Facility Maintenance Plan

Washington Canyon Creek - Washington Facility Group

Segment Names (Facility numbers):

Washington 1 (5-02-151)

Washington 2 (5-02-153)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.21
Drainage Name (Number)	Washington Canyon Creek (02)
Facility Group Name	Washington Canyon Creek - Washington
Segment Name (Facility Number)	Washington 1 (5-02-151) Washington 2 (5-02-153)
Substrate	Washington 1 / Earthen Washington 2 / Concrete
Location	About 650 feet south of Washington Place and 400 feet northeast of San Diego Avenue
MMP Map No(s).	84
Facility Inspection No.	84
Other Former Names	Washington Channel

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

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.21	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Washington Canyon Creek - Washington	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • 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) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

Washington Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of Washington Canyon Creek, upstream of San Diego Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 217 feet
Top-of-Bank Width	Approximately 80 feet
Bottom Facility Width	Approximately 35 feet
Facility Depth	Approximately 8 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking upstream at transition from Washington 2

Figure 2: Vicinity Map of Washington Segment 1

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 and vegetation November 2015: Cluster of palm tree removed January 2016 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00012-RAG
401	RGP 63 Verification No. R9-2016-0045;821330;lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (No mitigation required)

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	Vegetation was observed to be light to dense with up to 1 foot 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])	82	105	123	147	165	183
Hydraulic Capacity of Facility						
Current Capacity	162 cfs					
Proposed MWMP Maintained Capacity	162 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 89 to Station 306. 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

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	• Disturbed wetland • Natural flood channel • Ornamental plantings
Adjacent Vegetation	• 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/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 800 feet north of the channel.
Mitigation Within Facility	Proposed as part of the RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance

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. 1941–1953 earthen channel
Potential Historical Resources Constraint Identified	Yes

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	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-3	MM-HR-2
Hydrology (HYD)	**Noise (NOI)**
EP-HYD-1	MM-NOI-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	

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	Washington Canyon Creek - Washington
Segment Name	Washington 1
Facility No.	5-02-151
Facility Location	From the downstream end of Washington 2 segment to 100 feet northeast of the intersection of India Street and Washington Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 89 to Station 306. Maintain/repair existing debris fence as needed.
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	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

Facility Dimensions (Approximate)	Length: 217 feet Top width: 80 feet Bottom width: 35 feet Depth: 8 feet
Authorized Facility Maintenance Area	Length: Channel: 217 feet Width: 10–80 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, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 6–8 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, and loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer or bulldozer/track-steer pushes material to loader 3. Gradall/excavator makes piles for loader 4. Loader scoops material from channel and loads waiting dump truck at access/loading area 5. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
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

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

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

Notes:
1. In-stream post-maintenance erosion control measures 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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Washington Canyon Creek - Washington
Segment Name: Washington 1
Facility No: 5-02-151
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Washington Segment 2 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of Washington Canyon Creek, upstream of Washington Canyon Creek (Washington Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 2,210 feet
Top-of-Bank Width	Approximately 13 feet
Bottom Facility Width	Approximately 5 feet
Facility Depth	Approximately 4 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at transition to Washington 1

Figure 2: Vicinity Map of Washington Segment 2

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 and vegetation 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	RGP 63 USACE File #SPL-2016-00012-RAG
401	RGP 63 Verification No. R9-2016-0045;821330;lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.07 acre); an additional 0.01 acre for FWM needed for City mitigation

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	Vegetation was observed to be light to dense with up to 1 foot 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])	82	105	123	147	165	183
Hydraulic Capacity of Facility						
Current Capacity	70 cfs					
Proposed MWMP Maintained Capacity	183 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation in concrete ditch from Station 306 to Station 2516					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • 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.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 750 feet north of the ditch.
Mitigation Within Facility	Adjacent to facility proposed as part of RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance

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; 3715 India St.; 3717 India St.; 3731 India St.; 3735 India St.; 3737 India St.; 3741 India St.; c. 1941–1953 concrete channel; historic properties
Potential Historical Resources Constraint Identified	Yes

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	**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	

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	Washington Canyon Creek - Washington
Segment Name	Washington 2
Facility No.	5-02-153
Facility Location	From 650 feet south of Washington Place to upstream end of Washington 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per estimated original design dimensions previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation in concrete ditch from Station 306 to Station 2516
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-Builts?	None
Substrate Detail	Concrete bottom and banks

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

Facility Dimensions (Approximate)	Length: 2,210 feet Top width: 13 feet Bottom width: 5 feet Depth: 4 feet
Authorized Facility Maintenance Area	Length: Ditch: 2,210 feet Width: 13 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, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 6–8 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and loader enter or are lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to loader 3. Loader scoops material from ditch and loads dump truck at access/loading area 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	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

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

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 Area

Multi-Habitat Planning Area

Adjacent Facility Activity Area

Maintenance Area

N

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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: Washington Canyon Creek - Washington
Segment Name: Washington 2
Facility No: 5-02-153
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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 Hills Canyon Creek - Titus Facility Group

Segment Name (Facility number):

Titus 1 (5-02-162)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.21
Drainage Name (Number)	Mission Hills Canyon Creek (02)
Facility Group Name	Mission Hills Canyon Creek - Titus
Segment Name (Facility Number)	Titus 1 (5-02-162)
Substrate	Titus 1 / Earthen
Location	About 200 feet southeast of Guy Street and 120 feet northeast of Titus Street
MMP Map No(s).	84a
Facility Inspection No.	84a
Other Former Names	None

Figure 1: Vicinity Map of Mission Hills Canyon Creek - Titus Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.21	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Mission Hills Canyon Creek - Titus	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

Titus Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Mission Hills Canyon Creek, upstream of San Diego Bay
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 10–20 feet
Facility Depth	Approximately 3–8 feet
Adjacent Land Use	Multi-Family Residential, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	No

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

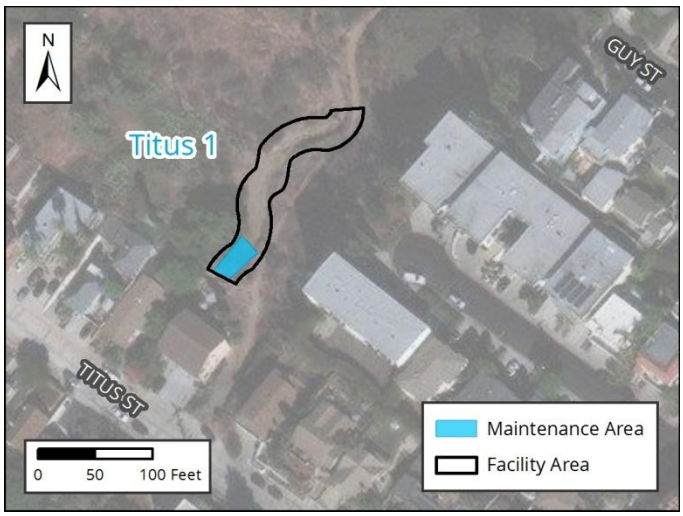


Figure 2: Vicinity Map of Titus Segment 1

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
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	RGP 63 (No USACE File # Assigned)
401	RGP 63 Verification No. R9-2016-0030:821649:lhonma
1602	LSA Emergency Notification submitted 01/14/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (No mitigation required)

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	Little vegetation was observed and sediment deposition was estimated to be 3 feet upstream of the debris fence

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	52	66	77	92	104	115

Hydraulic Capacity of Facility

Current Capacity	17 cfs
Proposed MWMP Maintained Capacity	88 cfs
Maintenance Recommendation	Remove accumulated sediment and debris from Station 110 to Station 149. 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

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	• Natural flood channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • 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/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the channel.
MHPA	The facility is located entirely 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	Channel; 1850 Titus St.; c. 1966–1972 earthen channel; building more than 45 years old (not previously evaluated)
Potential Historical Resources Constraint Identified	Yes

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)	MM-BIO-7
EP-HAZ-1	**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	

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.

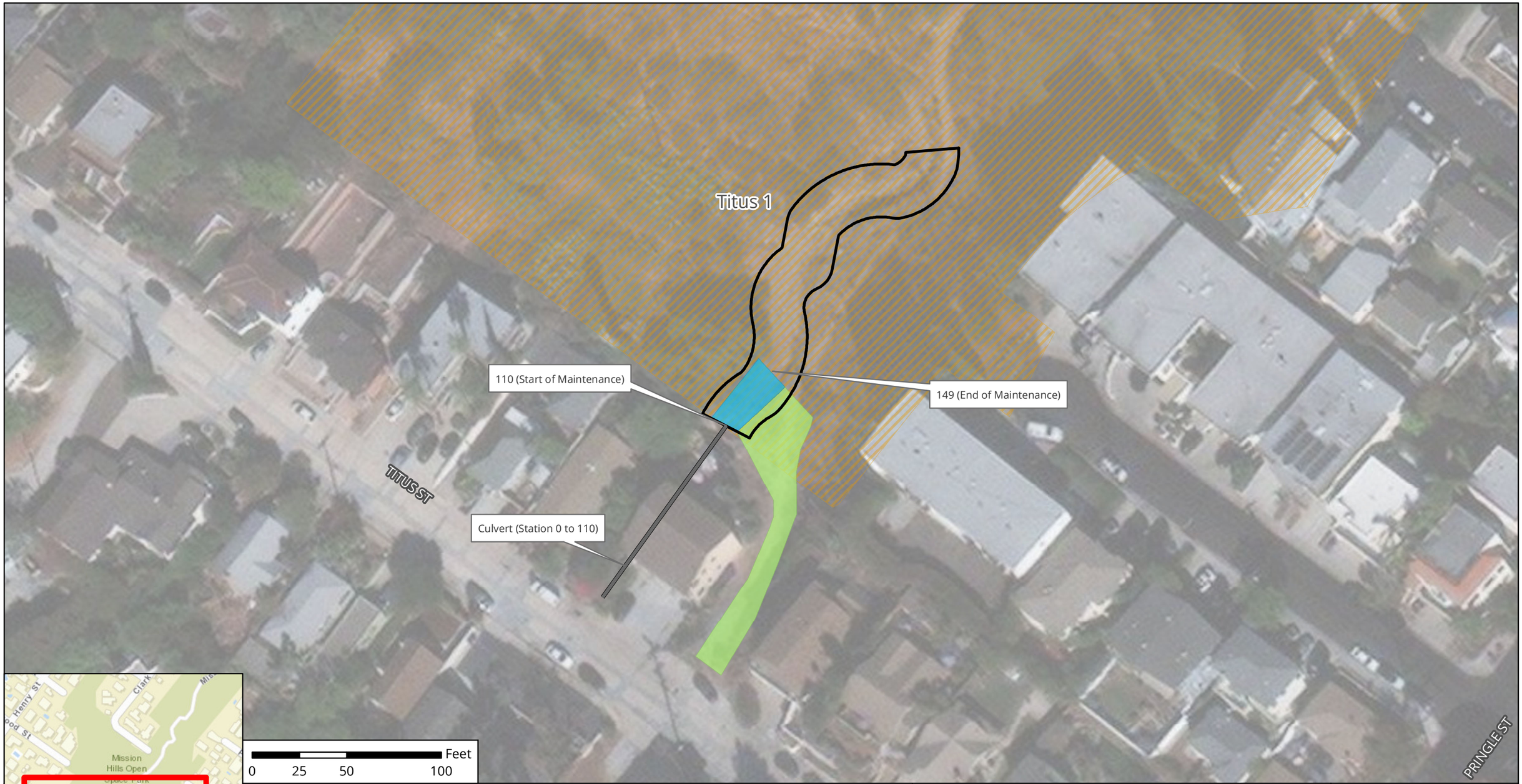
Facility Group	Mission Hills Canyon Creek - Titus
Segment Name	Titus 1
Facility No.	5-02-162
Facility Location	About 200 feet southeast of Guy Street and 120 feet northeast of Titus Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel/culvert inlet area per estimated original design dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and debris from Station 110 to Station 149. Maintain/repair existing debris fence as needed.
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	Yes; see Appendix A-4
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail[3]	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 207 feet Top width: 40 feet Bottom width: 10–20 feet Depth: 3–8 feet

