Waste (SW)	Noise (NOI)
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	San Diego River - Camino del Rio
Segment Name	Camino del Arroyo 1
Facility No.	4-03-101
Facility Location	From the downstream end of Camino del Rio 1 segment to inlet of a culvert underneath the intersection of Camino del Arroyo and Camino de la Reina
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 581 to Station 1223
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 12289-D, 24613-D, 7339-D & 11-133204-34 (Caltrans)
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 642 feet Top width: 25 feet Bottom width: 4 feet Depth: 7 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Authorized Facility Maintenance Area	Length: Ditch: 642 feet Width: 25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, trash pump, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area. 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Camino del Rio Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of San Diego River unnamed tributary, immediately upstream of San Diego River unnamed tributary (Camino del Arroyo)
Tributaries (listed from downstream to upstream)	San Diego River Unnamed Tributary
Facility Length	Approximately 1,176 feet
Top-of-Bank Width	Approximately 25 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Commercial, Transportation
As-Built Drawing Number	7340-D, 7339-D, 7345-D, & 11-133204-34 (Caltrans)
Coastal Zone	No

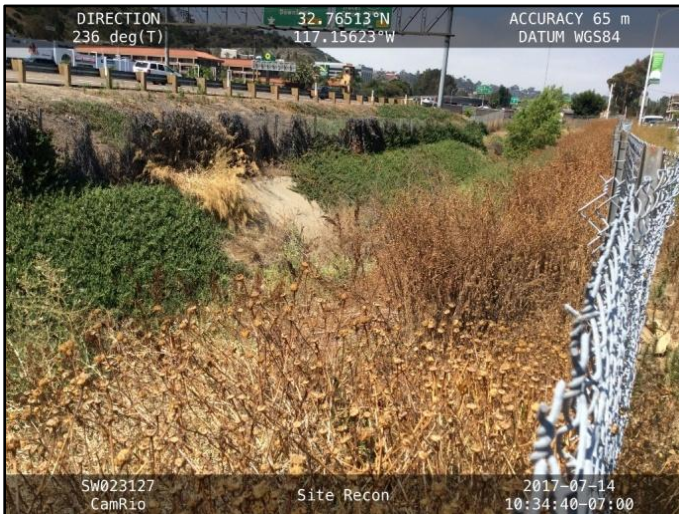


Figure 1: July 2017, looking downstream



Figure 2: Vicinity Map of Camino del Rio Segment 1

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The amount of vegetation was observed to be dense with sediment accumulation ranging from 4 feet at the upstream end to 3 feet at the downstream end. The culvert at the downstream end was estimated to have 2.5 feet of accumulated sediment.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	184	235	276	328	368	409

Hydraulic Capacity of Facility

Current Capacity 290 cfs

Proposed MWMP Maintained Capacity 330 cfs

Maintenance Recommendation Remove accumulated sediment, debris, and overgrown vegetation from Station 1380 to Station 2399.
Remove accumulated sediment and debris in culvert from Station 1223 to Station 1380.

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Developed land• Disturbed land• Ornamental plantings• Riparian scrub (southern willow scrub; concrete-lined)
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the ditch extents and area of vegetation present are limited such that it is unlikely for wildlife to use the ditch for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet south of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1961, 1966 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Solid Waste (SW)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-SW-2	MM-HR-1
EP-SW-3	MM-HR-2
EP-SW-4	Noise (NOI)
EP-SW-5	MM-NOI-1
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	San Diego River - Camino del Rio
Segment Name	Camino del Rio 1
Facility No.	4-03-103
Facility Location	From east of Mission Center Road to the upstream end of Camino del Arroyo 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and overgrown vegetation from Station 1380 to Station 2399. Remove accumulated sediment and debris in culvert from Station 1223 to Station 1380.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 7340-D, 7339-D, 7345-D, & 11-133204-34 (Caltrans)
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

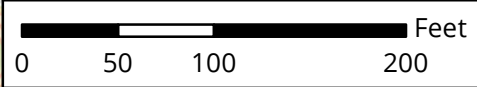
Facility Dimensions (Approximate)	Length: 1,176 feet Top width: 25 feet Bottom width: 4 feet Depth: 7 feet
Authorized Facility Maintenance Area	Length: Ditch: 1,019 feet; Culvert: 157 feet Width: 25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, sweeper
Schedule	Up to approximately 10 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

San Diego River - Camino del Rio Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert	Adjacent Facility Activity Area
Station	Access/Loading/Staging /Stockpiling Area
Facility Area	Maintenance Area

- Notes:
1. Concrete repair may occur within this facility.
 2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
 3. Access/Loading/Staging/Stockpiling may be modified during implementation.
 4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.



November 2019

Map A: General Site Plan
Facility Group Name: San Diego River - Camino del Rio
Segment Name: Camino del Rio 1
Facility No: 4-03-103
Facility Maintenance Plan
Municipal Waterways Maintenance Plan



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Murphy Canyon Creek - Stadium Facility Group

Segment Names (Facility numbers):

Stadium 1 (4-04-000)

Stadium 2 (4-04-002)

Murphy Canyon 1 (4-04-006)

Murphy Canyon 2 (4-04-008) (See
Appendix A-5)

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	Murphy Canyon Creek (04)
Facility Group Name	Murphy Canyon Creek - Stadium
Segment Name (Facility Number)	Stadium 1 (4-04-000) Stadium 2 (4-04-002) Murphy Canyon 1 (4-04-006) Murphy Canyon 2 (4-04-008) (See Appendix A-5)
Substrate	Stadium 1 / Earthen Stadium 2 / Concrete Murphy Canyon 1 / Concrete Murphy Canyon 2 / Earthen
Location	About 1,500 feet south of Stonecrest Boulevard and 850 feet north of Interstate 8 (I-8)
MMP Map No(s).	58, 58a
Facility Inspection No.	58, 58a, 300x
Other Former Names	Murphy Canyon Channel, Stadium, Tank Farms

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan



Figure 1: Vicinity Map of Murphy Canyon Creek - Stadium Facility Group

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11

Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Murphy Canyon Creek - Stadium

Beneficial Uses	<ul style="list-style-type: none"> • Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none"> • Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Stadium Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Murphy Canyon Creek, immediately upstream of the San Diego River
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,661 feet
Top-of-Bank Width	Approximately 50 feet
Bottom Facility Width	Approximately 20 feet
Facility Depth	Approximately 10–12 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Recreation, Transportation
As-Built Drawing Number	14684-L
Coastal Zone	No



Figure 1: March 2013, heavily vegetated channel bottom near the downstream end of the facility group



Figure 2: Vicinity Map of Stadium Segment 1

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2014/15: Routine maintenance conducted January 2015 – March 2019: Invasive vegetation removal conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 31 USACE File #SPL-2013-00494-MBS (expired March 2017)

401 RWQCB 401 Cert No. R9-2013-0124 (expired March 2017)

1602 CDFW SAA No. 1600-2010-0269-R5 (expires 10/31/2019)

Mitigation for Previous Impacts	Stadium (4.28 acres)
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Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity

Sediment deposition of 1 to 3 feet was found through a majority of the channel, however in one location, the sediment depths were estimated to be as high as 6 to 7 feet. Vegetation ranged from dense to moderately dense throughout the segment length. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	510	1,050	1,500	2,000	2,700	3,500

Hydraulic Capacity of Facility

Current Capacity	<510 cfs
Proposed MWMP Maintained Capacity	1,050 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 119 to Station 1780
In-Stream Post-Maintenance Erosion Control Recommendation	None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Disturbed wetland• Disturbed wetland (Arundo-dominated)• Riparian forest (southern willow forest)
Adjacent Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Developed land• Disturbed land• Disturbed wetland• Ornamental plantings• Riparian forest (southern willow forest)
Habitat and Wildlife	The channel has potential to support sensitive species and other migratory birds, such as least Bell's vireo and Ridgway's rail. This potential is especially high in the southern section due to the presence of large expanses of sensitive habitat (e.g., riparian forest [southern willow forest]) both within and downstream of the facility.
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 25 feet south of the channel within the San Diego River.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Land Use (LU)	
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Murphy Canyon Creek - Stadium
Segment Name	Stadium 1
Facility No.	4-04-000
Facility Location	From north of San Diego Mission Road bridge to 40 feet south of the Stadium Road bridge at the property line
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 119 to Station 1780
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Temporary stockpiling Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Built?	Yes; 14684-L
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 1,661 feet Top width: 50 feet Bottom width: 20 feet Depth: 10-12 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

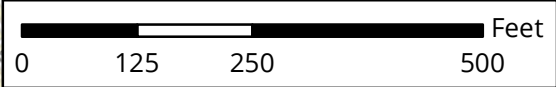
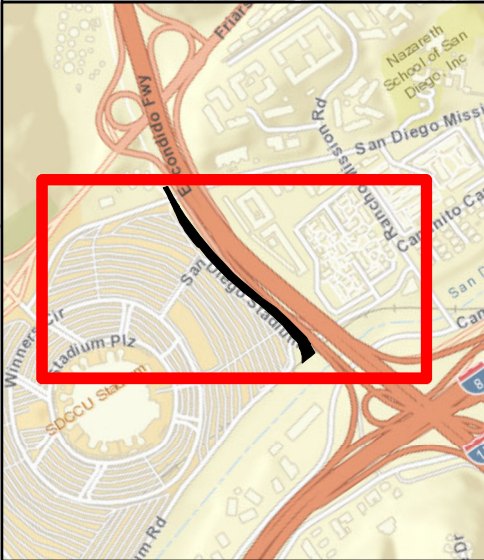
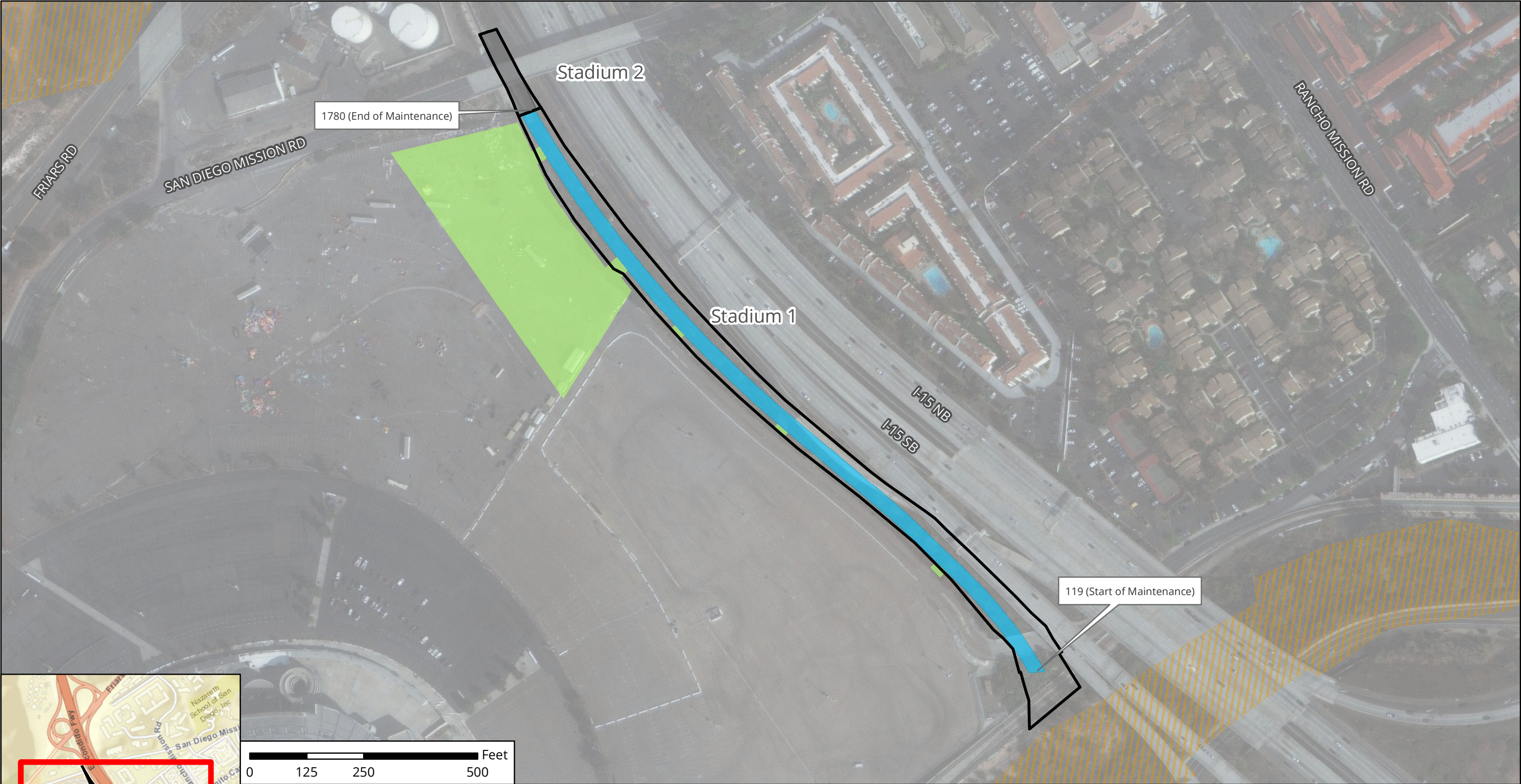
Authorized Facility Maintenance Area	Length: Channel: 1,661 feet Width: 24–32 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 90 working days
Maintenance Crew	Approximately 12–18 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bulldozer/track-steer and loader enter channel at access/loading area. 2. Bulldozer/track-steer and loader push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck short-hauls material to stockpile area 5. At staging area: loader manages stockpiles and loads dump truck 6. Dump truck hauls material to appropriate disposal facility
Traffic Control	Yes; Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Determine location of Miramar gas line in vicinity of maintenance area



Facility Area	Access/Loading/Staging /Stockpiling Area
Multi-Habitat Planning Area	Maintenance Area
Adjacent Facility	
Activity Area	



Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.



November 2019

Map A: General Site Plan
Facility Group Name: Murphy Canyon - Stadium
Segment Name: Stadium 1
Facility No: 4-04-000
Facility Maintenance Plan
Municipal Waterways Maintenance Plan



Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Stadium Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Murphy Canyon Creek, immediately upstream of Murphy Canyon Creek (Stadium Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 207 feet
Top-of-Bank Width	Approximately 40 feet
Bottom Facility Width	Approximately 20 feet
Facility Depth	Approximately 10–12 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Other Residential, Recreation, Transportation
As-Built Drawing Number	14684-L
Coastal Zone	No



Figure 1: March 2013, looking upstream near area of recommended maintenance



Figure 2: Vicinity Map of Stadium Segment 2

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2014/15: Routine maintenance conducted January 2015 – March 2019: No maintenance conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 31 USACE File #SPL-2013-00494-MBS (expired March 2017)

401 RWQCB 401 Cert No. R9-2013-0124 (expired March 2017)

1602 CDFW SAA No. 1600-2010-0269-R5 (expires 10/31/2019)

Mitigation for Previous Impacts Stadium (4.28 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity	Fairly dense vegetation was observed and sediment deposition was estimated to be 1 foot. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.
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Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	510	1,050	1,500	2,000	2,700	3,500

Hydraulic Capacity of Facility

Current Capacity	<510 cfs
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Proposed MWMP Maintained Capacity	2,700 cfs
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Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 1780 to Station 1987
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In-Stream Post-Maintenance Erosion Control Recommendation	None
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¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Developed land• Disturbed land• Disturbed wetland• Ornamental plantings
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility. However, there is potential for sensitive species, such as least Bell's vireo and Ridgway's rail, to occur in suitable habitat downstream of the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet south of the channel within the San Diego River.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1963–1974 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-5
EP-BIO-5	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-BIO-6	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
EP-HAZ-3	Noise (NOI)
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Murphy Canyon Creek - Stadium
Segment Name	Stadium 2
Facility No.	4-04-002
Facility Location	From south of San Diego Mission Road to the upstream end of Stadium 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 1780 to Station 1987
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built³	Yes; 14684-L
Substrate Detail³	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 207 feet Top width: 40 feet Bottom width: 20 feet Depth: 10-12 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