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

Authorized Facility Maintenance Area	Length: Channel: 39 feet Width: 14–24 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, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	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	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	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

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



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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Mission Hill Canyon Creek Titus
Segment Name: Titus 1
Facility No: 5-02-162
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Powerhouse Canyon Creek - Pershing Facility Group

Segment Names (Facility numbers):

Pershing 1 (5-03-011)

Pershing 2 (5-03-100)

The City *of* SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Powerhouse Canyon Creek (03)
Facility Group Name	Powerhouse Canyon Creek - Pershing
Segment Name (Facility Number)	Pershing 1 (5-03-011) Pershing 2 (5-03-100)
Substrate	Pershing 1 / Concrete Pershing 2 / Concrete
Location	Runs parallel to Pershing Drive and about 700 feet east of Interstate 5 (I-5)
MMP Map No(s).	86
Facility Inspection No.	86, 300x
Other Former Names	Florida Canyon, Pershing Channel

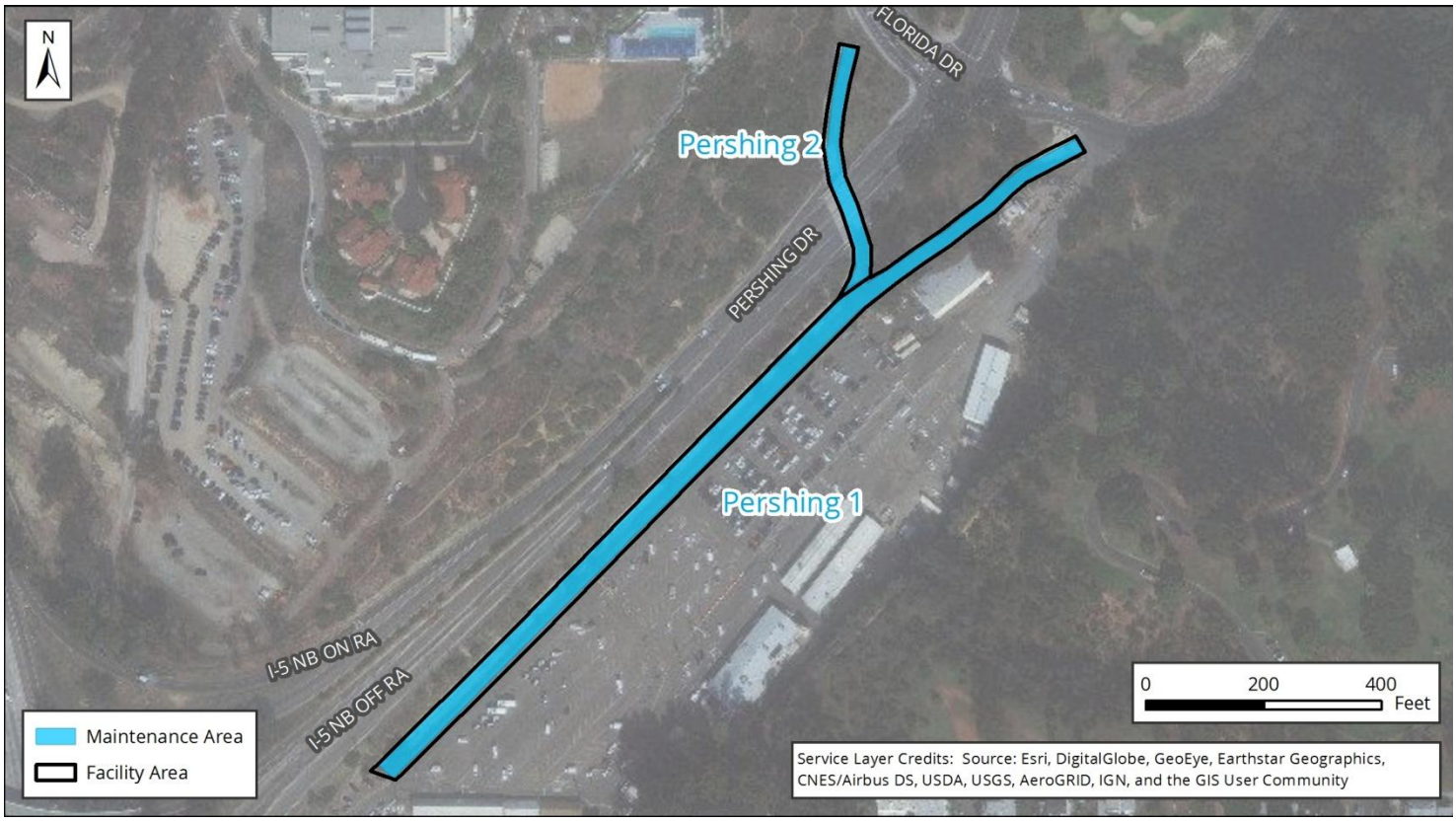


Figure 1: Vicinity Map of Powerhouse Canyon Creek - Pershing Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Powerhouse Canyon Creek - Pershing	
Beneficial Uses	• 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

Not Listed in Basin Plan (First downstream water body)	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) list

Pershing Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Powerhouse Canyon Creek, upstream of the San Diego Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,598 feet
Top-of-Bank Width	Approximately 24–33.5 feet
Bottom Facility Width	Approximately 7–14 feet
Facility Depth	Approximately 5.5–9.5 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Parks, Transportation
As-Built Drawing Number	9890-1-D
Coastal Zone	No

Figure 1: May 2017, Looking upstream near the downstream end of the segment

Figure 2: Vicinity Map of Pershing Segment 1

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 vary from clean concrete to dense vegetation					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	386	554	675	1,048	1,540	1,870
Hydraulic Capacity of Facility						
Current Capacity	630 cfs					
Proposed MWMP Maintained Capacity	633 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 332 to Station 1930					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Developed land • Disturbed coastal sage scrub • Disturbed land • Eucalyptus woodland • Ornamental plantings • Riparian forest (coast live oak)
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 (e.g., coastal California gnatcatcher) could occur in sage scrub habitat 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 360 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	P-37-016659
Resource Type	San Diego Flume System

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

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	

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.

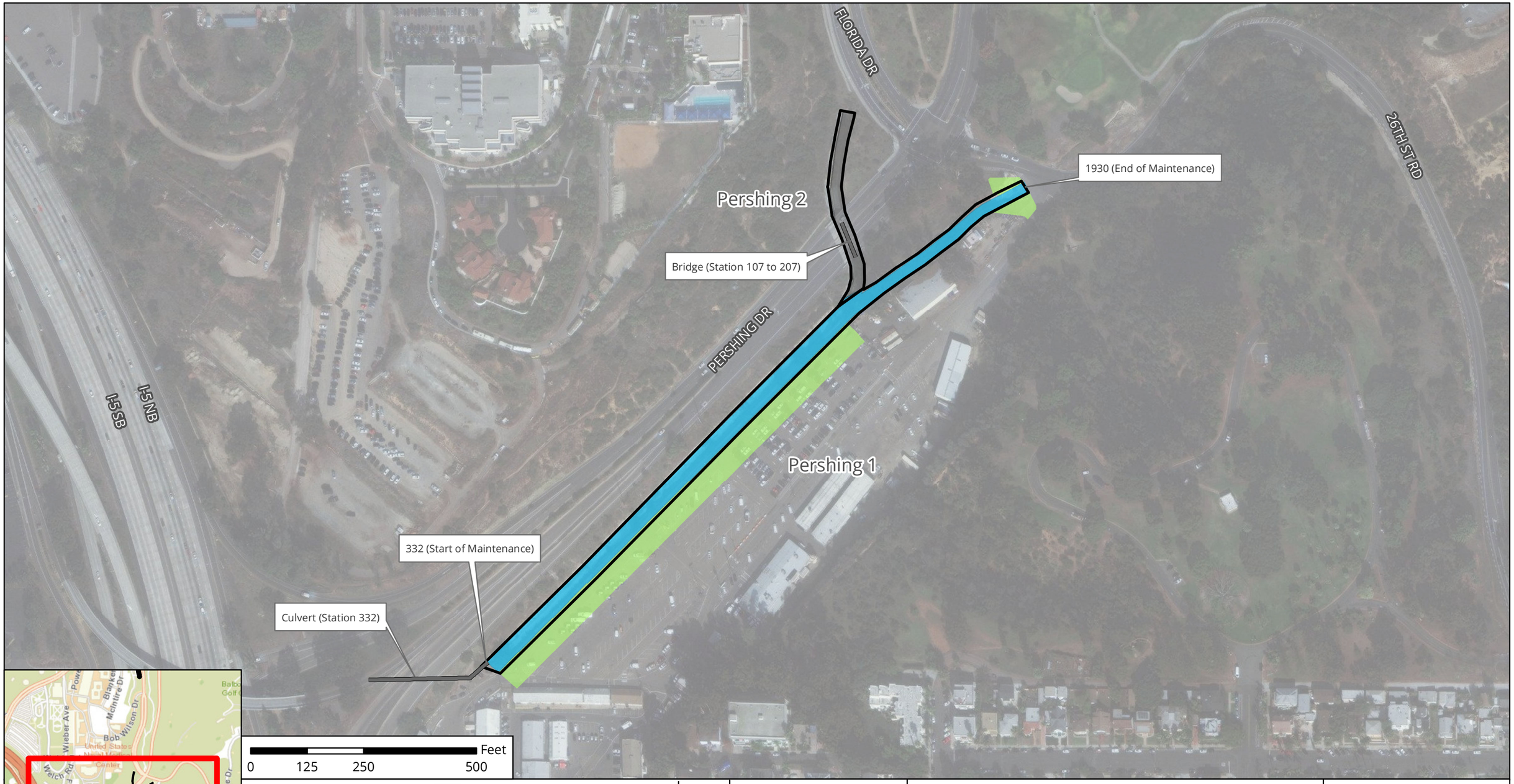
Facility Group	Powerhouse Canyon Creek - Pershing
Segment Name	Pershing 1
Facility No.	5-03-011
Facility Location	From 700 feet east of Interstate 5 (I-5) to 100 feet east of the intersection of Florida Drive and Pershing Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 332 to Station 1930
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-Builts?	Yes; 9890-1-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,598 feet Top width: 24–33.5 feet Bottom width: 7–14 feet Depth: 5.5–9.5 feet

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

Authorized Facility Maintenance Area	Length: Channel: 1,598 feet Width: 24–33.5 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, loader, trash pump, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	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	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	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

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



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

N

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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: Powerhouse Canyon Creek - Pershing
Segment Name: Pershing 1
Facility No: 5-03-011
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Pershing Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Powerhouse Canyon Creek, upstream of Powerhouse Canyon Creek (Pershing Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 437 feet
Top-of-Bank Width	Approximately 24–28 feet
Bottom Facility Width	Approximately 7–14 feet
Facility Depth	Approximately 6.5–10 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Parks, Transportation
As-Built Drawing Number	9890-1-D
Coastal Zone	No

Figure 1: May 2017, looking upstream from the Pershing Drive bridge

Figure 2: Vicinity Map of Pershing Segment 2

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 relatively clean					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	280	402	490	761	1,120	1,350
Hydraulic Capacity of Facility						
Current Capacity	1,350 cfs					
Proposed MWMP Maintained Capacity	1,350 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 0 to Station 437					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Developed land • Eucalyptus woodland • Disturbed coastal sage scrub • Disturbed land • Ornamental plantings • Riparian forest (coast live oak)
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 (e.g., coastal California gnatcatcher) could occur in sage scrub habitat 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 360 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; 1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

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
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	

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.

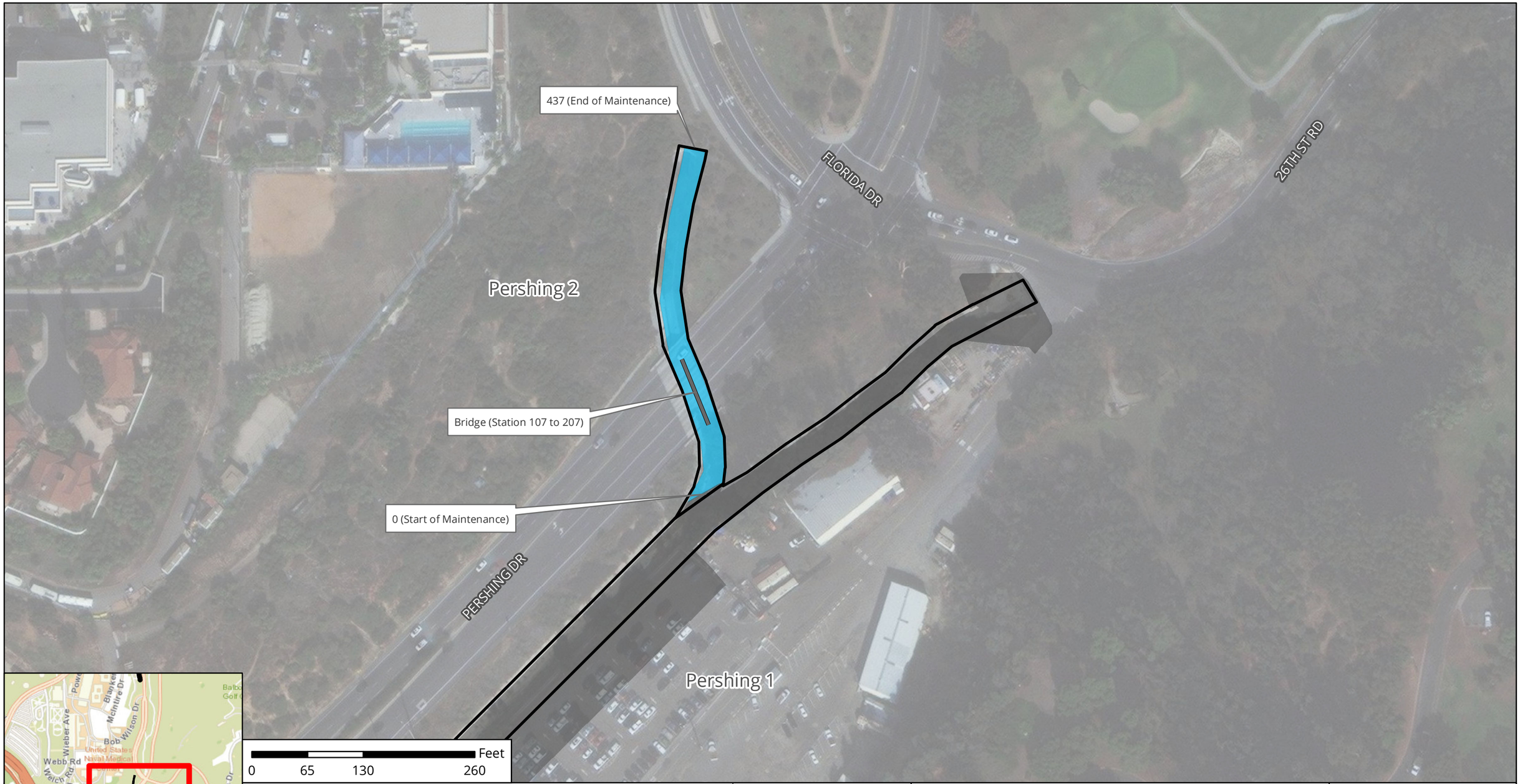
Facility Group	Powerhouse Canyon Creek - Pershing
Segment Name	Pershing 2
Facility No.	5-03-100
Facility Location	From storm drain beneath Florida Drive to Pershing 1 segment upstream of Station 1441
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 0 to Station 437
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-Builts?	Yes; 9890-1-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 437 feet Top width: 24–28 feet Bottom width: 7–14 feet Depth: 6.5–10 feet

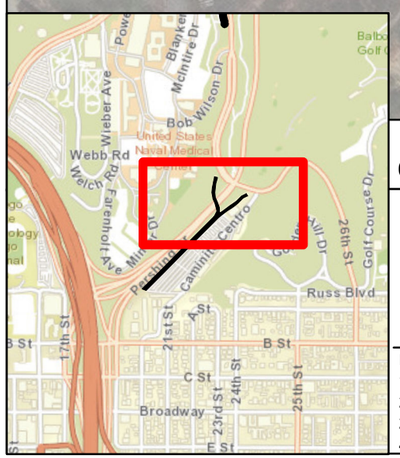
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 437 feet Width: 24–28 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, trash pump, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. For channel segment northwest of Pershing, Bobcat/skid-steer accesses through culvert 3. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 4. Gradall/excavator scoops material from channel and loads dump truck 5. 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

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

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





Bridge
Facility Area
Adjacent Facility Activity Area
Maintenance Area

N

The City of SAN DIEGO

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: Powerhouse Canyon Creek - Pershing
Segment Name: Pershing 2
Facility No: 5-03-100
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

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 Bay - 28th St Facility Group

Segment Name (Facility number):

28th St 1 (5-03-901)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	San Diego Bay Unnamed Tributary (03)
Facility Group Name	San Diego Bay - 28th St
Segment Name (Facility Number)	28th St 1 (5-03-901)
Substrate	28th St 1 / Earthen
Location	Bordered by 28th Street to the east and G Street to the north
MMP Map No(s).	87
Facility Inspection No.	87
Other Former Names	None

Figure 1: Vicinity Map of San Diego Bay - 28th St Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

San Diego Bay - 28th St	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • 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) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

28th St Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upstream of San Diego Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 67 feet
Top-of-Bank Width	Approximately 37–42 feet
Bottom Facility Width	Approximately 5–11 feet
Facility Depth	Approximately 9.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: July 2017, looking upstream towards the eroded eastern sidewall

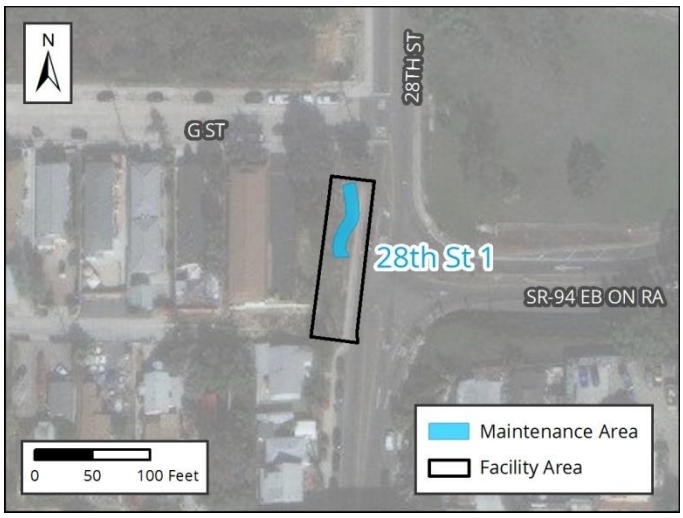


Figure 2: Vicinity Map of 28th St Segment 1

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 amount of vegetation was observed to be moderate with little evidence of sediment deposition. Erosion of the eastern bank near the downstream culvert 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])	43	55	64	77	86	96

Hydraulic Capacity of Facility

Current Capacity	50 cfs
Proposed MWMP Maintained Capacity	50 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of earthen segment from Station 72 to Station 139. Perform bank repair on the eroded eastern sidewall over a length of approximately 50 feet (Station 84 to Station 134).
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Disturbed wetland • Natural flood channel
Adjacent Vegetation	• Developed concrete-lined channel • 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/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	Channel; c. 1953–1964 earthen channel
Potential Historical Resources Constraint Identified	Yes

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-6
EP-GEO-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-3	MM-HR-2
Paleontological Resources (PAL)	**Noise (NOI)**
EP-PAL-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	

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.