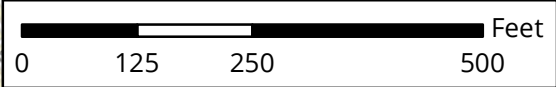
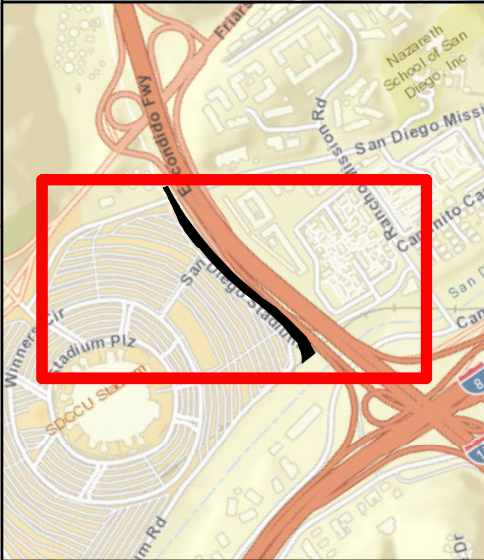
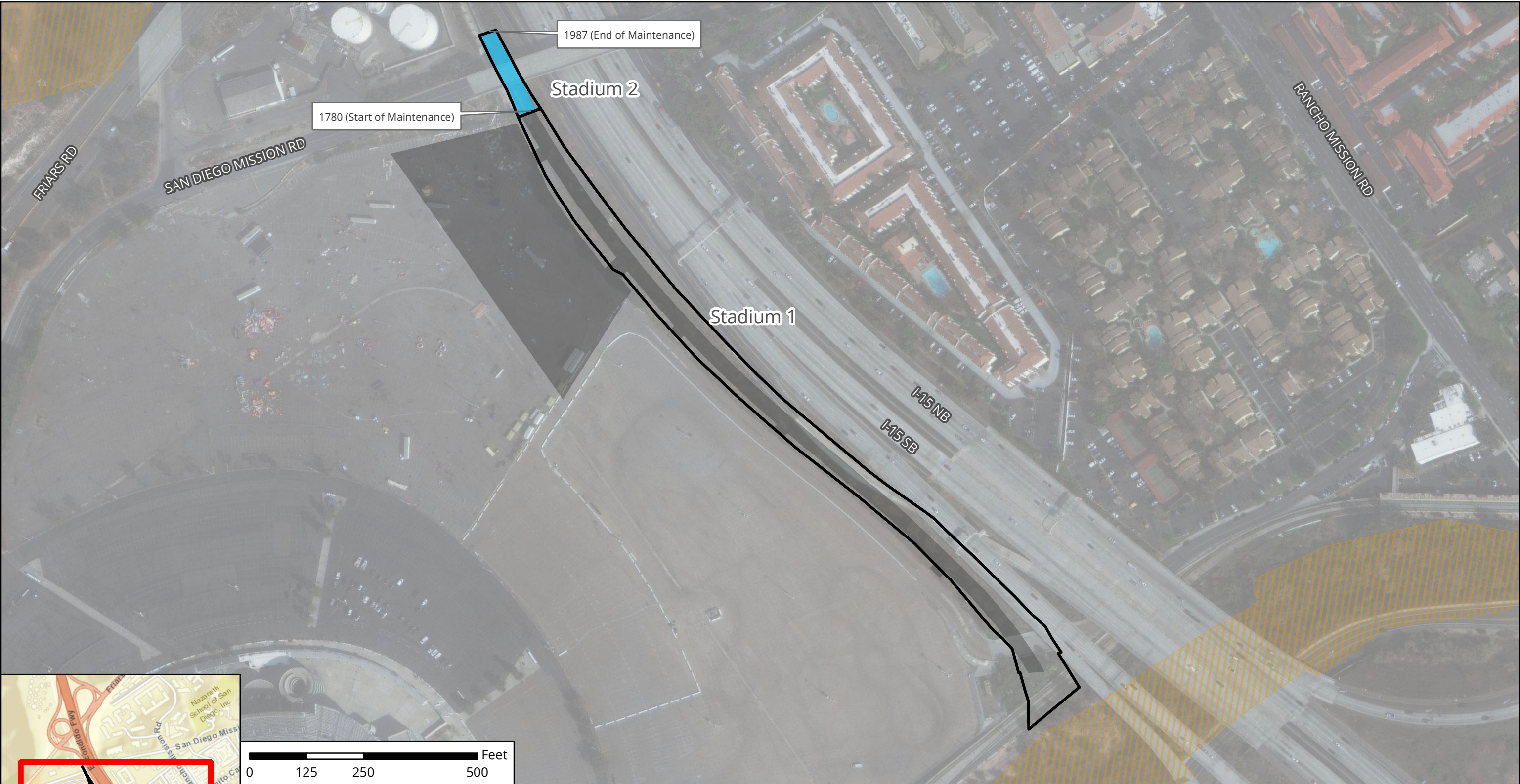
Authorized Facility Maintenance Area	Length: Channel: 207 feet Width: 40 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 12-18 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer and loader enter channel at access/loading area 2. Bobcat/skid-steer and loader push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck short-hauls material to stockpile area 5. At staging area, loader manages stockpiles and loads dump truck 6. Dump truck hauls material to appropriate disposal facility
Traffic Control	Yes; Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Miramar gas line in vicinity of maintenance area



Facility Area	Adjacent Facility Activity Area
Multi-Habitat Planning Area	Maintenance Area



Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Murphy Canyon Creek - Stadium
Segment Name: Stadium 2
Facility No: 4-04-002
Facility Maintenance Plan
Municipal Waterways Maintenance Plan



Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Murphy Canyon Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Murphy Canyon Creek, upstream of Murphy Canyon Creek (Stadium Segment 2)
Tributaries (listed from downstream to upstream)	Murphy Canyon Creek
Facility Length	Approximately 532 feet
Top-of-Bank Width	Approximately 31-56 feet
Bottom Facility Width	Approximately 10-29 feet
Facility Depth	Approximately 8-12 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Transportation
As-Built Drawing Number	14684-19-L
Coastal Zone	No



Figure 1: March 2013, looking downstream towards access road bridge near the upstream limit of concrete channel lining

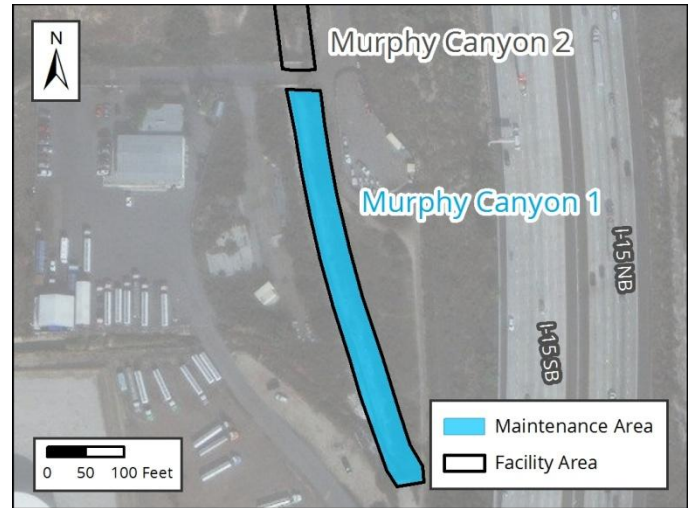


Figure 2: Vicinity Map of Murphy Canyon Segment 1

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity In March 2013, the channel was observed to have light vegetation and little to no sediment deposition throughout the segment. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	300	680	1,100	1,700	2,400	3,000

Hydraulic Capacity of Facility

Current Capacity 1,100 cfs

Proposed MWMP Maintained Capacity N/A

Maintenance Recommendation No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Disturbed wetland (concrete-lined)• Freshwater marsh (concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">• Coastal sage scrub• Developed land• Disturbed coastal sage scrub• Disturbed land• Eucalyptus woodland• Ornamental plantings• Riparian scrub (southern willow scrub)
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility itself. However, there is potential for sensitive species, such as least Bell's vireo and coastal California gnatcatcher, to occur in suitable habitat upstream or adjacent to the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 700 feet to the east of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-7
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Murphy Canyon Creek - Stadium Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Murphy Canyon Creek - Stadium
Segment Name	Murphy Canyon 1
Facility No.	4-04-006
Facility Location	From downstream end of Murphy Canyon 2 segment to inlet of culvert to the northeast of the Kinder-Morgan facility
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel, per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 14684-19-L
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 532 feet Top width: 31–56 feet Bottom width: 10–29 feet Depth: 8–12 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murphy Canyon Creek - Stadium Facility Group

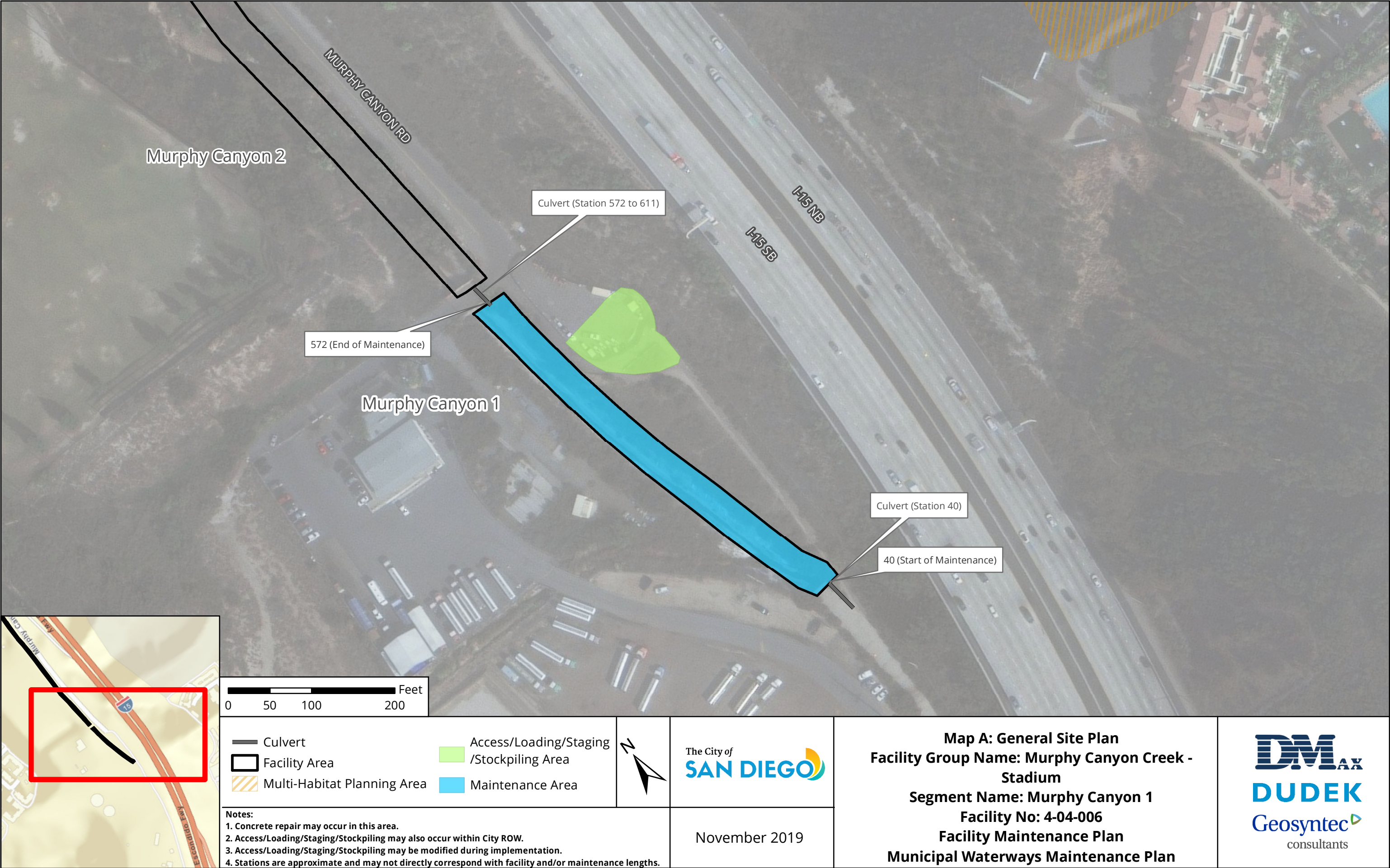
Facility Maintenance Plan

Authorized Facility Maintenance Area	Length: Channel: 532 feet Width: 31–56 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Murphy Canyon Creek - Stadium Facility Group Facility Maintenance Plan

Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Miramar gas line in vicinity of maintenance area



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Alvarado Canyon Creek - Mission Gorge Facility Group

Segment Names (Facility numbers):

Mission Gorge 1 (4-07-002)

Mission Gorge 2 (4-07-004)

Mission Gorge 3 (4-07-009)

Mission Gorge 4 (4-07-011)



Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	Alvarado Canyon Creek (07)
Facility Group Name	Alvarado Canyon Creek - Mission Gorge
Segment Name (Facility Number)	Mission Gorge 1 (4-07-002) Mission Gorge 2 (4-07-004) Mission Gorge 3 (4-07-009) Mission Gorge 4 (4-07-011)
Substrate	Mission Gorge 1 / Earthen and concrete Mission Gorge 2 / Concrete Mission Gorge 3 / Earthen and concrete Mission Gorge 4 / Concrete
Location	Starts east of Waring Road along Zephyr Lane, extends west along the north side of Interstate 8 (I-8) past Fairmount Avenue
MMP Map No(s).	59, 60, 61, 62
Facility Inspection No.	59, 60, 61, 62
Other Former Names	Alvarado Channel, Lower Alvarado, Mission Gorge Place

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan



Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11

Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Alvarado Canyon Creek - Mission Gorge

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)
303(d) listed Impairments	Nitrogen, Selenium

San Diego River (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Mission Gorge Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail	Concrete/earthen bottom, concrete and riprap banks
Location Within Watershed	Lower reach of Alvarado Canyon Creek, immediately upstream of the San Diego River
Tributaries (listed from downstream to upstream)	Alvarado Canyon Creek
Facility Length	Approximately 1,013 feet
Top-of-Bank Width	Approximately 46–59.7 feet
Bottom Facility Width	Approximately 30 feet
Facility Depth	Approximately 8–12 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Transportation
As-Built Drawing Number	21772-D, 21647-D, & I-172 (12) (Caltrans)
Coastal Zone	No



Figure 1: August 2014, looking upstream at the triple 12-foot-wide by 8-foot-tall RCB culvert beneath Fairmount Avenue

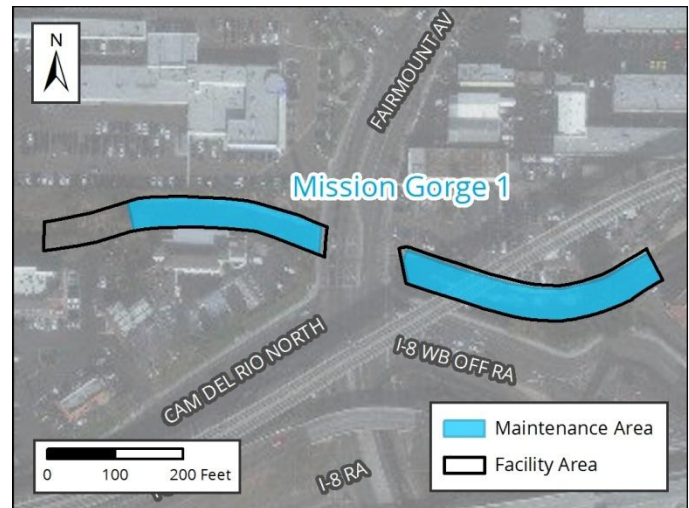


Figure 2: Vicinity Map of Mission Gorge Segment 1

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2010: Unknown
	2010 – 2011: Emergency maintenance conducted
	2011 – 2014: No maintenance conducted
	2015 – 2017: Routine maintenance and concrete repair conducted
	January 2018 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 31/33 USACE File #SPL-2015-00423-MBT (expired March 2018)

401 RWQCB 401 Cert No. R9-2015-0102 (expired March 2017)

1602 CDFW SAA No. 1600-2015-0107-R5 (expires September 2020)

Mitigation for Previous Impacts	Stadium (3.91 acres)
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Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity

Moderate to dense vegetation was observed in the channel bottom with sediment deposition ranging from 0.2 to 0.9 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	1,180	2,050	2,700	3,800	4,500	5,100

Hydraulic Capacity of Facility

Current Capacity	1,250 cfs
Proposed MWMP Maintained Capacity	1,800 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from Station 819 to Station 1156 and Station 1305 to Station 1686. Remove accumulated sediment and debris in culvert from Station 1156 to Station 1305.
In-Stream Post-Maintenance Erosion Control Recommendation	None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Freshwater marsh• Natural flood channel
Adjacent Vegetation	<ul style="list-style-type: none">• Disturbed land• Disturbed wetland• Disturbed wetland (Arundo-dominated; concrete-lined)• Developed land• Eucalyptus woodland• Ornamental plantings• Riparian forest (southern willow forest)• Riparian scrub (mulefat scrub)• Riparian scrub (southern willow scrub)
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility itself. However, there is extensive suitable habitat directly west of the western section of the channel that has high potential to support sensitive and migratory bird species, such as least Bell's vireo.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 250 feet west of the channel within the San Diego River.
Mitigation Within Facility	None