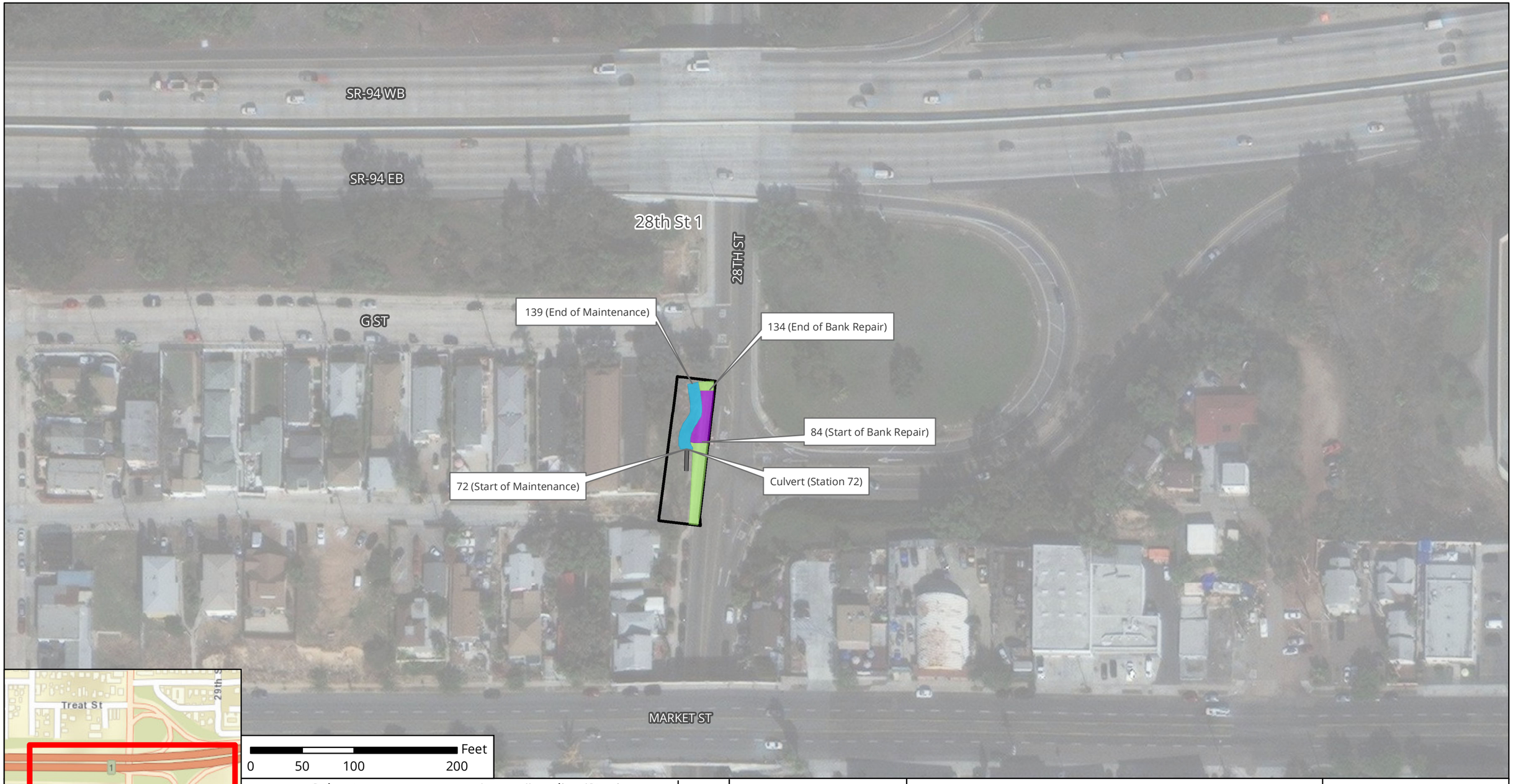
Facility Group	San Diego Bay - 28th St
Segment Name	28th St 1
Facility No.	5-03-901
Facility Location	From outlet of culvert south of G Street to inlet of culvert that discharges to the storm drain system
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of earthen segment from Station 72 to Station 139. Perform bank repair on the eroded eastern sidewall over a length of approximately 50 feet (Station 84 to Station 134).
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 grading and stabilization
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-Builts?	None
Substrate Detail[3]	Earthen bottom and banks

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

Facility Dimensions (Approximate)	Length: 67 feet Top width: 37–42 feet Bottom width: 5–11 feet Depth: 9.5 feet
Authorized Facility Maintenance Area	Length: Channel: 67 feet Width: 11–42 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, sweeper
Schedule	Up to approximately 60 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	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
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

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

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



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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: San Diego Bay - 28th St
Segment Name: 28th St 1
Facility No: 5-03-901
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Chollas Creek - National Facility Group

Segment Names (Facility numbers):

National 1 (5-04-004)

National 2 (5-04-006)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek (04)
Facility Group Name	Chollas Creek - National
Segment Name (Facility Number)	National 1 (5-04-004) National 2 (5-04-006)
Substrate	National 1 / Earthen and concrete National 2 / Concrete
Location	Extends south from Webster Avenue and flows parallel to Interstate 15 (I-15) along its western side
MMP Map No(s).	91, 93
Facility Inspection No.	91, 93
Other Former Names	Chollas Creek Channel, Gregory, Logan

Figure 1: Vicinity Map of Chollas Creek - National Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - National	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Not Listed in Basin Plan (First downstream water body)	
Beneficial Uses	
303(d) listed Impairments	Benthic Community Effects, Sediment Toxicity

National Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail	Earthen bottom and earthen/concrete banks
Location Within Watershed	Lower reach of Chollas Creek, upstream of the San Diego Bay
Tributaries (listed from downstream to upstream)	Chollas Creek, Auburn Creek
Facility Length	Approximately 1,976 feet
Top-of-Bank Width	Approximately 82–162 feet
Bottom Facility Width	Approximately 35–50 feet
Facility Depth	Approximately 10–15 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	1979-D
Coastal Zone	No

Figure 1: October 2009, looking upstream where the channel crosses under National Avenue, representative of low vegetation

Figure 2: Vicinity Map of National Segment 1

Facility Maintenance History

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

History of Maintenance	Prior to 2010: Unknown 2010/2011 and 2015/2016: Emergency excavation of sediment and vegetation 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	RGP 63 USACE File #SPL-2016-00887-RAG
401	RGP 63 Verification No. R9-2015-0198:820036:lhonma
1602	LSA Emergency Notification submitted 01/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.46 acre); an additional 0.46 acre for FWM, 0.08 acre for OW, and 0.68 acre for NFC needed for City mitigation

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 October 2009 Existing Conditions report, low vegetation was observed throughout the channel. The sediment depth was estimated to be 0.5 to 3 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2019 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])	900	2,000	3,000	4,000	6,000	7,900

Hydraulic Capacity of Facility

Current Capacity	3,095 cfs
Proposed MWMP Maintained Capacity	3,095 cfs
Maintenance Recommendation	Remove sediment, debris, and vegetation from channel bottom from Station 1250 to Station 1746. Remove vegetation from the earthen channel bottom only from Station 1746 to Station 2066.
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Disturbed wetland (Arundo-dominated) • Natural flood channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	The channel does not contain suitable vegetation for sensitive species; however, due to the adjacency of the channel to suitable coastal and mudflat areas, there is some potential for Ridgway's rails to occur in the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Proposed as part of the "FY16 Emergency Wetlands Mitigation 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	P-37-012091; P-37-025853
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric habitation refuse

Historical Resources	
Resource Identified in APE	Channel; 1954 earthen channel
Potential Historical Resources Constraint Identified	Yes

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-1	MM-CR-1
EP-HAZ-3	MM-CR-2
Solid Waste (SW)	MM-CR-3
EP-SW-2	MM-CR-4
EP-SW-3	MM-HR-1
EP-SW-4	MM-HR-2
EP-SW-5	**Noise (NOI)**
EP-SW-6	MM-NOI-1
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

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.

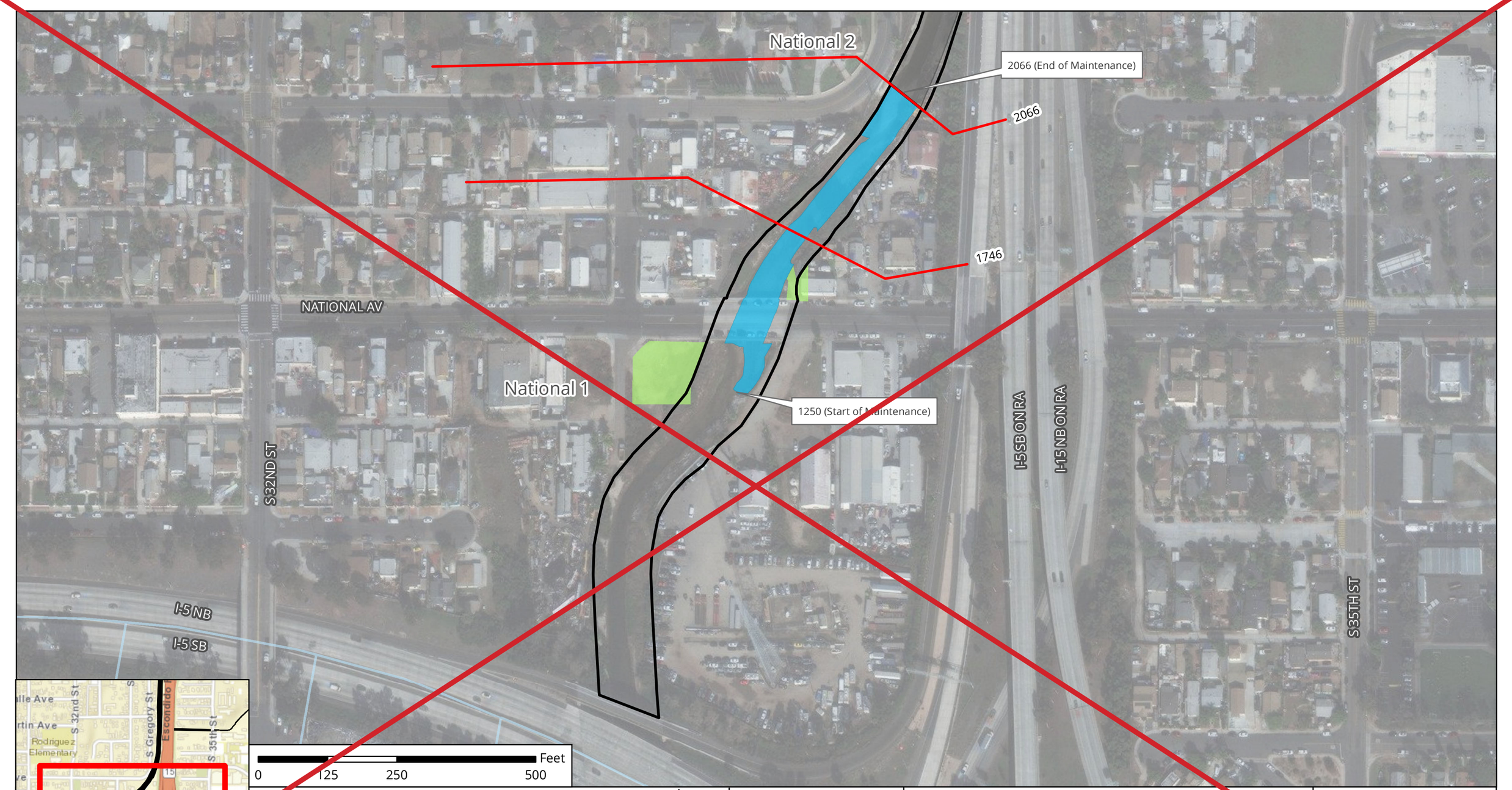
Facility Group	Chollas Creek - National
Segment Name	National 1
Facility No.	5-04-004
Facility Location	From upstream end of Oceanview segment 1 to just upstream of where Chollas Creek confluences with South Las Chollas Creek, south of Interstate 15 (I-15)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove sediment, debris, and vegetation from channel bottom from Station 1250 to Station 1746. Remove vegetation from the earthen channel bottom only from Station 1746 to Station 2066.
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	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 1979-D
Substrate Detail	Earthen bottom and earthen/concrete banks

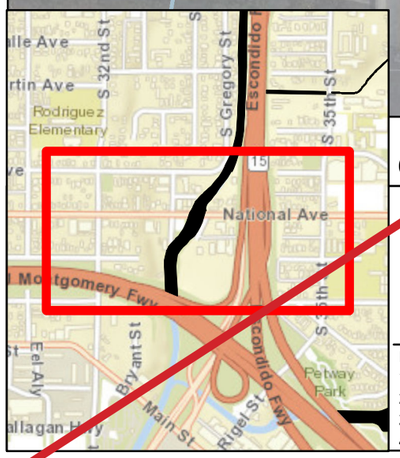
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,976 feet Top width: 82–162 feet Bottom width: 35–50 feet Depth: 10–15 feet
Authorized Facility Maintenance Area	Length: Channel: 816 feet Width: 15–~~65~~ 82 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, fuel-powered hand tools, sweeper
Schedule	Up to approximately 45–60 working days
Maintenance Crew	Approximately 15–20 people
Routine Maintenance Procedures	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 stockpile area or 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: No 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

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

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





0 125 250 500 Feet

- Station
- Facility Area
- Coastal Zone
- Adjacent Facility Activity Area
- Access/Loading/Staging /Stockpiling Area
- Maintenance Area

N

The City of SAN DIEGO

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: Chollas Creek - National
Segment Name: National 1
Facility No: 5-04-004
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

National 2

2066 (End of Maintenance)

2066

1746

NATIONAL AV

National 1

1250 (Start of Maintenance)

S 32ND ST

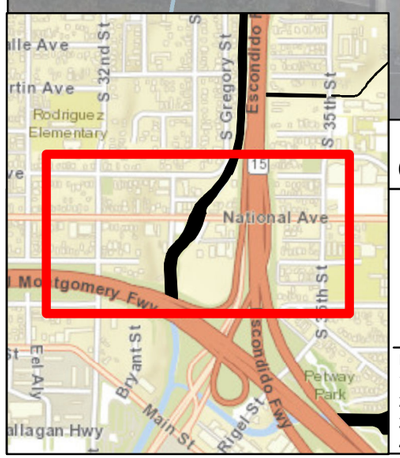
I-5 SB ON RA

I-15 NB ON RA

S 35TH ST

I-5 NB

I-5 SB



0 125 250 500 Feet

- Station
- Facility Area
- Coastal Zone
- Adjacent Facility Activity Area
- Access/Loading/Staging /Stockpiling Area
- Maintenance Area

N

The City of SAN DIEGO

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.

March 2020

Map A: General Site Plan
Facility Group Name: Chollas Creek - National
Segment Name: National 1
Facility No: 5-04-004
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

National Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Chollas Creek, immediately upstream of Chollas Creek (National Segment 1)
Tributaries (listed from downstream to upstream)	Chollas Creek, Auburn Creek
Facility Length	Approximately 3,028 feet
Top-of-Bank Width	Approximately 50–60 feet
Bottom Facility Width	Approximately 20–50 feet
Facility Depth	Approximately 10–15 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	1979-D
Coastal Zone	No

Figure 1: October 2009, looking downstream, representative of medium to dense vegetation

Figure 2: Vicinity Map of National Segment 2

Facility Maintenance History

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

History of Maintenance	Prior to 2010: Unknown 2010/2011 and 2015/2016: Emergency excavation of sediment and vegetation 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	RGP 63 USACE File #SPL-2016-00887-RAG
401	RGP 63 Verification No. R9-2015-0198:820036:lhonma
1602	LSA Emergency Notification submitted 01/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (1.6 acres); an additional 1.6 acres for FWM needed for City mitigation

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 October 2009, moderate to dense vegetation was observed throughout the channel. The sediment depth was estimated to be 0.3 to 1 foot. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2019 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])	900	2,000	3,000	4,000	6,000	7,900

Hydraulic Capacity of Facility

Current Capacity	2,000 cfs
Proposed MWMP Maintained Capacity	4,350 cfs
Maintenance Recommendation	Remove sediment, debris and vegetation throughout the channel from Station 2066 to 4774
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Developed concrete-lined channel • Freshwater marsh (concrete-lined channel)
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Natural flood channel • Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive species; however, due to the adjacency of the channel to suitable coastal and mudflat areas, there is some potential for Ridgway's rail to occur in 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-37-025852
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric shell scatter

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

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	MM-HR-1
EP-SW-5	MM-HR-2
EP-SW-6	**Noise (NOI)**
EP-SW-7	MM-NOI-1
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

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	Chollas Creek - National
Segment Name	National 2
Facility No.	5-04-006
Facility Location	From Access/Maintenance Ramp near Webster Avenue along the west side of Interstate 15 (I-15) to 320 feet south of Logan Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove sediment, debris and vegetation throughout the channel from Station 2066 to 4774
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-Builts?	Yes; 1979-D
Substrate Detail[3]	Concrete bottom and banks

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

Facility Dimensions (Approximate)	Length: 3,028 feet Top width: 50–60 feet Bottom width: 20–50 feet Depth: 10–15 feet
Authorized Facility Maintenance Area	Length: Channel: 2,743 feet Width: 50–60 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, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 45–60 working days
Maintenance Crew	Approximately 15–20 people
Routine Maintenance Procedures	1. Loader and dump truck enter channel at access/loading area 2. Loader scoops material from channel and loads dump truck 3. Dump truck hauls material to stockpile area or legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
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: No 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

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

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

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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - National
Segment Name: National 2
Facility No: 5-04-006
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

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.

March 2020

Map A: General Site Plan
Facility Group Name: Chollas Creek - National
Segment Name: National 2
Facility No: 5-04-006
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

Chollas Creek - Rolando Facility Group

Segment Names (Facility numbers):

- Cartagena 1 (5-04-044)
- Rolando 1 (5-04-046)
- Rolando 2 (5-04-048)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek (04)
Facility Group Name	Chollas Creek - Rolando
Segment Name (Facility Number)	Cartagena 1 (5-04-044) Rolando 1 (5-04-046) Rolando 2 (5-04-048)
Substrate	Cartagena 1 / Concrete Rolando 1 / Concrete Rolando 2 / Earthen
Location	Bordered by Aragon Drive to the east, by commercial development to the north, by residential development to the south, and by College Avenue to the west
MMP Map No(s).	71, 72
Facility Inspection No.	71, 72
Other Former Names	Chollas Creek Channel

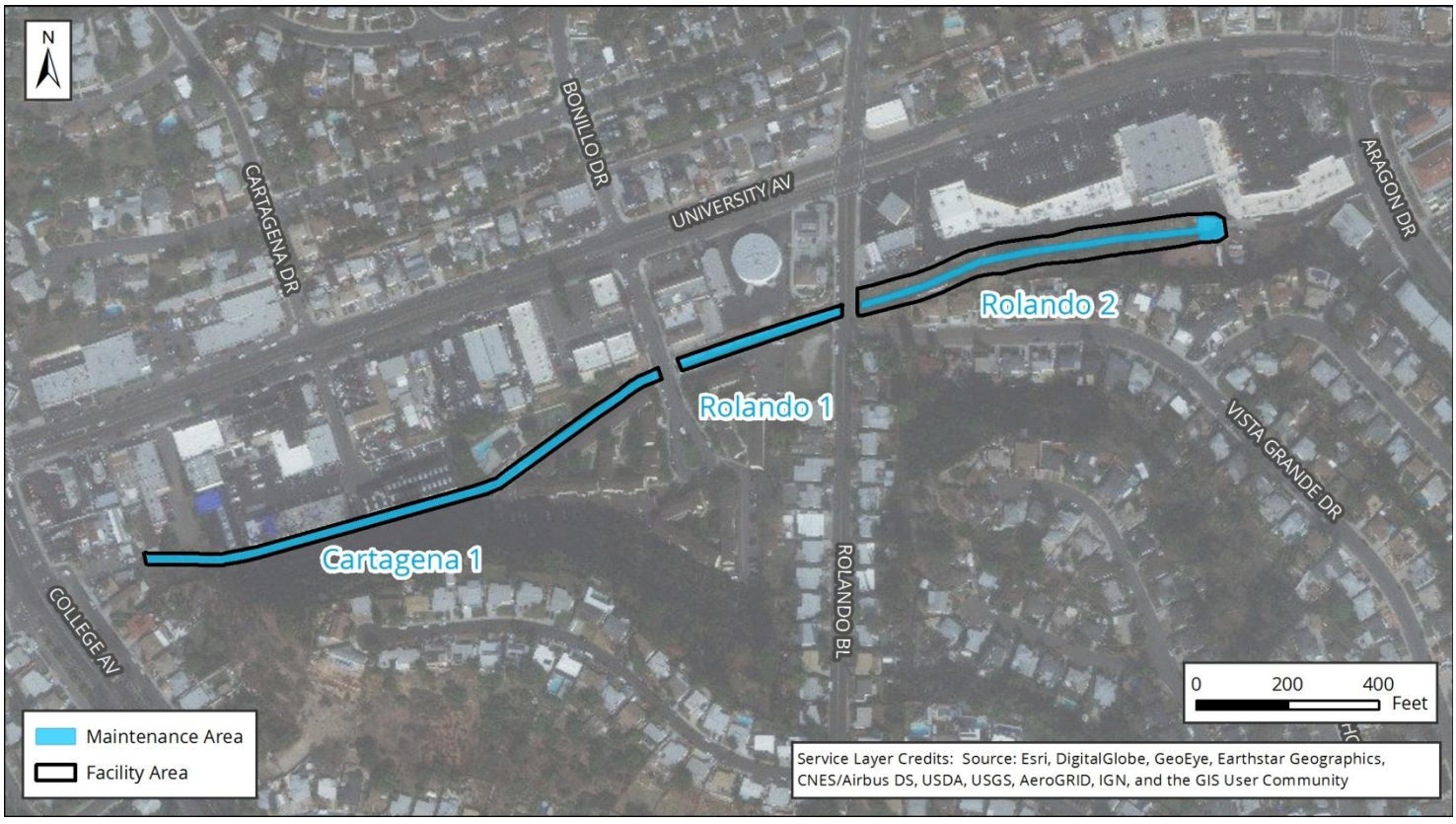


Figure 1: Vicinity Map of Chollas Creek - Rolando Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - Rolando	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Cartagena Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Unnamed tributary to Chollas Creek, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,225 feet
Top-of-Bank Width	Approximately 16–21 feet
Bottom Facility Width	Approximately 8–20 feet
Facility Depth	Approximately 6.5 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Office, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	20597-D
Coastal Zone	No

Figure 1: July 2017, looking upstream; missing sidewall and eroded bank at center