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources

Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources

Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Alvarado Canyon Creek - Mission Gorge
Segment Name	Mission Gorge 1
Facility No.	4-07-002
Facility Location	From 400 feet east of Fairmount Avenue to 300 feet downstream of outlet of culvert beneath Fairmount Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and overgrown vegetation from Station 819 to Station 1156 and Station 1305 to Station 1686. Remove accumulated sediment and debris in culvert from Station 1156 to Station 1305.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Built?	Yes; 21772-D, 21647-D, & I-172 (12) (Caltrans)
Substrate Detail	Concrete/earthen bottom, concrete and riprap banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

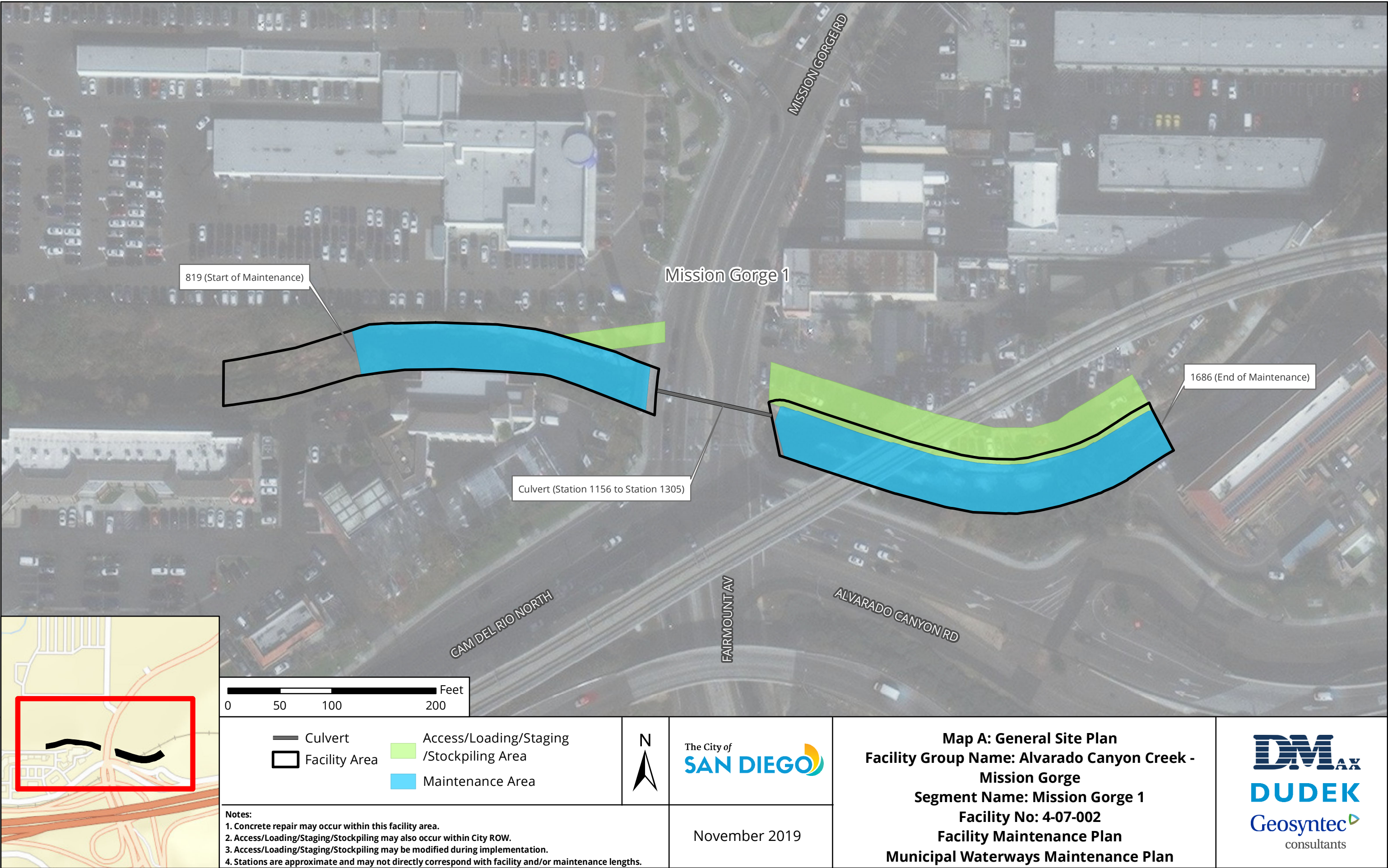
Facility Dimensions (Approximate)	Length: 1,013 feet Top width: 46–59.7 feet Bottom width: 30 feet Depth: 8–12 feet
Authorized Facility Maintenance Area	Length: Channel: 718 feet; Culvert: 149 feet Width: 46–59.7 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer, loader, and bulldozer/track-steer enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer and bulldozer/track-steer push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck. Backhoe may also be used. 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Mission Gorge Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Alvarado Canyon Creek, immediately upstream of Alvarado Canyon Creek (Segment 1)
Tributaries (listed from downstream to upstream)	Alvarado Canyon Creek
Facility Length	Approximately 521 feet
Top-of-Bank Width	Approximately 49 feet
Bottom Facility Width	Approximately 25 feet
Facility Depth	Approximately 8 feet
Adjacent Land Use	Commercial, Industrial, Transportation
As-Built Drawing Number	16540-D
Coastal Zone	No



Figure 1: August 2014, looking downstream from the south side

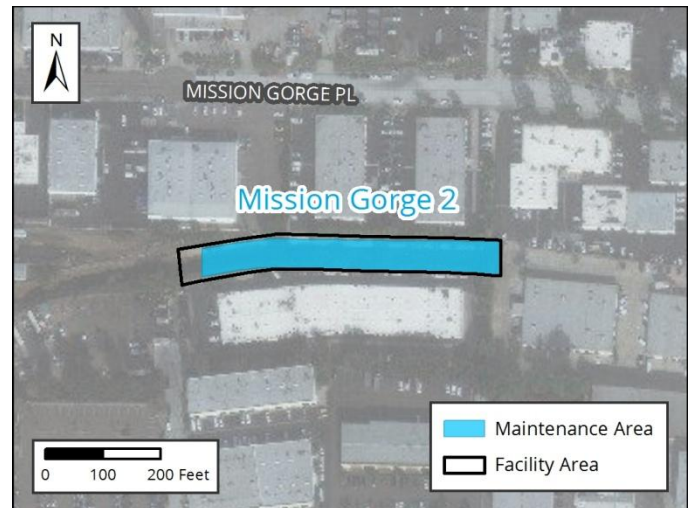


Figure 2: Vicinity Map of Mission Gorge Segment 2

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015 – 2017: Routine maintenance conducted January 2018 – March 2019: No maintenance conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 31/33 USACE File #SPL-2015-00423-MBT (expired March 2017)

401 RWQCB 401 Cert No. R9-2015-0102 (expired March 2017)

1602 CDFW SAA No. 1600-2015-0107-R5 (expires September 2020)

Mitigation for Previous Impacts Stadium (3.91 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity	The amount of vegetation in the channel bottom ranged from light to heavy and sediment accumulation varied from 0.25 to 1.1 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.
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Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	1,180	2,050	2,700	3,800	4,500	5,100

Hydraulic Capacity of Facility

Current Capacity	950 cfs
Proposed MWMP Maintained Capacity	1,300 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from Station 3006 to Station 3527
In-Stream Post-Maintenance Erosion Control Recommendation	None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">Developed concrete-lined channelDisturbed wetland (Arundo-dominated)
Adjacent Vegetation	<ul style="list-style-type: none">Developed landDisturbed wetland (Arundo-dominated)Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 940 feet south of the channel within the San Diego River.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources

Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources

Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	Noise (NOI)
EP-BIO-5	MM-NOI-1
EP-BIO-6	
Health and Safety/Hazards (HAZ)	
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Alvarado Canyon Creek - Mission Gorge
Segment Name	Mission Gorge 2
Facility No.	4-07-004
Facility Location	From outlet of culvert beneath the Mission Gorge Place commercial area 300 feet south of Mission Gorge Place to upstream end of segment owned by San Diego Metropolitan Transit Development Board
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and overgrown vegetation from Station 3006 to Station 3527
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 16540-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 521 feet Top width: 49 feet Bottom width: 25 feet Depth: 8 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

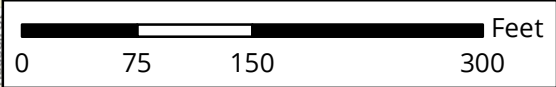
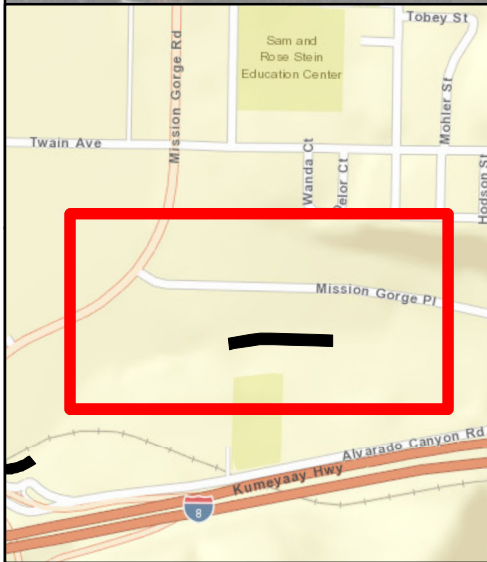
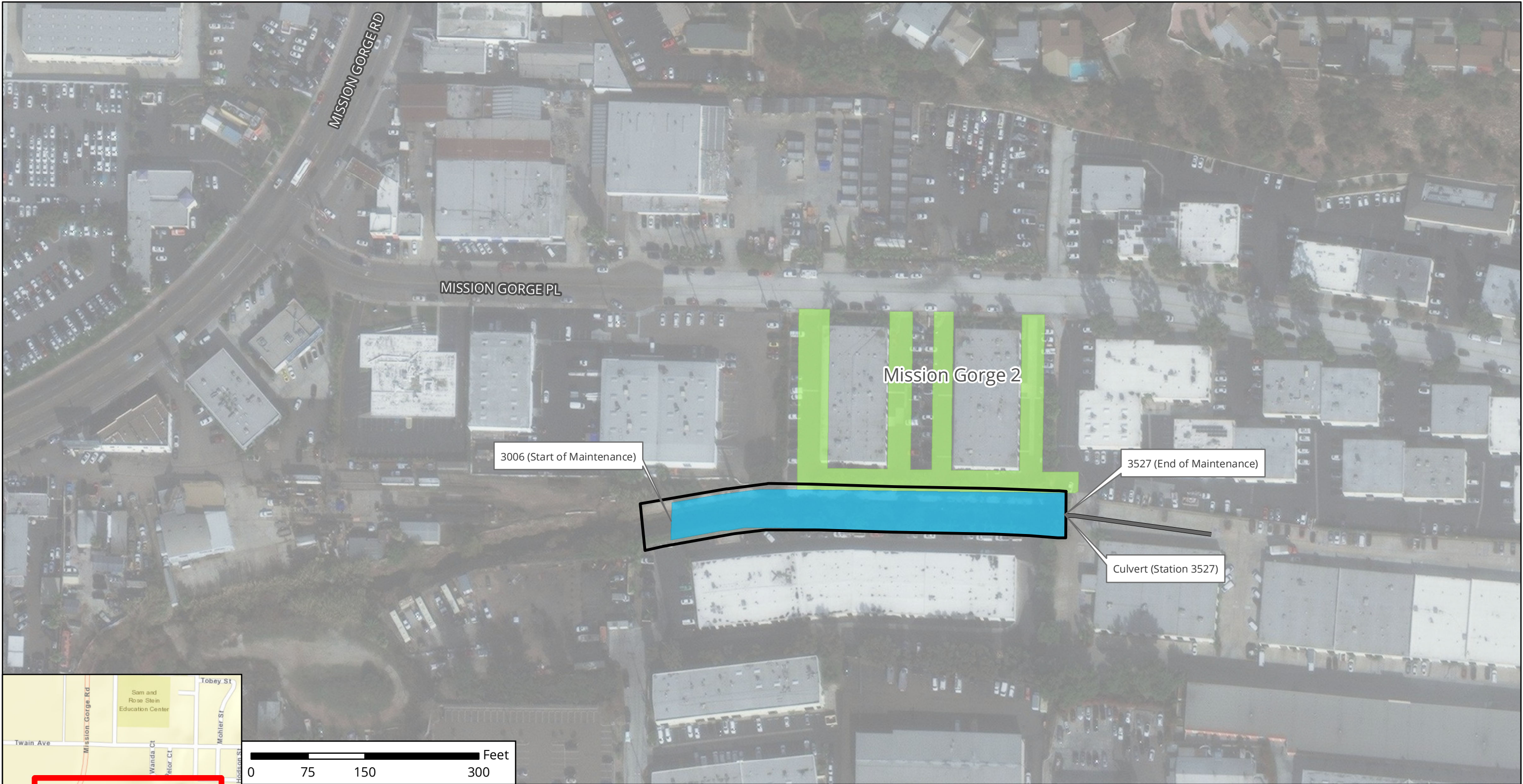
Authorized Facility Maintenance Area	Length: Channel: 521 feet Width: 49 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer and loader enter or are lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer and loader push material to Gradall/excavator at access/ loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: No <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan





³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



	Culvert
	Facility Area
	Access/Loading/Staging /Stockpiling Area
	Maintenance Area



November 2019

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

Map A: General Site Map
Facility Group Name: Alvarado Canyon Creek - Mission Gorge
Segment Name: Mission Gorge 2
Facility No: 4-07-004
Facility Maintenance Plan
Municipal Waterways Maintenance Plan



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Mission Gorge Segment 3 Detail

Facility Type	Earthen and concrete channel
Substrate Detail	Concrete/earthen bottom and concrete banks
Location Within Watershed	Lower reach of Alvarado Canyon Creek, immediately upstream of Alvarado Canyon Creek (Mission Gorge)
Tributaries (listed from downstream to upstream)	Alvarado Canyon Creek
Facility Length	Approximately 935 feet
Top-of-Bank Width	Approximately 28–68 feet
Bottom Facility Width	Approximately 28–44.5 feet
Facility Depth	Approximately 7–8.5 feet
Adjacent Land Use	Commercial, Industrial, Public Facilities and Utilities, Transportation, Vacant
As-Built Drawing Number	19862-D, Caltrans Contract No. 59-11VC12, Caltrans Contract No. 11-169664
Coastal Zone	No



Figure 1: May 2017, looking at the downstream end of segment, towards the triple 9-foot wide by 8-foot high RCB culvert beneath Mission Gorge Place



Figure 2: Vicinity Map of Mission Gorge Segment 3

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The amount of vegetation in the channel bottom ranged from light to medium, with heavy vegetation along the side slopes. Sediment accumulation within the channel was estimated to be up to 2.5 feet deep.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	1,180	2,050	2,700	3,800	4,500	5,100

Hydraulic Capacity of Facility

Current Capacity 1,956 cfs

Proposed MWMP Maintained Capacity 2,165 cfs

Maintenance Recommendation

Remove accumulated sediment, debris and overgrown vegetation from Station 4160 to Station 4345.
Trim overgrown vegetation from Station 4345 to Station 4860 within the City owned portion of the segment.
The remainder of Mission Gorge 3 is recommended to be maintained by Caltrans to remove accumulated sediment, debris and overgrown vegetation, trim overgrown vegetation, and to remove accumulated sediment and debris in the culvert.