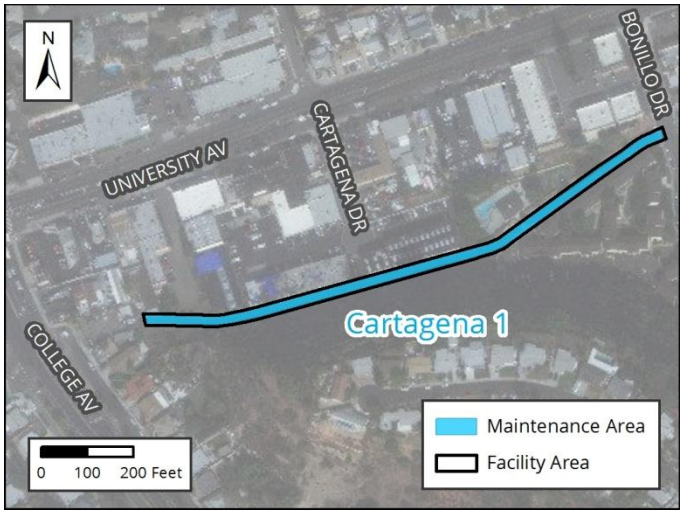


Figure 2: Vicinity Map of Cartagena Segment 1

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 section of wall that had collapsed into channel was removed in 2016 (no permits required)
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 bottom is relatively clean with minor vegetation present. The side slopes range from light to heavy vegetation.					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	1,306	1,738	1,928	2,328	2,434	2,739
Hydraulic Capacity of Facility						
Current Capacity	1,132 cfs					
Proposed MWMP Maintained Capacity	1,826 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 4997 to Station 6222					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within the facility, and the majority of coastal sage scrub present adjacent to the facility is dominated by lemonade berry (Rhus integrifolia); as such, it is not suitable for coastal California gnatcatcher
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. 1953–1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

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-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	

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	Chollas Creek - Rolando
Segment Name	Cartagena 1
Facility No.	5-04-044
Facility Location	From outlet of culvert underneath Bonillo Drive to inlet of culvert 100 feet east of College Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 4997 to Station 6222
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-Builts?	Yes; 20597-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,225 feet Top width: 16–21 feet Bottom width: 8–20 feet Depth: 6.5 feet

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

Authorized Facility Maintenance Area	Length: Channel: 1,225 feet Width: 21 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 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	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	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: No 2. Adjacent to maintenance area: No 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	Yes; implement BMPs per Water Pollution Control Plan

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

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

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

N

The City of SAN DIEGO

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: Chollas Creek - Rolando
Segment Name: Cartagena 1
Facility No: 5-04-044
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

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

Rolando Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Chollas Creek (unnamed tributary), upstream of Chollas Creek (Oceanview Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 424 feet
Top-of-Bank Width	Approximately 21 feet
Bottom Facility Width	Approximately 8 feet
Facility Depth	Approximately 6.5 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Office, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	11287-3-D
Coastal Zone	No

Figure 1: July 2017, looking upstream from downstream end segment

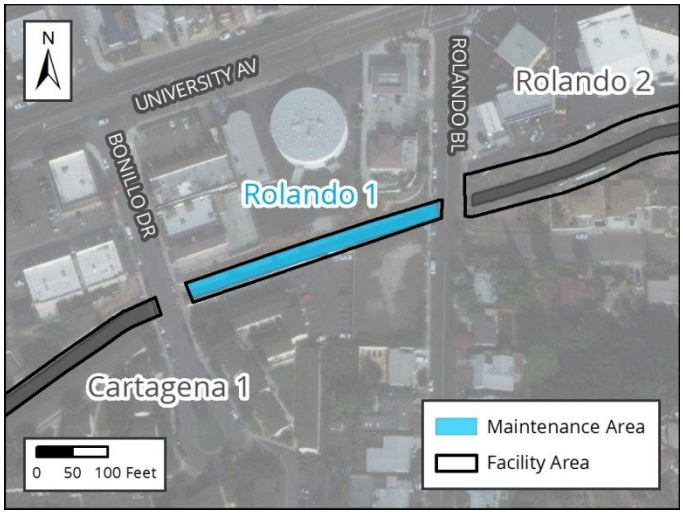


Figure 2: Vicinity Map of Rolando Segment 1

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 relatively clean and light vegetation was observed 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])	577	707	793	943	986	1,157
Hydraulic Capacity of Facility						
Current Capacity	829 cfs					
Proposed MWMP Maintained Capacity	829 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 6272 to Station 6646. Remove accumulated sediment and debris in culvert from Station 6222 to Station 6272.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings • Natural flood channel
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; 1965 concrete channel
Potential Historical Resources Constraint Identified	Yes

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-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	

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.

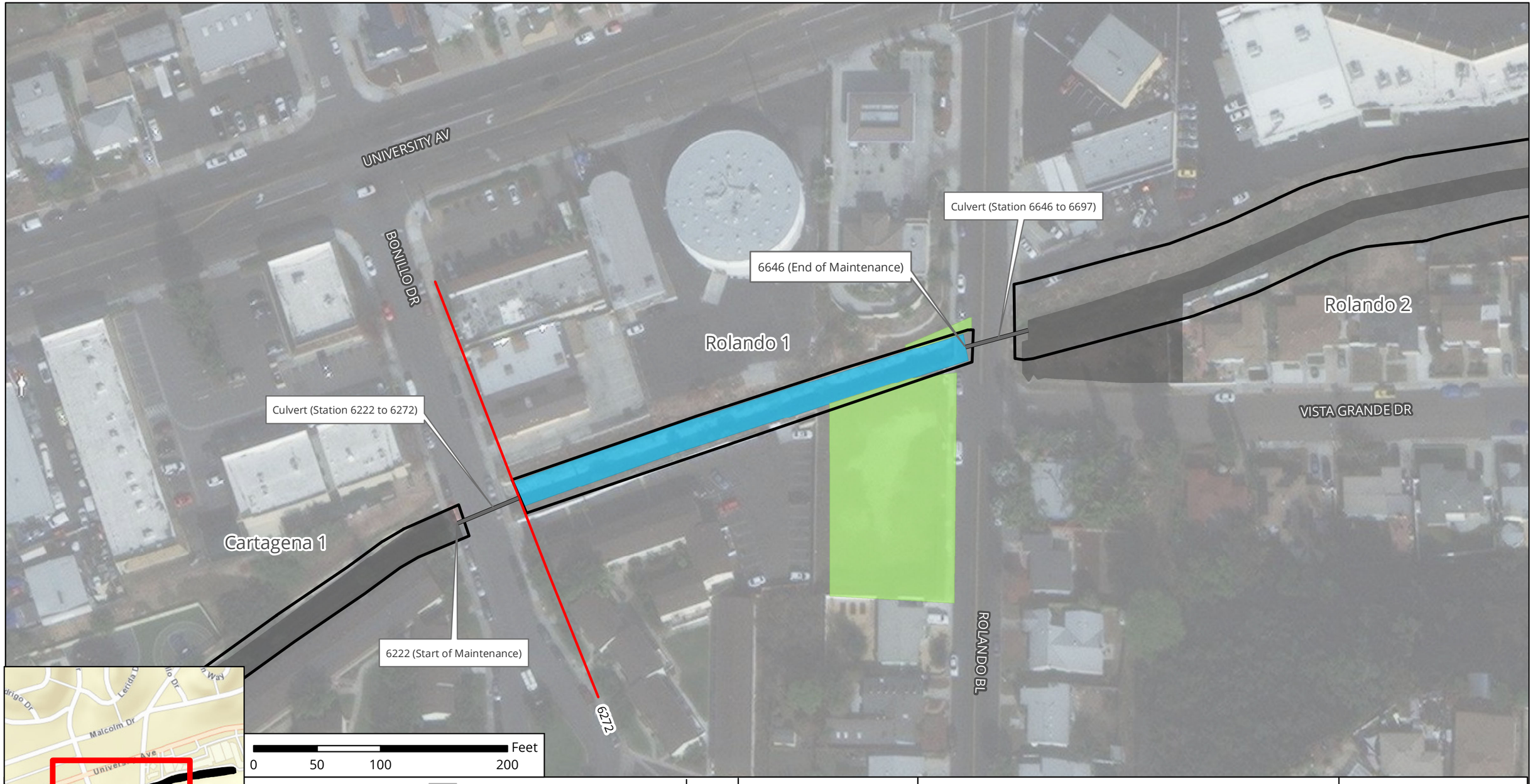
Facility Group	Chollas Creek - Rolando
Segment Name	Rolando 1
Facility No.	5-04-046
Facility Location	From outlet of culvert beneath Rolando Boulevard to inlet of tall culvert beneath Bonillo Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 6272 to Station 6646. Remove accumulated sediment and debris in culvert from Station 6222 to Station 6272.
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 ditch
Existing Plans and/or As-Builts?	Yes; 11287-3-D
Substrate Detail	Concrete bottom and banks

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

Facility Dimensions (Approximate)	Length: 424 feet Top width: 21 feet Bottom width: 8 feet Depth: 6.5 feet
Authorized Facility Maintenance Area	Length: Ditch: 374 feet; Culvert: 50 feet Width: 21 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 30–45 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	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 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	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: No 2. Adjacent to maintenance area: No 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

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

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



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

N

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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: Chollas Creek - Rolando
Segment Name: Rolando 1
Facility No: 5-04-046
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

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

Rolando Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen and riprap bottom, and earthen, rip-rap and gunite banks
Location Within Watershed	Upper reach of Chollas Creek, immediately upstream of Chollas Creek (unnamed tributary, Rolando Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 871 feet
Top-of-Bank Width	Approximately 36 feet
Bottom Facility Width	Approximately 15 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Office, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	12701-L
Coastal Zone	No

Figure 1: May 2015, looking towards the double 8-foot wide by 5-foot, 2-inch tall RCB culvert at downstream end of segment

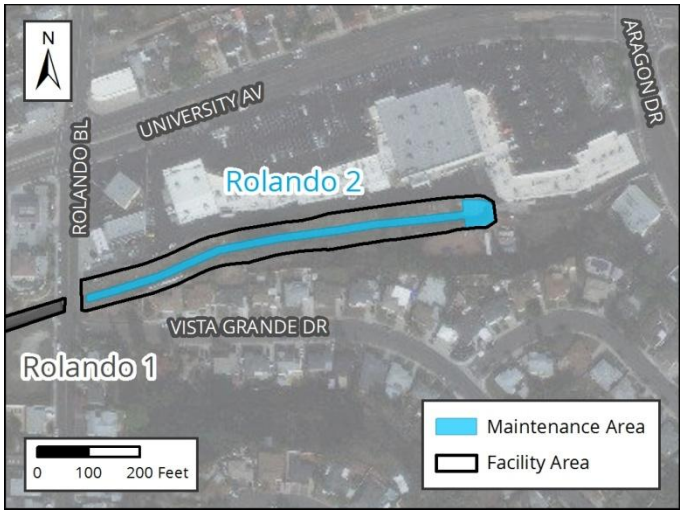


Figure 2: Vicinity Map of Rolando Segment 2

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 and vegetation 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	RGP 63 USACE File #SPL-2015-00924-MG
401	RGP 63 Verification No. R9-2015-0212:820311:lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.06 acre); an additional 0.12 acre for SWS and 0.12 acre for NFC needed for City mitigation