In-Stream Post-Maintenance Erosion Control Recommendation Yes; see Appendix A-4
Location: Station to be determined

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Disturbed riparian forest (southern willow forest)• Disturbed wetland• Disturbed wetland (Arundo-dominated; concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Disturbed wetland (Arundo-dominated)• Ornamental plantings• Riparian scrub
Habitat and Wildlife	Although this channel does contain suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the channel extents and vegetation present are limited, and several of the roadways adjacent to the channel are elevated to be even with the canopy height such that it is unlikely that wildlife would use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 500 feet south of the channel across Interstate 8.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1965 concrete channel (segment under Waring Road)
Potential Historical Resources	Yes
Constraint Identified	

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Hydrology (HYD)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HYD-1	MM-HR-1
Solid Waste (SW)	MM-HR-2
EP-SW-2	Noise (NOI)
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Alvarado Canyon Creek - Mission Gorge
Segment Name	Mission Gorge 3
Facility No.	4-07-009
Facility Location	From outlet of culvert beneath Waring Road just north of Interstate 8 (I-8) to inlet of culvert beneath the Mission Gorge Place commercial area
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen and concrete channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris and overgrown vegetation from Station 4160 to Station 4345. Trim overgrown vegetation from Station 4345 to Station 4860 within the City owned portion of the segment. The remainder of Mission Gorge 3 is recommended to be maintained by Caltrans to remove accumulated sediment, debris and overgrown vegetation, trim overgrown vegetation, and to remove accumulated sediment and debris in the culvert.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

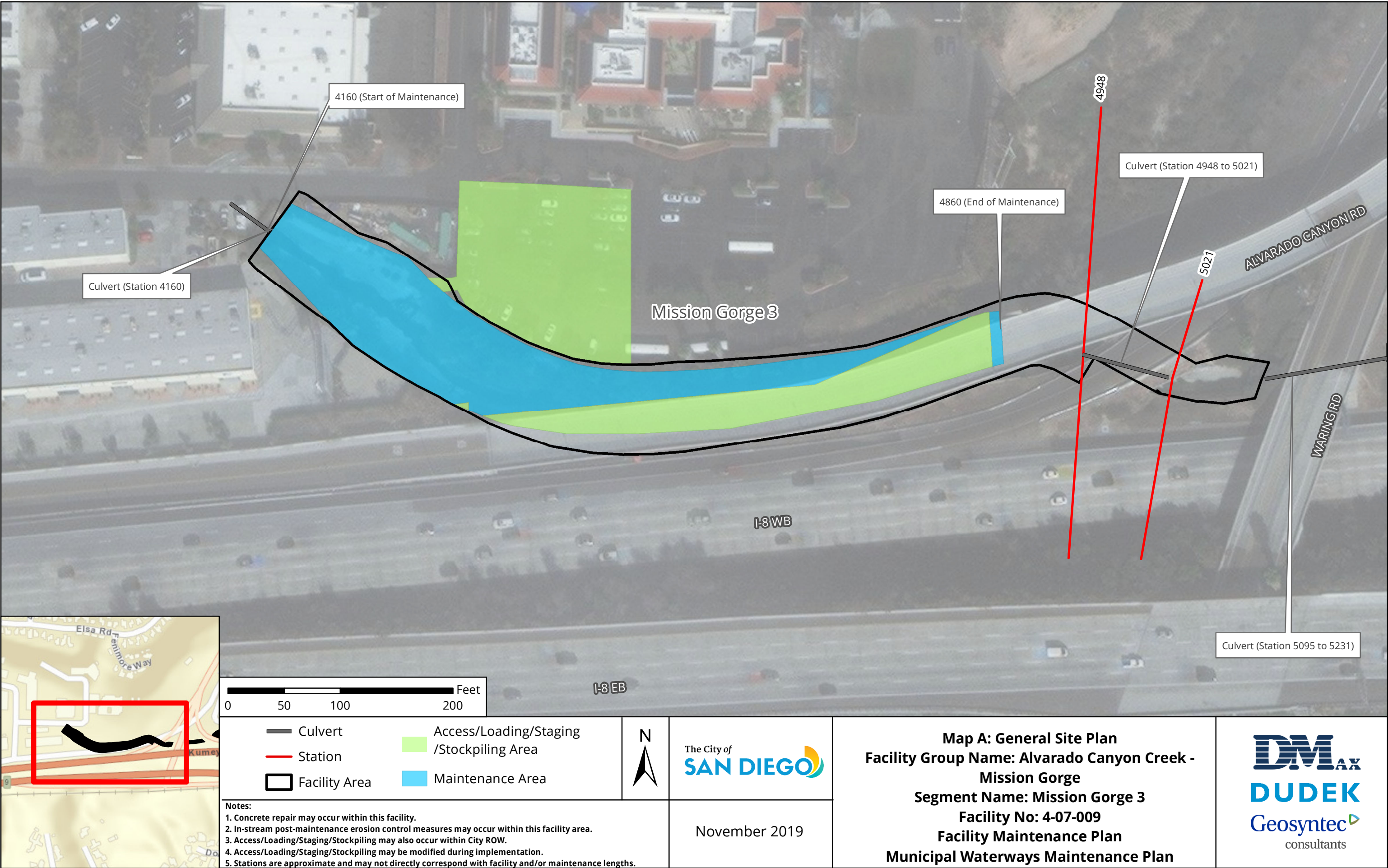
Existing Plans and/or As-Builts?	Yes; 19862-D, Caltrans Contract No. 59-11VC12, Caltrans Contract No. 11-169664
Substrate Detail	Concrete/earthen bottom and concrete banks
Facility Dimensions (Approximate)	Length: 935 feet Top width: 28–68 feet Bottom width: 28–44.5 feet Depth: 7–8.5 feet
Authorized Facility Maintenance Area	Length: Channel: 700 feet Width: 28–68 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 60 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer, bulldozer/track-steer, and two loaders enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer, bulldozer/track-steer, and loaders push/scoop material and transport to Gradall/excavator at access/loading area 3. Gradall/excavator scoop material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Mission Gorge Segment 4 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Alvarado Canyon Creek, immediately upstream of Alvarado Canyon Creek (Segment 2)
Tributaries (listed from downstream to upstream)	Alvarado Canyon Creek
Facility Length	Approximately 1,501 feet
Top-of-Bank Width	Approximately 28–46 feet
Bottom Facility Width	Approximately 10–33 feet
Facility Depth	Approximately 5.5–10 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Transportation, Vacant
As-Built Drawing Number	12840-D, 14592-D, Caltrans Contract No. 59-11VC12, Caltrans Contract No. 11-169664
Coastal Zone	No

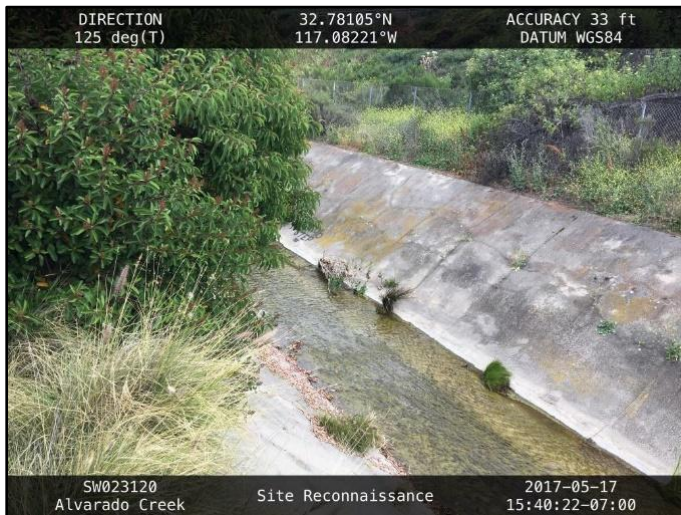


Figure 1: May 2017, looking downstream from the upstream end

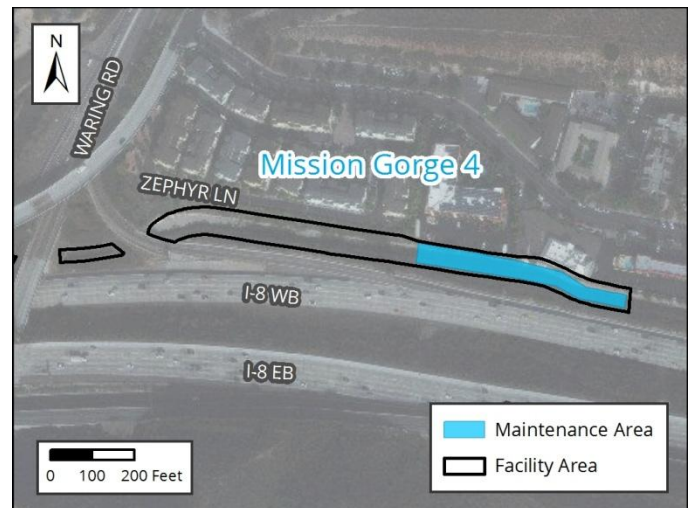


Figure 2: Vicinity Map of Mission Gorge Segment 4

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The amount of vegetation in the channel bottom ranged from light to medium, with heavy vegetation along the side slopes. Sediment accumulation within the channel was estimated to be up to 2.5 feet deep.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	1,180	2,050	2,700	3,800	4,500	5,100

Hydraulic Capacity of Facility

Current Capacity 2,540 cfs

Proposed MWMP Maintained Capacity 2,837 cfs

Maintenance Recommendation

Remove accumulated sediment, debris and overgrown vegetation from Station 6081 to Station 6596.
The remainder of Mission Gorge 4 is recommended to be maintained by the private property owners and Caltrans to remove accumulated sediment, debris and overgrown vegetation from the channel and culverts.

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Coastal sage scrub• Developed land• Disturbed land• Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife; however, coastal sage scrub habitat, suitable for coastal California gnatcatcher, is present in areas adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 350 feet north of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1965 concrete channel (segment under Waring Road)
Potential Historical Resources	Yes
Constraint Identified	

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-BIO-6	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
EP-HAZ-3	Noise (NOI)
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Alvarado Canyon Creek - Mission Gorge
Segment Name	Mission Gorge 4
Facility No.	4-07-011
Facility Location	From 1300 feet east of Waring Road, along Zephyr Lane and the north side of Interstate 8 (I-8), to inlet of culvert beneath Waring Road just north of Interstate 8 (I-8)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris and overgrown vegetation from Station 6081 to Station 6596. The remainder of Mission Gorge 4 is recommended to be maintained by the private property owners and Caltrans to remove accumulated sediment, debris and overgrown vegetation from the channel and culverts.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 12840-D, 14592-D, Caltrans Contract No. 59-11VC12, Caltrans Contract No. 11-169664
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

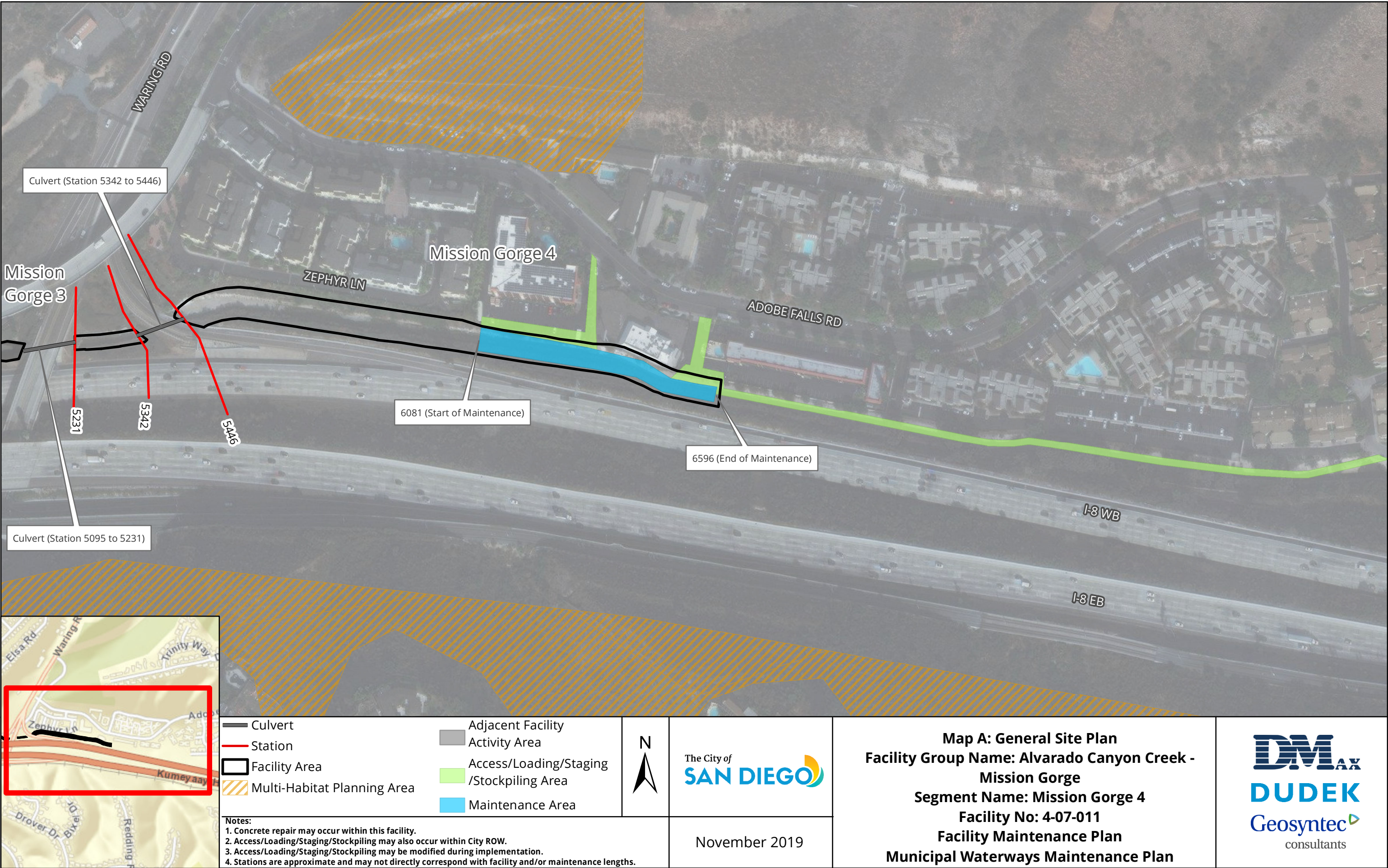
Facility Dimensions (Approximate)	Length: 1,501 feet Top width: 28–46 feet Bottom width: 10–33 feet Depth: 5.5–10 feet
Authorized Facility Maintenance Area	Length: Channel: 515 feet Width: 28–46 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Alvarado Canyon Creek - Mission Gorge Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Alvarado Canyon Creek - Alvarado Facility Group

Segment Names (Facility numbers):

Alvarado 1 (4-07-021)

Alvarado 2 (4-07-023)

Alvarado 3 (4-07-250)

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	Alvarado Canyon Creek (07)
Facility Group Name	Alvarado Canyon Creek - Alvarado
Segment Name (Facility Number)	Alvarado 1 (4-07-021) Alvarado 2 (4-07-023) Alvarado 3 (4-07-250)
Substrate	Alvarado 1 / Earthen and concrete Alvarado 2 / Concrete Alvarado 3 / Concrete
Location	Located south of Alvarado Road, north of Cleo Street, west of Reservoir Drive, and east of Brockbank Place
MMP Map No(s).	64
Facility Inspection No.	63, 64
Other Former Names	Upper Alvarado Channel



Figure 1: Vicinity Map of Alvarado Canyon Creek - Alvarado Facility Group

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11

Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Alvarado Canyon Creek - Alvarado

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)
303(d) listed Impairments	Nitrogen, Selenium

San Diego River (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved, Phosphorus, Total Dissolved Solids, Toxicity

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Alvarado Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail¹	Stations 2335-3419: Earthen bottom, concrete right bank, and earthen left bank
Location Within Watershed	Upper reach of Alvarado Canyon Creek, upstream of Alvarado Canyon Creek (Mission Gorge Segment 4)
Tributaries (listed from downstream to upstream)	Murray Reservoir Unnamed Tributary
Facility Length	Approximately 1,102 feet
Top-of-Bank Width	Approximately 37 feet
Bottom Facility Width	Approximately 19 feet
Facility Depth	Approximately 9 feet
Adjacent Land Use	Commercial, Open Space, Other Residential, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	13526-D
Coastal Zone	No



Figure 1: August 2014, from east side of channel, directly upstream of State of California maintenance boundary, looking downstream



Figure 2: Vicinity Map of Alvarado Segment 1

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown
	2011 – 2014: No maintenance conducted
	2015 – 2016: Routine maintenance conducted
	January 2017 – March 2019: No maintenance conducted, except removal of debris fence

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 18/31/33 USACE File #SPL-2015-00423-MBT (expired March 2018)

401 RWQCB 401 Cert No. R9-2015-0102 (expired March 2018)

1602 CDFW SAA No. 1600-2015-0107-R5 (expires 2020)

Mitigation for Previous Impacts	Stadium (3.91 acres)
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Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.²

Current Conditions Affecting Facility Capacity

In August 2014, the amount of vegetation was observed to range from light to moderate, and sediment deposition was estimated to range from 0.2 to 1.7 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	1,000	1,700	2,100	2,558	3,400	3,900

Hydraulic Capacity of Facility

Current Capacity	1,700 cfs
Proposed MWMP Maintained Capacity	<3,400 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 2317 to Station 3419. Previously designed post-maintenance erosion control measure at Station 2335 to be installed and maintained as necessary.
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station 2537

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Natural flood channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Ornamental plantings• Riparian forest (southern willow forest)
Habitat and Wildlife	Although the channel is intersected by the Multi Habitat Planning Area (MHPA), there are limited biological resources suitable for sensitive species use within the facility itself. Upstream of the facility there is suitable habitat (e.g., riparian forest [southern willow forest]) for least Bell's vireo.
MHPA	The Multi Habitat Planning Area (MHPA) boundary intersects the channel limits and extends south of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Hydrology (HYD)	
EP-HYD-1	
Land Use (LU)	
EP-LU-1	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Alvarado Canyon Creek - Alvarado
Segment Name	Alvarado 1
Facility No.	4-07-021
Facility Location	From downstream end of Alvarado 2 segment to 15 feet north of sewer lateral over the channel on the 6300 block of Alvarado Court
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel immediately upstream of State of California property per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation³	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 2317 to Station 3419. Previously designed post-maintenance erosion control measure at Station 2335 to be installed and maintained as necessary.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Built?	Yes; 13526-D
Substrate Detail³	Stations 2335-3419: Earthen bottom, concrete right bank, and earthen left bank

³ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

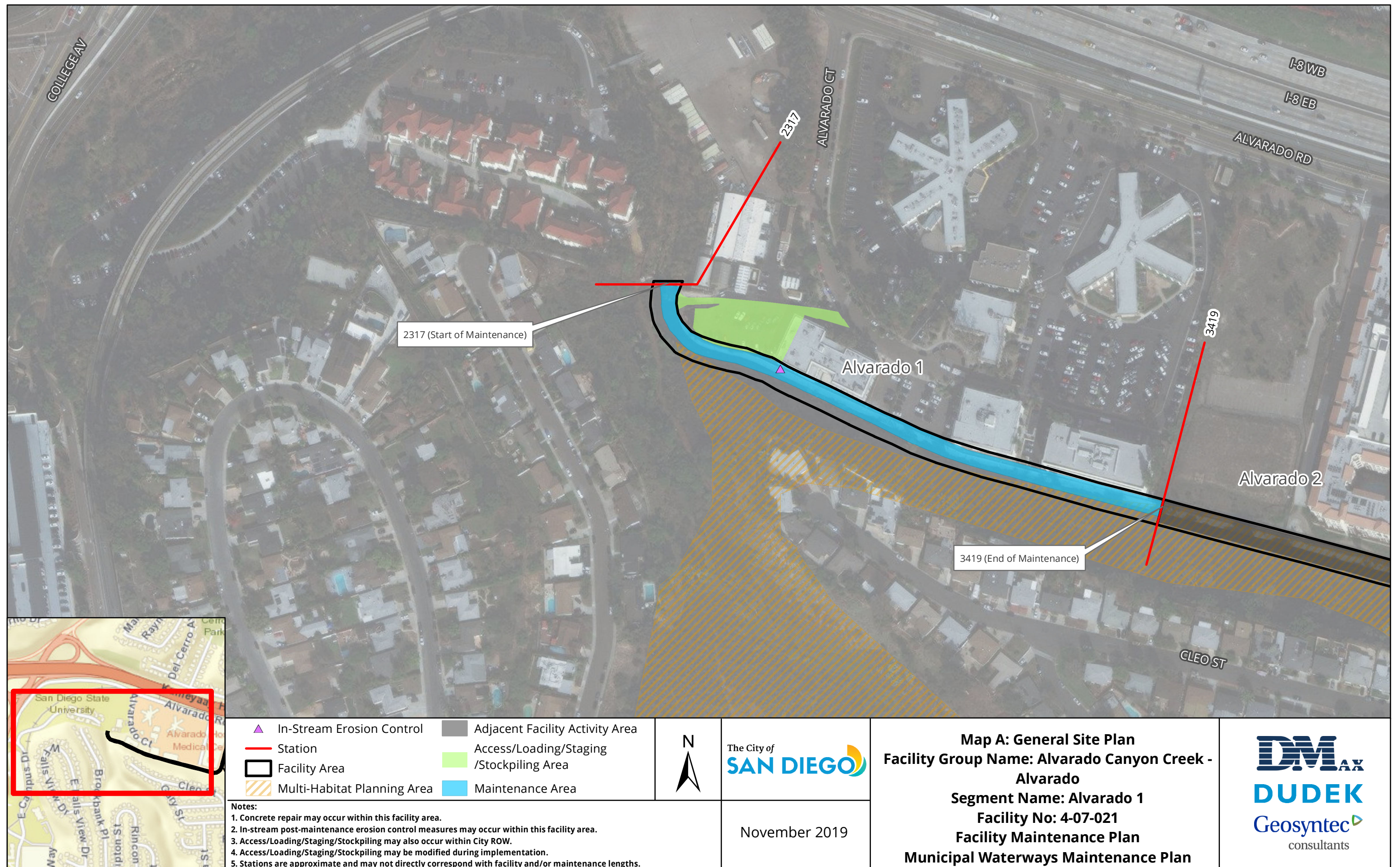
Facility Dimensions (Approximate)	Length: 1,102 feet Top width: 37 feet Bottom width: 19 feet Depth: 9 feet
Authorized Facility Maintenance Area	Length: Channel: 1,102 feet Width: 29 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 20 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer, bulldozer/track-steer and/or loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer and/or bulldozer/track-steer pushes material to loader. Loader scoops up materials from channel and loads onto dump truck. 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species⁴:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

⁴ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station 2537
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Alvarado Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Alvarado Canyon Creek, upstream of Alvarado Canyon Creek (Alvarado Segment 1)
Tributaries (listed from downstream to upstream)	Murray Reservoir Unnamed Tributary
Facility Length	Approximately 1,192 feet
Top-of-Bank Width	Approximately 37 feet
Bottom Facility Width	Approximately 19 feet
Facility Depth	Approximately 9 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	59-11vc12 (Caltrans), 12897-7-D, & 12897-2-D
Coastal Zone	No



Figure 1: August 2014, from north side of the channel within 100% concrete portion of channel at 90-degree bend, looking downstream



Figure 2: Vicinity Map of Alvarado Segment 2

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity In August 2014, the channel was relatively clean with very little evidence of vegetation or sediment deposition. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	1,000	1,700	2,100	2,558	3,400	3,900

Hydraulic Capacity of Facility

Current Capacity 3,900 cfs

Proposed MWMP Maintained Capacity N/A

Maintenance Recommendation No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Ornamental plantings
Habitat and Wildlife	Although the channel is intersected by the Multi-Habitat Planning Area (MHPA), there are limited biological resources suitable for sensitive species use within the facility
MHPA	The Multi Habitat Planning Area (MHPA) boundary intersects the channel limits and extends south of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Land Use (LU)	
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Alvarado Canyon Creek - Alvarado
Segment Name	Alvarado 2
Facility No.	4-07-023
Facility Location	From immediately south of Alvarado Road to upstream end of Alvarado 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 59-11vc12 (Caltrans), 12897-7-D, & 12897-2-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,192 feet Top width: 37 feet Bottom width: 19 feet Depth: 9 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

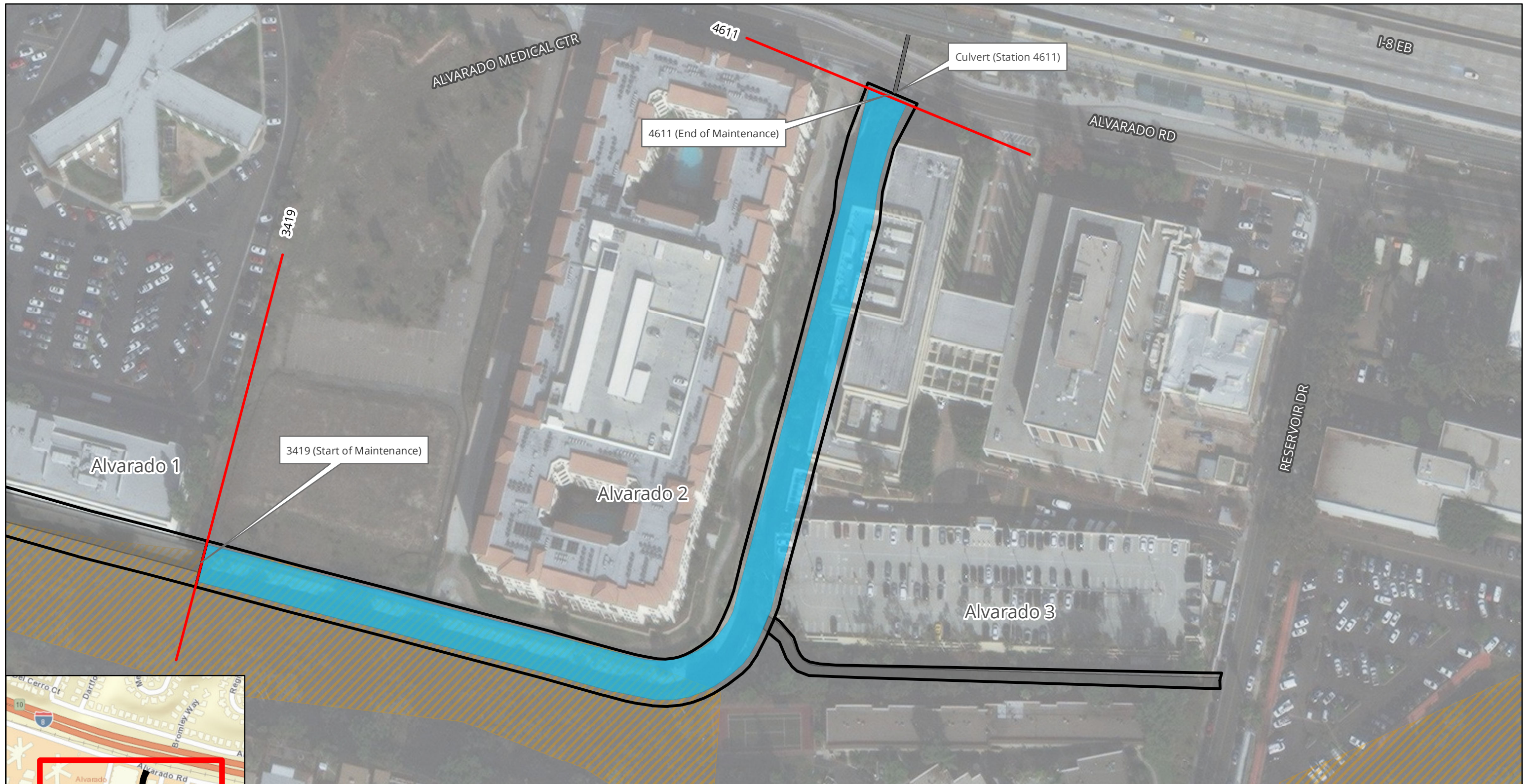
Authorized Facility Maintenance Area	Length: Channel: 1,192 feet Width: 33–37 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 20 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to loader at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



- | | |
|-------------------------------|-----------------------------------|
| — Culvert | ■ Adjacent Facility Activity Area |
| — Station | ■ Maintenance Area |
| □ Facility Area | |
| ▨ Multi-Habitat Planning Area | |

- Notes:**
1. Concrete repair may occur within this facility.
 2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
 3. Access/Loading/Staging/Stockpiling may be modified during implementation.
 4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.



The City of
SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Alvarado Canyon Creek - Alvarado
Segment Name: Alvarado 2
Facility No: 4-07-023
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DM_{AX}
DUDEK
Geosyntec
consultants

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Alvarado Segment 3 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Alvarado Canyon Creek, upstream of Alvarado Canyon Creek (Alvarado Segment 2)
Tributaries (listed from downstream to upstream)	Murray Reservoir Unnamed Tributary
Facility Length	Approximately 517 feet
Top-of-Bank Width	Approximately 9–12.5 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 4–4.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	59-11vc12 (Caltrans) & 12897-7-D
Coastal Zone	No



Figure 1: September 2017, facing the upstream end of the segment, at the location of the recent concrete lining repair work

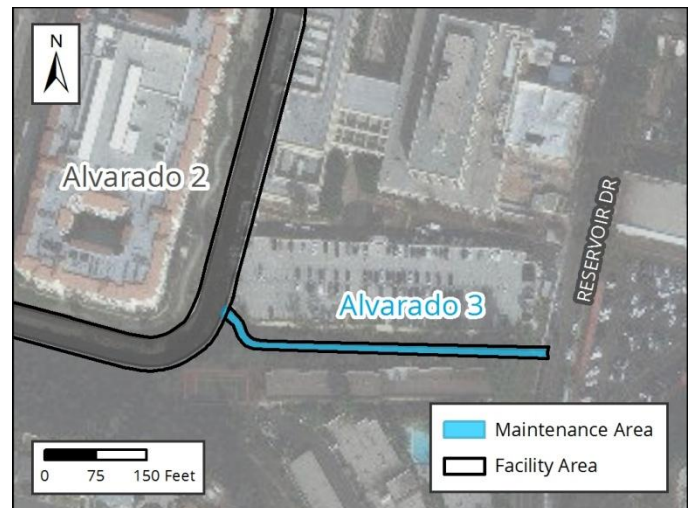


Figure 2: Vicinity Map of Alvarado Segment 3

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2015: No maintenance conducted 2016: Minor maintenance conducted (hand removal of sediment) 2018: Concrete repair conducted January 2019 – March 2019: No maintenance conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity	The ditch was relatively clean with very little evidence of vegetation or sediment deposition
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Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	239	305	358	433	488	544

Hydraulic Capacity of Facility

Current Capacity	426 cfs
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Proposed MWMP Maintained Capacity	N/A
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Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
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In-Stream Post-Maintenance Erosion Control Recommendation	None
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¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Disturbed land• Ornamental planting
Habitat and Wildlife	Although the ditch is intersected by the Multi-Habitat Planning Area (MHPA), there are limited biological resources suitable for sensitive species use within the facility
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 80 feet to the southwest of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Land Use (LU)	
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Alvarado Canyon Creek - Alvarado
Segment Name	Alvarado 3
Facility No.	4-07-250
Facility Location	From west of Reservoir Drive and south of Alvarado Road to Alvarado 2 segment between Station 3913 and Station 4057
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 59-11vc12 (Caltrans) & 12897-7-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 517 feet Top width: 9–12.5 feet Bottom width: 4 feet Depth: 4–4.5 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

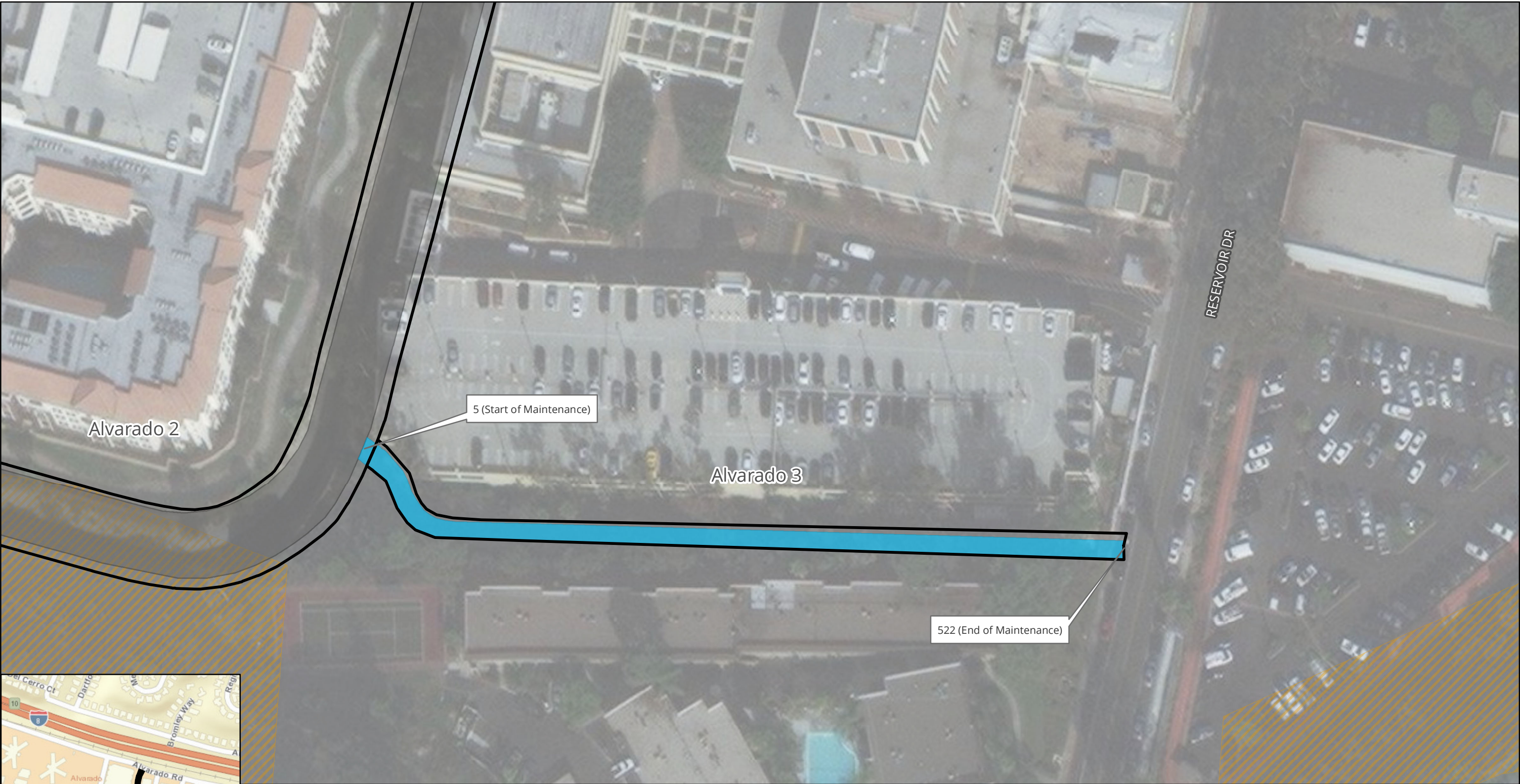
Authorized Facility Maintenance Area	Length: Ditch: 517 feet Width: 9–12.5 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, sweeper
Schedule	Up to approximately 20 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedures
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Alvarado Canyon Creek - Alvarado Facility Group