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 May 2015, moderate to dense vegetation was observed and sediment deposition was estimated to be 0.7 foot					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	577	707	793	943	986	1,157
Hydraulic Capacity of Facility						
Current Capacity	235 cfs					
Proposed MWMP Maintained Capacity	235 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 6697 to Station 7517. Remove accumulated sediment and debris in culvert from Station 6646 to Station 6697. Perform bank repair on the eroded northern bank over a length of approximately 160 feet (Station 6917 to Station 7077). Perform concrete bank repair on the side slopes over a length of approximately 55 feet (Station 7462 to Station 7517).					
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

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	• Natural flood channel • Riparian scrub (southern willow scrub)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed 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	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1956 earthen channel
Potential Historical Resources Constraint Identified	Yes

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
Geologic Resources (GEO)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-GEO-1	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
EP-HAZ-3	**Noise (NOI)**
Hydrology (HYD)	MM-NOI-1
EP-HYD-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	

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	Chollas Creek - Rolando
Segment Name	Rolando 2
Facility No.	5-04-048
Facility Location	From 400 feet southwest of the intersection of University Avenue and Aragon Drive, to inlet of culvert beneath Rolando Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 6697 to Station 7517. Remove accumulated sediment and debris in culvert from Station 6646 to Station 6697. Perform bank repair on the eroded northern bank over a length of approximately 160 feet (Station 6917 to Station 7077). Perform concrete bank repair on the side slopes over a length of approximately 55 feet (Station 7462 to Station 7517).
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation Riprap replacement Bank grading and stabilization
Bank Repair	Yes (multiple options); see Appendix A-4
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

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

Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 12701-L
Substrate Detail	Earthen and rip-rap bottom, and earthen, riprap and gunite banks
Facility Dimensions (Approximate)	Length: 871 feet Top width: 36 feet Bottom width: 15 feet Depth: 7 feet
Authorized Facility Maintenance Area	Length: Channel: 820 feet; Culvert: 51 feet Width: 10–36 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, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30–45 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	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	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: No 2. Adjacent to maintenance area: No 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
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

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

Notes:
1. **In-stream post-maintenance erosion control measures 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.**

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - Rolando
Segment Name: Rolando 2
Facility No: 5-04-048
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Chollas Creek - Martin Facility Group

Segment Name (Facility number):

Martin 1 (5-04-101)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek Unnamed Tributary (04)
Facility Group Name	Chollas Creek - Martin
Segment Name (Facility Number)	Martin 1 (5-04-101)
Substrate	Martin 1 / Earthen and concrete
Location	Bordered by 36th Street to the east, Interstate 15 (I-15) to the west, single-family residential developments to the north, and multi-family residential developments to the south
MMP Map No(s).	92
Facility Inspection No.	92
Other Former Names	None

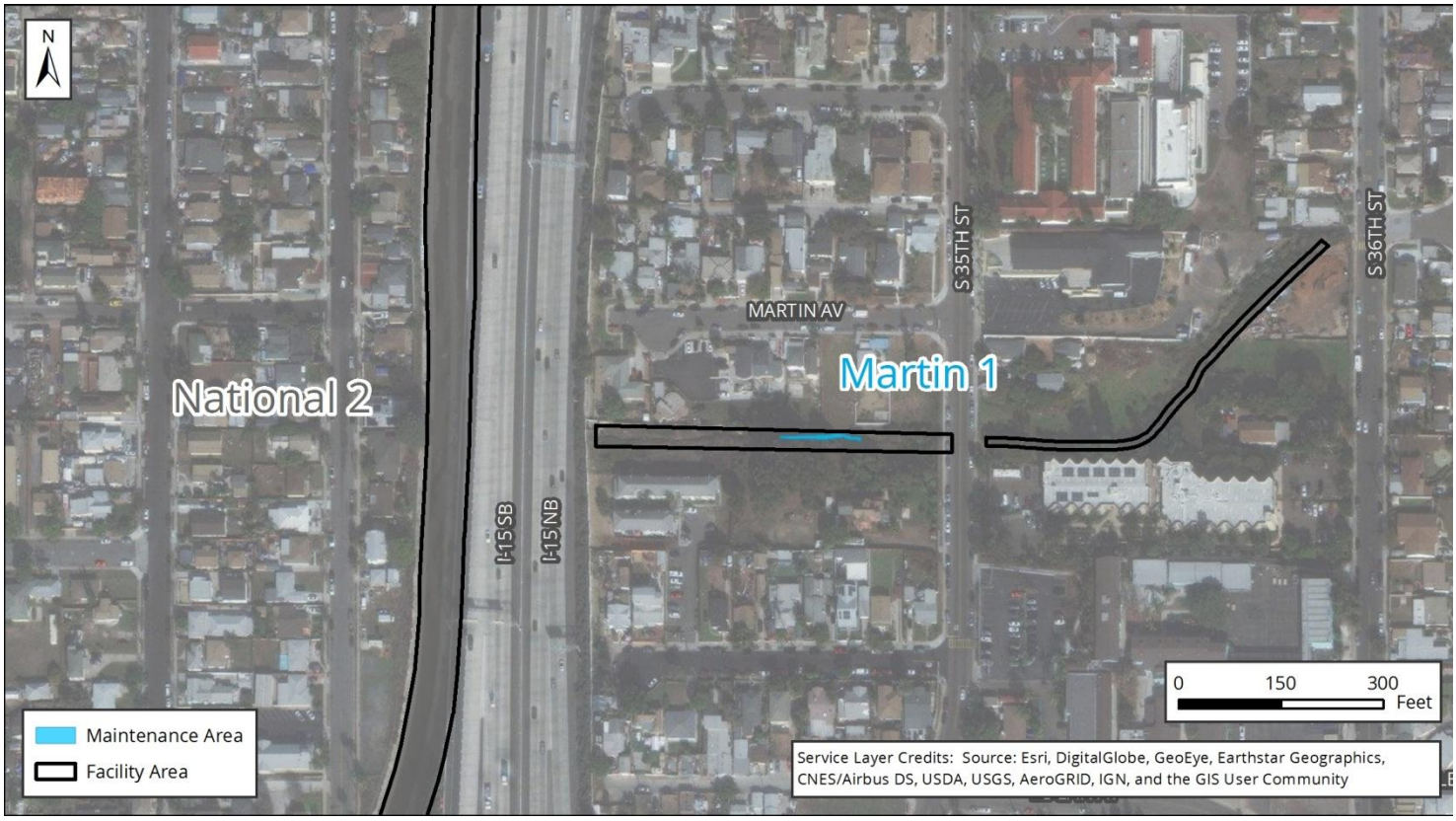


Figure 1: Vicinity Map of Chollas Creek - Martin Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - Martin	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Martin Segment 1 Detail

Facility Type	Earthen and concrete ditch
Substrate Detail[1]	Stations 235-825: Earthen bottom and banks Stations 825-1035: Earthen bottom , earthen right bank, concrete left bank Stations 1035-1428: Earthen bottom and banks
Location Within Watershed	Lower reach of Chollas Creek unnamed tributary, immediately upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,195 feet
Top-of-Bank Width	Approximately 25–70 feet
Bottom Facility Width	Approximately 3–7 feet
Facility Depth	Approximately 4–8 feet
Adjacent Land Use	Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: July 2017, looking downstream at scoured ditch bed

Figure 2: Vicinity Map of Martin Segment 1

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

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.[2]

Current Conditions Affecting Facility Capacity	The vegetation observed ranged from light to medium with no evidence of sediment deposition. A scoured area was identified during the site visit.					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	118	151	176	211	237	262
Hydraulic Capacity of Facility						
Current Capacity	228 cfs					
Proposed MWMP Maintained Capacity	228 cfs					
Maintenance Recommendation	Repair and restabilize scoured ditch bed between Station 496 to Station 616					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

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

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	• Developed concrete-lined channel • Disturbed wetland (castor bean dominated) • Natural flood channel • Ornamental plantings
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (castor bean dominated) • 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/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	P-37-025853
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric habitation refuse

Historical Resources	
Resource Identified in APE	Channel; 3463 Martin St.; 3487 Martin St.; pre-1953 earthen channel; two buildings more than 45 years old (not previously evaluated)
Potential Historical Resources Constraint Identified	Yes

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-CR-1
EP-HYD-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	

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.

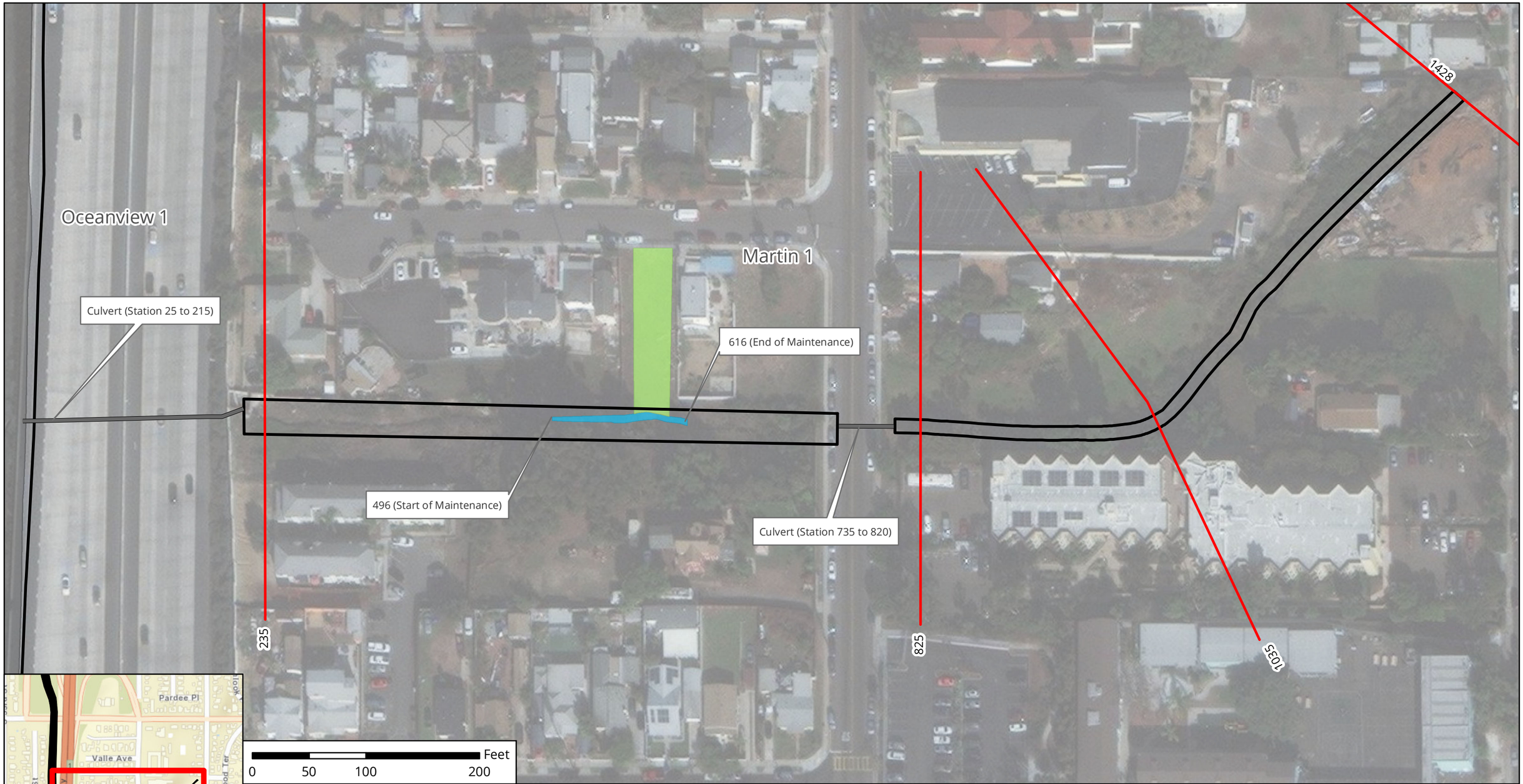
Facility Group	Chollas Creek - Martin
Segment Name	Martin 1
Facility No.	5-04-101
Facility Location	From outlet of culvert at southwest corner of Hemlock Street and 36th Street to outlet of culvert located on the west side of Interstate 15 (I-15)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen ditch per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Repair and restabilize scoured ditch bed between Station 496 to Station 616
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
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 ditch
Existing Plans and/or As-Builts?	None
Substrate Detail[3]	Stations 235-825: Earthen bottom and banks Stations 825-1035: Earthen bottom , earthen right bank, concrete left bank Stations 1035-1428: Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 1,195 feet Top width: 25–70 feet Bottom width: 3–7 feet Depth: 4–8 feet