Facility Maintenance Plan

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



- | | |
|-----------------------------|---------------------------------|
| Facility Area | Adjacent Facility Activity Area |
| Multi-Habitat Planning Area | Maintenance Area |



The City of
SAN DIEGO

- Notes:**
- 1. Concrete repair may occur within this facility.
 - 2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
 - 3. Access/Loading/Staging/Stockpiling may be modified during implementation.
 - 4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Alvarado Canyon Creek - Alvarado
Segment Name: Alvarado 3
Facility No: 4-07-250
Facility Maintenance Plan
Municipal Waterways Maintenance Plan



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Murray Reservoir - Cowles Mountain Facility Group

Segment Names (Facility numbers):

Cowles Mountain 1 (4-07-901)

Cowles Mountain 2 (4-07-911)



Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	Murray Reservoir Unnamed Tributary (07)
Facility Group Name	Murray Reservoir - Cowles Mountain
Segment Name (Facility Number)	Cowles Mountain 1 (4-07-901) Cowles Mountain 2 (4-07-911)
Substrate	Cowles Mountain 1 / Concrete Cowles Mountain 2 / Concrete
Location	Southeast of the intersection of Navajo Road and Cowles Mountain Boulevard, and about 100 feet north of Lake Cayuga Drive
MMP Map No(s).	53, 54 amended
Facility Inspection No.	53, 54 amended
Other Former Names	Beaver Lake, San Carlos, Cowles Mountain Channel, Lake Badin, Golf Course



Figure 1: Vicinity Map of Murray Reservoir - Cowles Mountain Facility Group

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11

Adopted TMDLs	Bacteria Project I
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Highest Priority Water Quality Condition	Bacteria
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Murray Reservoir - Cowles Mountain

Beneficial Uses

303(d) listed Impairments	No impairments recorded on the 303(d) List
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Lake Murray (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Municipal and Domestic Supply (MUN)• Industrial Service Supply (IND)• Hydropower Generation (POW)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Cold Freshwater Habitat (COLD)• Wildlife Habitat (WILD)
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303(d) listed Impairments	Nitrogen, pH
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Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Cowles Mountain Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail ¹	Concrete bottom and banks
Location Within Watershed	Upper reach of unnamed tributary to Murray Reservoir, north of Murray Reservoir unnamed tributary (Cowles Mountain Segment 2)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 697 feet
Top-of-Bank Width	Approximately 9.5–22 feet
Bottom Facility Width	Approximately 5 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	10721-D
Coastal Zone	No



Figure 1: October 2018, upstream of culvert

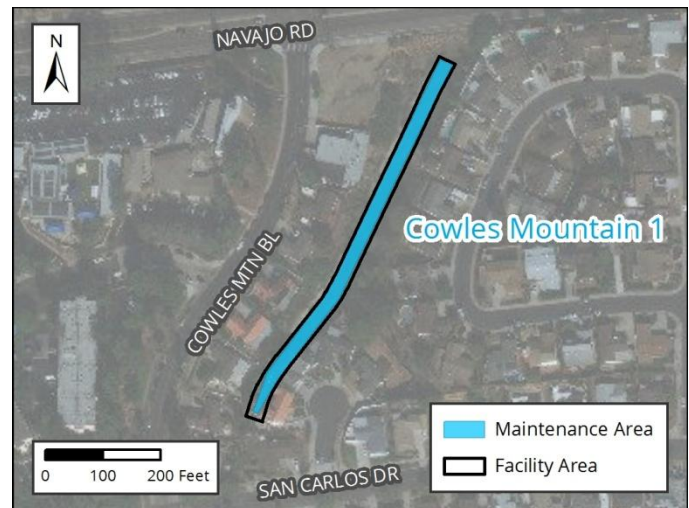


Figure 2: Vicinity Map of Cowles Mountain Segment 1

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2017: No maintenance conducted 2018: Minor maintenance 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.²

Current Conditions Affecting Facility Capacity		In November 2014, the vegetation was observed to vary from light to heavy as well as sections of clean concrete to approximately 0.5 foot of sediment				
Hydrologic Peak Flows						
Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	355	457	537	645	729	812
Hydraulic Capacity of Facility						
Current Capacity				317 cfs		
Proposed MWMP Maintained Capacity				340 cfs		
Maintenance Recommendation			Remove accumulated sediment, debris, and vegetation from bottom of the ditch from Station 709 to Station 1406. Remove accumulated sediment and debris in culverts at Station 709 and at Station 1406.			
In-Stream Post-Maintenance Erosion Control Recommendation				None		

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Ornamental plantings• Riparian scrub
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1963 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
Solid Waste (SW)	MM-HR-1
EP-SW-2	MM-HR-2
EP-SW-3	Noise (NOI)
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Murray Reservoir - Cowles Mountain
Segment Name	Cowles Mountain 1
Facility No.	4-07-901
Facility Location	From outlet of culvert underneath Navajo Road to inlet of culvert behind residences at the intersection of Cowles Mountain Boulevard and San Carlos Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch, per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation³	Remove accumulated sediment, debris, and vegetation from bottom of the ditch from Station 709 to Station 1406. Remove accumulated sediment and debris in culverts at Station 709 and at Station 1406.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 10721-D
Substrate Detail	Concrete bottom and banks

³ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Facility Dimensions (Approximate)	Length: 697 feet Top width: 9.5–22 feet Bottom width: 5 feet Depth: 6 feet
Authorized Facility Maintenance Area	Length: Ditch: 697 feet Width: 9.5–22 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species⁴:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: No <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

⁴ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Cowles Mountain Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of unnamed tributary to Murray Reservoir
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 2,891 feet
Top-of-Bank Width	Approximately 22-38 feet
Bottom Facility Width	Approximately 5-11 feet
Facility Depth	Approximately 4-6 feet
Adjacent Land Use	Parks, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	9741-9-D & 9741-10-D
Coastal Zone	No



Figure 1: December 2016, above inlet culvert on the Boulder Lake end of channel



Figure 2: Vicinity Map of Cowles Mountain Segment 2

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2013: No maintenance conducted 2014/2015: Emergency removal of debris, sediment, and vegetation 2018: Minor maintenance conducted 2019: No maintenance conducted
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Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891; EIR Addendum

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts Stadium (0.036 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity	In November 2014, the vegetation was observed to vary from light to heavy as well as section of clean concrete to approximately 2.5 feet of sediment
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Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	284	365	429	517	583	649

Hydraulic Capacity of Facility

Current Capacity	148 cfs
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Proposed MWMP Maintained Capacity	272 cfs
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Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the channel from Station 0 to Station 209, Station 785 to Station 1735 and from Station 1855 to Station 2891. Remove accumulated sediment and debris in culverts from Station 209 to Station 785 and from Station 1735 to Station 1855.
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In-Stream Post-Maintenance Erosion Control Recommendation	None
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¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Developed land• Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1963 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HAZ-3	MM-HR-1
Solid Waste (SW)	MM-HR-2
EP-SW-2	Noise (NOI)
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Murray Reservoir - Cowles Mountain
Segment Name	Cowles Mountain 2
Facility No.	4-07-911
Facility Location	From outlet of culvert 100 feet east of Boulder Lake Avenue to San Carlos Golf Course
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from the channel from Station 0 to Station 209, Station 785 to Station 1735 and from Station 1855 to Station 2891. Remove accumulated sediment and debris in culverts from Station 209 to Station 785 and from Station 1735 to Station 1855.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 9741-9-D & 9741-10-D
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Facility Dimensions (Approximate)	Length: 2,891 feet Top width: 22–38 feet Bottom width: 5–11 feet Depth: 4–6 feet
Authorized Facility Maintenance Area	Length: Channel: 2,195 feet; Culvert: 696 feet Width: 22–38 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into channel with assistance from Gradall/excavator at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: No 2. Adjacent to maintenance area: No <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Murray Reservoir - Cowles Mountain Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Norfolk Canyon Creek - Fairmount Facility Group

Segment Names (Facility numbers):

Fairmount 1 (4-08-008)

Fairmount 2 (4-08-011)

Fairmount 3 (4-08-014)

Fairmount 4 (4-08-017)

Baja 1 (4-08-105)

Aldine 1 (4-08-150) (See Appendix
A-5)

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	Norfolk Canyon Creek (08)
Facility Group Name	Norfolk Canyon Creek - Fairmount
Segment Name (Facility Number)	Fairmount 1 (4-08-008) Fairmount 2 (4-08-011) Fairmount 3 (4-08-014) Fairmount 4 (4-08-017) Baja 1 (4-08-105) Aldine 1 (4-08-150) (See Appendix A-5)
Substrate	Fairmount 1 / Concrete Fairmount 2 / Concrete Fairmount 3 / Earthen Fairmount 4 / Concrete Baja 1 / Earthen and concrete Aldine 1 / Earthen
Location	Runs parallel to the west side of Fairmount Avenue from about 900 feet north of the intersection of Meade Avenue and Fairmount Avenue, and the Aldine Drive-Fairmount Avenue interchange
MMP Map No(s).	65a, 65b, 65c, 66
Facility Inspection No.	65a, 65b, 65c, 66
Other Former Names	Fairmount Canyon, Montezuma Channel

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan



Figure 1: Vicinity Map of Norfolk Canyon Creek - Fairmount Facility Group

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11

Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Norfolk Canyon Creek - Fairmount

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)

Beneficial Uses	<ul style="list-style-type: none">• Agricultural Supply (AGR)• Industrial Service Supply (IND)• Contact Water Recreation (REC-1)• Non-contact Water Recreation (REC-2)• Preservation of Biological Habitats of Special Significance (BIOL)• Warm Freshwater Habitat (WARM)• Wildlife Habitat (WILD)• Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Fairmount Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Norfolk Canyon Creek, upstream of the San Diego River
Tributaries (listed from downstream to upstream)	Norfolk Canyon Creek
Facility Length	Approximately 248 feet
Top-of-Bank Width	Approximately 25 feet
Bottom Facility Width	Approximately 10 feet
Facility Depth	Approximately 5 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	6928-D & 6948-D
Coastal Zone	No



Figure 1: April 2017, looking downstream at concrete channel

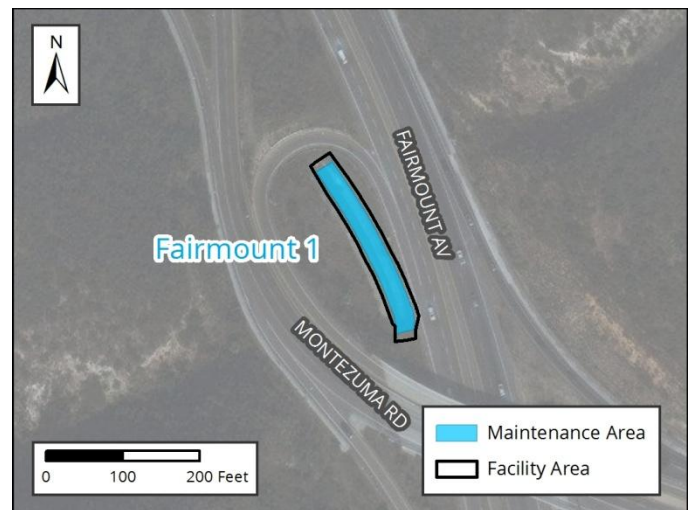


Figure 2: Vicinity Map of Fairmount Segment 1

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The segment was observed to be mostly clean with a film of algae/moss along the bottom

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	390	499	583	699	784	868

Hydraulic Capacity of Facility

Current Capacity 600 cfs

Proposed MWMP Maintained Capacity N/A

Maintenance Recommendation No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Chaparral• Developed land• Disturbed land
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, migratory species may use the surrounding chaparral habitat within the Multi Habitat Planning Area (MHPA).
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundaries are located approximately 100 feet west and 150 feet east of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1964 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-BIO-6	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
EP-HAZ-3	Noise (NOI)
Land Use (LU)	MM-NOI-1
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Norfolk Canyon Creek - Fairmount
Segment Name	Fairmount 1
Facility No.	4-08-008
Facility Location	From outlet of culvert that crosses under the Montezuma-Fairmount interchange to outlet of culvert
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per estimated original dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Built?	Yes; 6928-D & 6948-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 248 feet Top width: 25 feet Bottom width: 10 feet Depth: 5 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

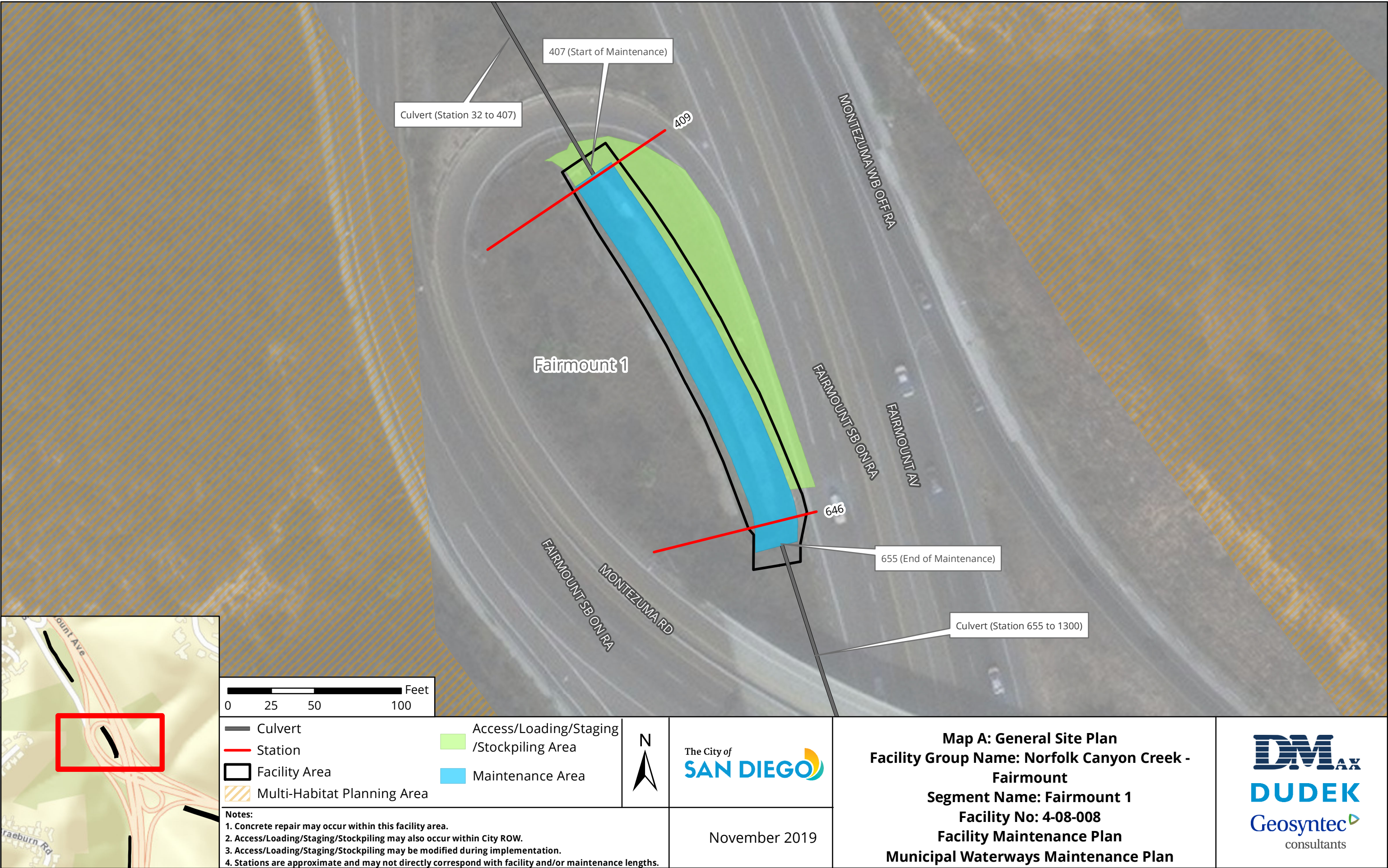
Authorized Facility Maintenance Area	Length: Channel: 248 feet Width: 25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: <ol style="list-style-type: none">1. Demobilize equipment2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed4. Remove temporary BMPs5. Update maintenance record6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Fairmount Segment 2 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of Norfolk Canyon Creek (south), immediately upstream of Norfolk Canyon Creek (Fairmount Segment 1)
Tributaries (listed from downstream to upstream)	Norfolk Canyon Creek
Facility Length	Approximately 1,220 feet
Top-of-Bank Width	Approximately 20 feet
Bottom Facility Width	Approximately 7 feet
Facility Depth	Approximately 4.5 feet
Adjacent Land Use	Open Space, Other Residential, Single-Family Residential, Transportation
As-Built Drawing Number	6929-D & 6948-D
Coastal Zone	No



Figure 1: April 2017, looking downstream at vegetation concrete ditch

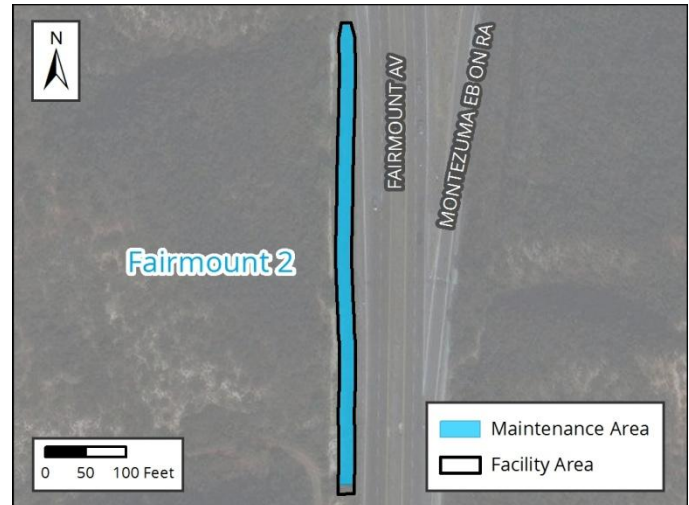


Figure 2: Vicinity Map of Fairmount Segment 2

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity Sediment accumulation of up to 4 feet was observed in portions of the segment along with vegetation growth ranging from light to heavy

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	390	499	583	699	784	868

Hydraulic Capacity of Facility

Current Capacity 50 cfs

Proposed MWMP Maintained Capacity 563 cfs

Maintenance Recommendation

Remove accumulated sediment, debris, and vegetation from Station 1300 to Station 1875.

Remove accumulated sediment and debris in culvert from Station 655 to Station 1300.

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel
Adjacent Vegetation	<ul style="list-style-type: none">• Chaparral• Coastal sage scrub• Developed land• Disturbed land
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the surrounding habitat for nesting/roosting. Other sensitive bird species could occur in sage scrub habitat adjacent to the ditch (e.g., coastal California gnatcatcher).
MHPA	The facility is partially within the Multi Habitat Planning Area (MHPA) along the entire western side of the ditch
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1960 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HAZ-3	MM-HR-1
Land Use (LU)	MM-HR-2
EP-LU-1	Noise (NOI)
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Norfolk Canyon Creek - Fairmount
Segment Name	Fairmount 2
Facility No.	4-08-011
Facility Location	From 900 feet south of Montezuma-Fairmount interchange to inlet of culvert that crosses under the Montezuma-Fairmount interchange
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove accumulated sediment, debris, and vegetation from Station 1300 to Station 1875. Remove accumulated sediment and debris in culvert from Station 655 to Station 1300.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 6929-D & 6948-D
Substrate Detail	Concrete bottom and banks

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

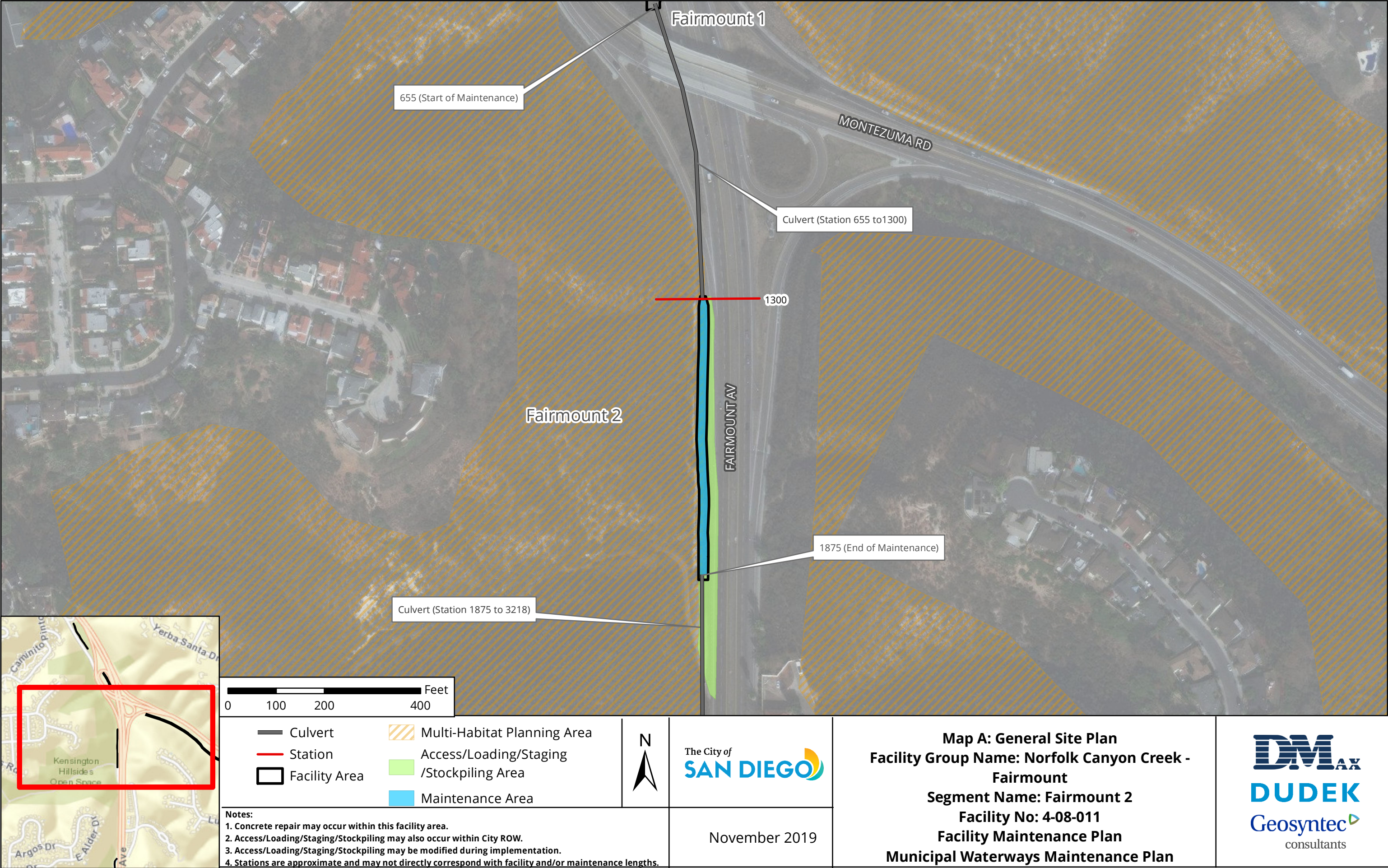
Facility Dimensions (Approximate)	Length: 1,220 feet Top width: 20 feet Bottom width: 7 feet Depth: 4.5 feet
Authorized Facility Maintenance Area	Length: Ditch: 575 feet; Culvert: 645 feet Width: 20 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Fairmount Segment 3 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Norfolk Canyon Creek (south), immediately upstream of Norfolk Canyon Creek (Fairmount Segment 2)
Tributaries (listed from downstream to upstream)	Norfolk Canyon Creek
Facility Length	Approximately 820 feet
Top-of-Bank Width	Approximately 40–60 feet
Bottom Facility Width	Approximately 15–25 feet
Facility Depth	Approximately 6–10 feet
Adjacent Land Use	Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	6930-D
Coastal Zone	No



Figure 1: April 2017, looking downstream at scour pool at channel outfall



Figure 2: Vicinity Map of Fairmount Segment 3

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity The segment was observed to have vegetation ranging from moderate to dense. A scour pond was observed at the outlet of the upstream culvert.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	390	499	583	699	784	868

Hydraulic Capacity of Facility

Current Capacity 670 cfs

Proposed MWMP Maintained Capacity 670 cfs

Maintenance Recommendation Restore riprap from Station 4009 to Station 4038 at the culvert outlet

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Chaparral• Disturbed wetland (palm-dominated)
Adjacent Vegetation	<ul style="list-style-type: none">• Chaparral• Coastal sage scrub• Developed concrete-lined channel• Developed land• Disturbed land• Eucalyptus woodland• Ornamental plantings• Scrub oak chaparral
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife; however, raptors or other sensitive bird species, such as coastal California gnatcatcher, may use the surrounding chaparral, eucalyptus woodland, or coastal sage scrub habitat within the Multi Habitat Planning Area (MHPA)
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA) and access intersects the MHPA which extends west of the channel
Mitigation Within Facility	None

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources

Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources

Resource Identified in APE	Channel; 1960 earthen channel
Potential Historical Resources	Yes
Constraint Identified	

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
EP-HAZ-3	MM-HR-1
Land Use (LU)	MM-HR-2
EP-LU-1	Noise (NOI)
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Norfolk Canyon Creek - Fairmount
Segment Name	Fairmount 3
Facility No.	4-08-014
Facility Location	From 200 feet north of Aldine Drive-Fairmount Avenue interchange to north 810 feet to a culvert inlet
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Restore riprap from Station 4009 to Station 4038 at the culvert outlet
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Built?	Yes; 6930-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 820 feet Top width: 40–60 feet Bottom width: 15–25 feet Depth: 6–10 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

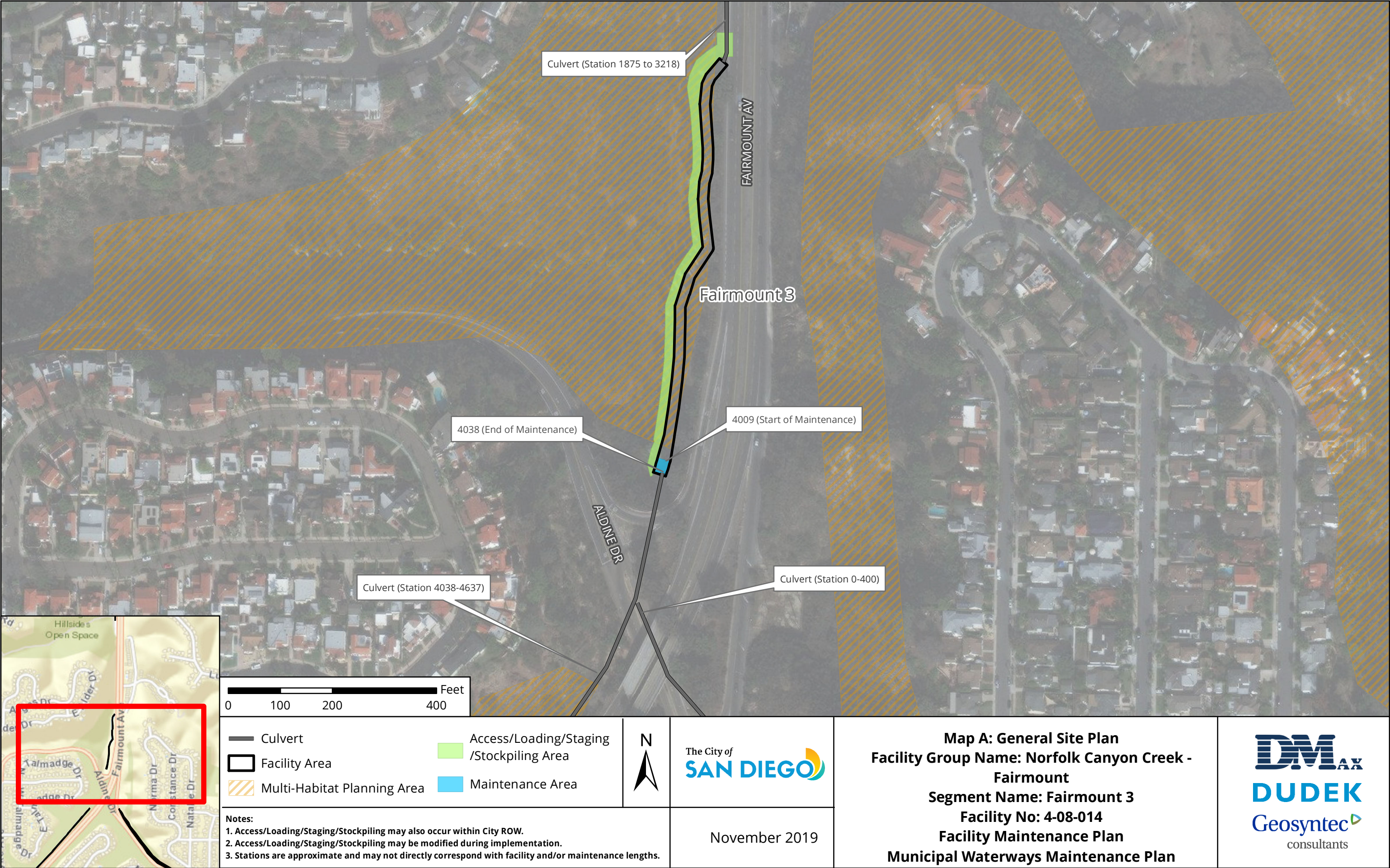
Authorized Facility Maintenance Area	Length: Channel: 29 feet Width: 25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<p>Riprap Restoration:</p> <ol style="list-style-type: none"> 1. Gradall/excavator stationed above channel places riprap into channel 2. Bulldozer/track-steer and/or Gradall/excavator enters channel at access/loading area 3. Bulldozer/track-steer and/or Gradall/excavator clears area and places riprap into place 4. Gradall/excavator scoops material from channel and loads dump truck 5. Dump truck hauls material to legal disposal site <p>Routine Maintenance:</p> <ol style="list-style-type: none"> 1. Bobcat/skid-steer and/or bulldozer/track-steer enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer and/or bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	<p>Conduct post-maintenance procedures as follows:</p> <ol style="list-style-type: none"> 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Fairmount Segment 4 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Norfolk Canyon Creek (south), immediately downstream of Norfolk Canyon Creek (Fairmount Segment 3)
Tributaries (listed from downstream to upstream)	Norfolk Canyon Creek
Facility Length	Approximately 1,849 feet
Top-of-Bank Width	Approximately 16 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 4 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	6930-D, 6931-D, & 6947-D
Coastal Zone	No



Figure 1: April 2017, looking downstream at sediment, debris and vegetation in concrete ditch

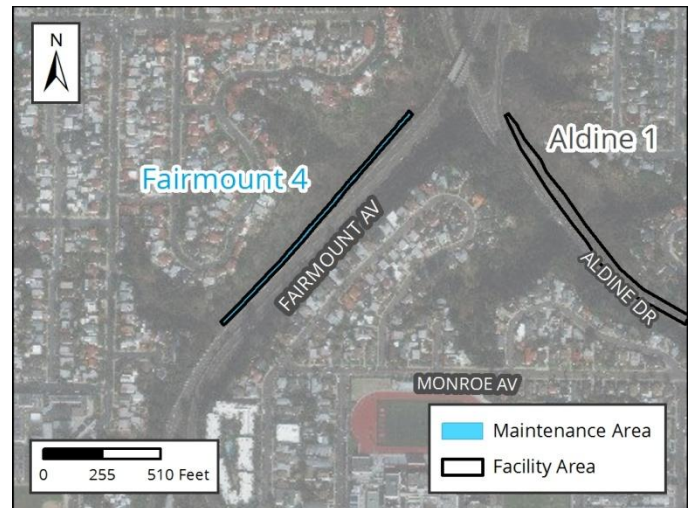


Figure 2: Vicinity Map of Fairmount Segment 4

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance Prior to 2011: Unknown
January 2011 – March 2019: No maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 None

401 None

1602 None

Mitigation for Previous Impacts None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.¹

Current Conditions Affecting Facility Capacity Sediment accumulation of up to 2 feet was observed in portions of the segment along with vegetation growth ranging from light to heavy

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	83	106	124	148	166	184

Hydraulic Capacity of Facility

Current Capacity 120 cfs

Proposed MWMP Maintained Capacity 120 cfs

Maintenance Recommendation

Remove sediment, debris, and vegetation from segment from Station 4637 to Station 5887.
Remove sediment and debris in culvert from Station 4038 to Station 4637.

In-Stream Post-Maintenance Erosion Control Recommendation None

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Disturbed wetland (concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">• Chaparral• Coastal sage scrub• Developed land• Disturbed land• Eucalyptus woodland• Ornamental plantings• Scrub oak chaparral
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the ditch.
MHPA	The facility is intersected by the Multi Habitat Planning Area (MHPA) intermittently along the entire length of the ditch
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1964 concrete channel
Potential Historical Resources	Yes
Constraint Identified	

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	Historic, Archaeological, and Tribal Cultural Resources (HR and CR)
Land Use (LU)	MM-HR-1
EP-LU-1	MM-HR-2
Solid Waste (SW)	Noise (NOI)
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Norfolk Canyon Creek - Fairmount
Segment Name	Fairmount 4
Facility No.	4-08-017
Facility Location	From 400 feet northwest of Monroe Avenue to outlet of culvert under Aldine Drive-Fairmount Avenue interchange
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation²	Remove sediment, debris, and vegetation from segment from Station 4637 to Station 5887. Remove sediment and debris in culvert from Station 4038 to Station 4637.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Built?	Yes; 6930-D, 6931-D, & 6947-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,849 feet Top width: 16 feet Bottom width: 4 feet Depth: 4 feet

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

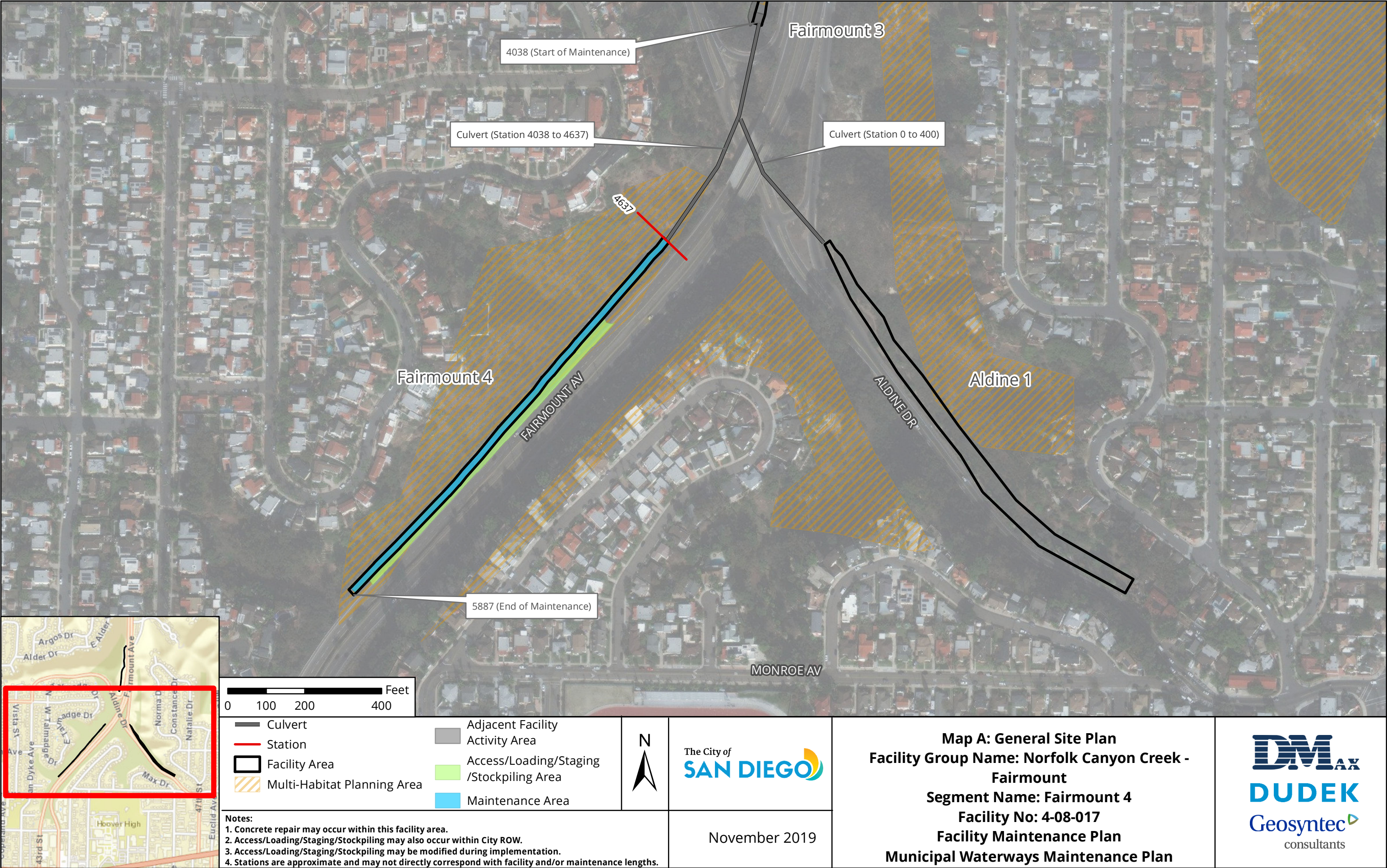
Authorized Facility Maintenance Area	Length: Ditch: 1,250 feet; Culvert: 599 feet Width: 16 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8-12 people
Routine Maintenance Procedures	<ol style="list-style-type: none"> 1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species³:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

³ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Baja Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail¹	Stations 6-281: Concrete bottom and banks Stations 281-569: Earthen bottom, concrete north bank, and earthen/graded south bank Stations 569-1507: Concrete bottom and banks
Location Within Watershed	Upper reach of Norfolk Canyon Creek, immediately upstream of Norfolk Canyon Creek, southeast (Fairmount Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,369 feet
Top-of-Bank Width	Approximately 13-32 feet
Bottom Facility Width	Approximately 4-20 feet
Facility Depth	Approximately 3.5-4 feet
Adjacent Land Use	Multi-Family Residential, Single-Family Residential, Transportation
As-Built Drawing Number	10657-5-D
Coastal Zone	No



Figure 1: November 2016, facing downstream end of facility group; towards 60-inch-diameter RCP culvert beneath the Collwood Villas Apartments and Collwood Boulevard



Figure 2: Vicinity Map of Baja Segment 1

¹ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance

Prior to 2011: Unknown
2011 – 2017: No maintenance conducted
2018 – 2019: Routine maintenance conducted

Past Regulatory Approvals

CEQA 2011 MMP PEIR No. 42891

CDP N/A

SDP SDP No. 2034245 (2017 Addendum)

404 NWP 18/33 USACE File #SPL-2018-00362-SRR (expires March 2022)

401 RWQCB 401 Cert No. R9-2018-0107 (expires March 2022)

1602 None

Mitigation for Previous Impacts

Stadium (0.078 acre); Marron Valley Cornerstone Lands Conservation Bank (0.021 acre)

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.²

Current Conditions Affecting Facility Capacity		In November 2016, the amount of vegetation was observed to vary from light to heavy and broken concrete lining was noted				
Hydrologic Peak Flows						
Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	593	730	867	958	1,049	1,232
Hydraulic Capacity of Facility						
Current Capacity				250 cfs		
Proposed MWMP Maintained Capacity				250 cfs		
Maintenance Recommendation			<p>From Station 6 to Station 281: No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change.</p> <p>From Station 281 to Station 589: Partially remove vegetation; cut down existing palm trees, leaving 2-foot-tall stumps with root balls intact in the ground. Stumps should be left in place to help mitigate velocities. Remove all fallen palm tree trunks and debris. Leave all other existing vegetation and sediment in place.</p> <p>From Station 589 to Station 646: Remove palm tree growing out of a crack in the concrete lining and repair/replace the broken and missing concrete lining to match the existing flow line. Previously designed post-maintenance erosion control measures at Station 281 and Station 488 to be installed and maintained as necessary.</p> <p>Repair/replacement of broken concrete lining from Station 281 to Station 646.</p> <p>From Station 788 to Station 1507: No maintenance currently proposed; however vegetation, sediment and debris removal or concrete repair/replacement activities should be performed if the conditions change.</p>			
In-Stream Post-Maintenance Erosion Control Recommendation			Yes; see Appendix A-4 Location: Station 281 and Station 488			

² Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	<ul style="list-style-type: none">• Developed concrete-lined channel• Disturbed wetland (palm-dominated; concrete-lined)
Adjacent Vegetation	<ul style="list-style-type: none">• Chaparral• Developed land• Disturbed land• Eucalyptus woodland
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within the facility for nesting/roosting.
MHPA	The facility is partially adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 150 feet south of the channel location.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources	None
Constraint Identified	

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	Air Quality (AQ)
EP-BIO-1	MM-AQ-1
EP-BIO-2	Biological Resources (BIO)
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	Noise (NOI)
EP-HAZ-3	MM-NOI-1
Hydrology (HYD)	
EP-HYD-1	
Land Use (LU)	
EP-LU-1	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Norfolk Canyon Creek - Fairmount
Segment Name	Baja 1
Facility No.	4-08-105
Facility Location	From upstream end of a natural segment south of Baja Drive and northeast of the Maisel Way cul-de-sac to culvert beneath the Collwood Villa Apartments
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation³	<p>From Station 6 to Station 281: No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change.</p> <p>From Station 281 to Station 589: Partially remove vegetation; cut down existing palm trees, leaving 2-foot-tall stumps with root balls intact in the ground. Stumps should be left in place to help mitigate velocities. Remove all fallen palm tree trunks and debris. Leave all other existing vegetation and sediment in place.</p> <p>From Station 589 to Station 646: Remove palm tree growing out of a crack in the concrete lining and repair/replace the broken and missing concrete lining to match the existing flow line.</p> <p>Previously designed post-maintenance erosion control measures at Station 281 and Station 488 to be installed and maintained as necessary.</p> <p>Repair/replacement of broken concrete lining from Station 281 to Station 646.</p> <p>From Station 788 to Station 1507: No maintenance currently proposed; however vegetation, sediment and debris removal or concrete repair/replacement activities should be performed if the conditions change.</p>
Maintenance Activities	<p>Vegetation grubbing, trimming, and removal</p> <p>Invasive plant species treatment and removal</p> <p>Sediment removal</p> <p>Concrete repair</p>
Maintenance Method	<p>Excavation; mechanized equipment inside and outside the channel</p> <p>Temporary access/loading</p> <p>Temporary staging</p> <p>Temporary diversions</p> <p>Hand removal of vegetation</p>

³ Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

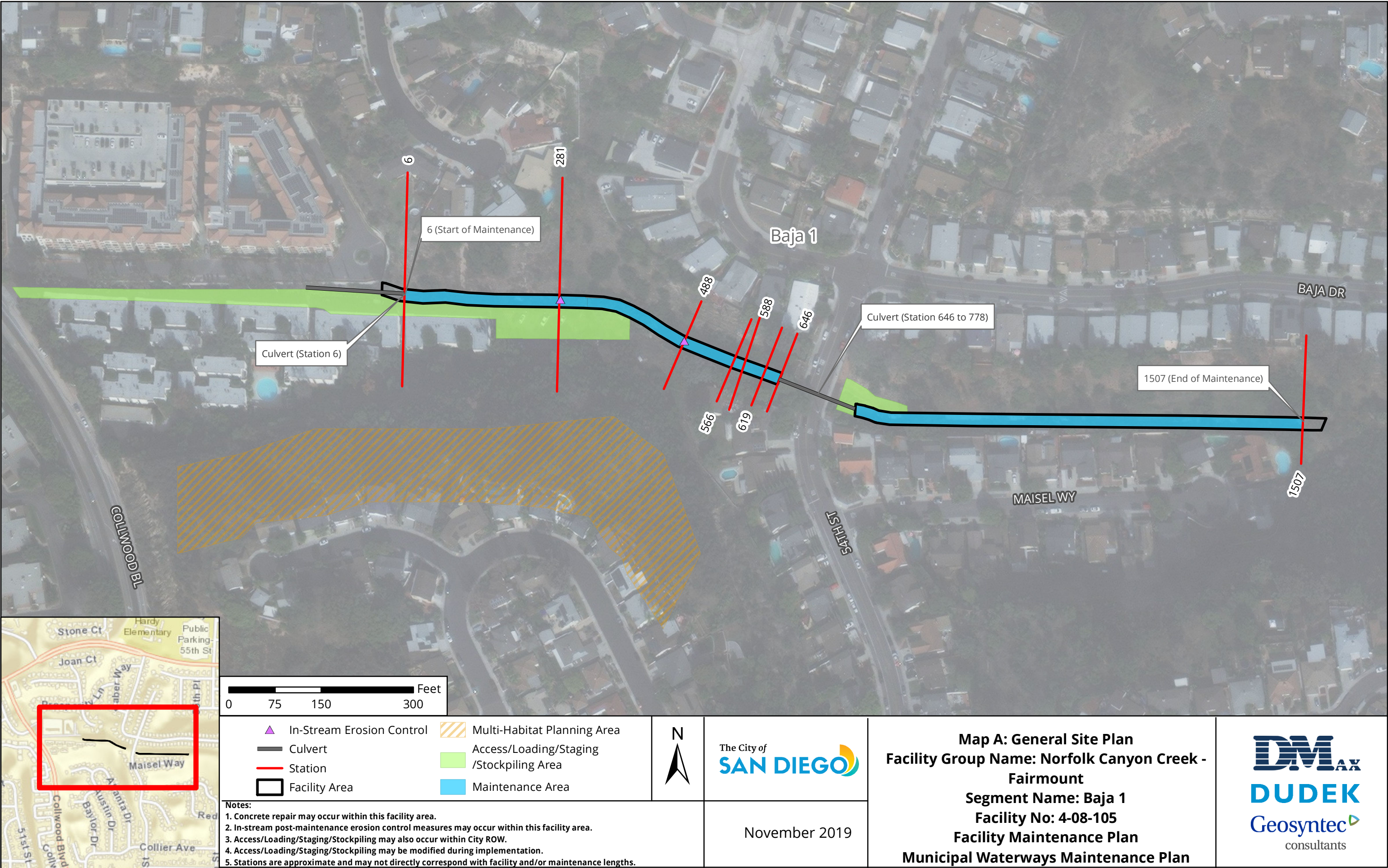
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 10657-5-D
Substrate Detail³	Stations 6-281: Concrete bottom and banks Stations 281-569: Earthen bottom, concrete north bank, and earthen/graded south bank Stations 569-1507: Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,369 feet Top width: 13–32 feet Bottom width: 4–20 feet Depth: 3.5–4 feet
Authorized Facility Maintenance Area	Length: Channel: 1,369 feet Width: 13–32 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and/or track steer enter or are lowered into channel at access/loading area 2. Crews cut and drop palm tree in channel 3. Crews chain and drag palm tree in channel 4. Gradall/excavator scoops material from channel and loads dump truck 5. Dump truck hauls material to legal disposal site
Traffic Control	No

Norfolk Canyon Creek - Fairmount Facility Group

Facility Maintenance Plan

Additional Maintenance Information	
Pre-Maintenance Meeting	<p>Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site:</p> <ol style="list-style-type: none"> 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	<p>Suitable habitat for sensitive species⁴:</p> <ol style="list-style-type: none"> 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes <p>Activities to be conducted under authority of a qualified biologist:</p> <ol style="list-style-type: none"> 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	<p>As needed:</p> <ol style="list-style-type: none"> 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	<p>Yes; see Appendix A-4</p> <p>Location: Station 281 and Station 488</p>
Post-Maintenance Procedures	<p>Conduct post-maintenance procedures as follows:</p> <ol style="list-style-type: none"> 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

⁴ Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