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

Authorized Facility Maintenance Area	Length: Ditch: 120 feet Width: 7–11 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	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator and/or bulldozer/track-steer enter or are lowered into ditch at access/loading area 2. Gradall/excavator and/or bulldozer/track-steer place material into scour hole 3. Bulldozer/track-steer compact material
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[4]: 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	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

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

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



0 50 100 200 Feet

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

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

August 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - Martin
Segment Name: Martin 1
Facility No: 5-04-101
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Chollas Creek - J St Facility Group

Segment Name (Facility number):

J St 1 (5-04-163)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek Unnamed Tributary (04)
Facility Group Name	Chollas Creek - J St
Segment Name (Facility Number)	J St 1 (5-04-163)
Substrate	J St 1 / Earthen
Location	Bordered by single-family residential developments, community garden along Market Street, and Toyne Street to the west
MMP Map No(s).	100
Facility Inspection No.	100
Other Former Names	None

Figure 1: Vicinity Map of Chollas Creek - J St Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - J St	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

J St Segment 1 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Chollas Creek unnamed tributary, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 404 feet
Top-of-Bank Width	Approximately 4–22 feet
Bottom Facility Width	Approximately 4–6 feet
Facility Depth	Approximately 0.4–3 feet
Adjacent Land Use	Single-Family Residential, Transportation
As-Built Drawing Number	28415-D
Coastal Zone	No

Figure 1: April 2018, looking west at bank repair

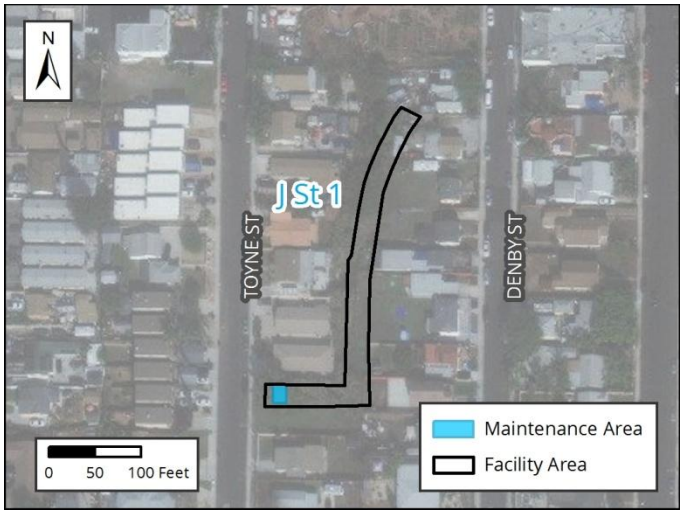

Figure 2: Vicinity Map of J St Segment 1

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 range from moderate to dense and no 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])	29	37	43	51	57	64
Hydraulic Capacity of Facility						
Current Capacity	17 cfs					
Proposed MWMP Maintained Capacity	17 cfs					
Maintenance Recommendation	Trim vegetation and remove invasive vegetation between Station 10 and Station 25. The remainder of J St is recommended to be maintained by private property owners from Station 25 to Station 193 to trim vegetation, remove invasive vegetation, and remove sediment, debris, and vegetation at the culvert outlets located at Station 108and Station 414. Remove sediment and debris in culvert at Station 10.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Adjacent Vegetation	• Disturbed land • Disturbed wetland (Arundo-dominated) • Natural flood channel • Ornamental plantings • Riparian scrub (southern willow scrub) • Urban / Developed
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the ornamental plantings within and adjacent to the facility for nesting/rooting.
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; 425-435 Toyne St.; pre-1953 earthen channel; two buildings more than 45 years old (not previously evaluated)
Potential Historical Resources Constraint Identified	Yes

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
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	

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	Chollas Creek - J St
Segment Name	J St 1
Facility No.	5-04-163
Facility Location	From outlet of culvert 150 feet south of Market Street to inlet of culvert at the east side of Toyne Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Trim vegetation and remove invasive vegetation between Station 10 and Station 25. The remainder of J St is recommended to be maintained by private property owners from Station 25 to Station 193 to trim vegetation, remove invasive vegetation, and remove sediment, debris, and vegetation at the culvert outlets located at Station 108and Station 414. Remove sediment and debris in culvert at Station 10.
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 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?	Yes; 28415-D
Substrate Detail	Earthen bottom and banks

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

Facility Dimensions (Approximate)	Length: 404 feet Top width: 4–22 feet Bottom width: 4–6 feet Depth: 0.4–3 feet
Authorized Facility Maintenance Area	Length: Ditch: 15 feet Width: 8–15 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, fuel-powered hand tools, sweeper
Schedule	Up to approximately 3–5 working days
Maintenance Crew	Approximately 9–12 people
Routine Maintenance Procedures	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 and loads dump truck on street 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	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
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 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

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

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

Notes:
1. **In-stream post-maintenance erosion control measures 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.**

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August 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - J St
Segment Name: J St 1
Facility No: 5-04-163
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Auburn Creek - Home Facility Group

Segment Names (Facility numbers):

- Home 1 (5-04-220)
- Home 2 (5-04-224)
- Home 3 (5-04-227)
- Home 4 (5-04-229) (See Appendix A-5)
- Home 5 (5-04-231)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Auburn Creek (04)
Facility Group Name	Auburn Creek - Home
Segment Name (Facility Number)	Home 1 (5-04-220) Home 2 (5-04-224) Home 3 (5-04-227) Home 4 (5-04-229) (See Appendix A-5) Home 5 (5-04-231)
Substrate	Home 1 / Earthen Home 2 / Earthen Home 3 / Concrete Home 4 / Earthen and concrete Home 5 / Earthen and concrete
Location	About 300 feet northeast of Fairmount Avenue and northeast of the intersection of Home Avenue and Federal Boulevard
MMP Map No(s).	70, 76, 77
Facility Inspection No.	70, 76, 77
Other Former Names	Home Avenue Channel

Figure 1: Vicinity Map of Auburn Creek - Home Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Auburn Creek - Home	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Home Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom, earthen and partial riprap banks
Location Within Watershed	Lower reach of Auburn Creek, immediately upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 489 feet
Top-of-Bank Width	Approximately 33–82 feet
Bottom Facility Width	Approximately 10–25 feet
Facility Depth	Approximately 7–10.5 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Transportation
As-Built Drawing Number	57-11VC1P
Coastal Zone	No

Figure 1: February 2017, standing along east bank of segment, looking southwest at erosion behind east wing wall at downstream end

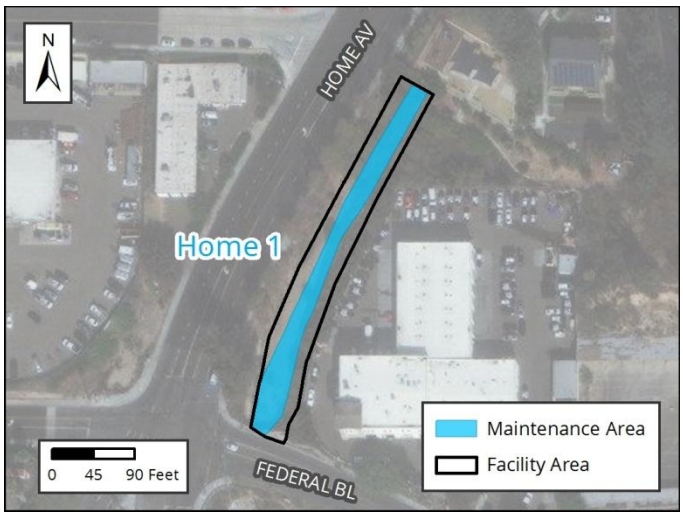


Figure 2: Vicinity Map of Home Segment 1

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 and vegetation and bank repair (riprap) 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	RGP 63 USACE File #SPL-2016-00211-RAG
401	RGP 63 Verification No. R9-2016-0085;822782;lhonma
1602	LSA Emergency Notification submitted 03/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.09 acre); an additional 0.12 acre for NFC needed for City mitigation

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 light to heavy and sediment deposition was observed to be 1 foot 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])	120	290	430	630	950	1,200
Hydraulic Capacity of Facility						
Current Capacity	957 cfs					
Proposed MWMP Maintained Capacity	1,028 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the in-line weir at Station 641. Remove accumulated sediment, debris, and vegetation from Station 295 to Station 710. Remove accumulated sediment and debris in culvert from Stations 221 to Station 295.					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

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	• Natural flood channel • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	Although this channel 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)
Mitigation Within Facility	None

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

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 Constraint Identified	None

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
Hydrology (HYD)	
EP-HYD-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	

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	Auburn Creek - Home
Segment Name	Home 1
Facility No.	5-04-220
Facility Location	From outlet of culvert underneath the existing Terrace View Villas to inlet of culvert beneath Federal Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from the in-line weir at Station 641. Remove accumulated sediment, debris, and vegetation from Station 295 to Station 710. Remove accumulated sediment and debris in culvert from Stations 221 to Station 295.
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	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-Builts?	Yes; 57-11VC1P
Substrate Detail	Earthen bottom, earthen and partial riprap banks

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

Facility Dimensions (Approximate)	Length: 489 feet Top width: 33–82 feet Bottom width: 10–25 feet Depth: 7–10.5 feet
Authorized Facility Maintenance Area	Length: Channel: 415 feet; Culvert: 74 feet Width: 13–30 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, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer, and loader enter or are 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
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, limited suitable habitat present 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

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

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

Home 1

710 (End of Maintenance)

641

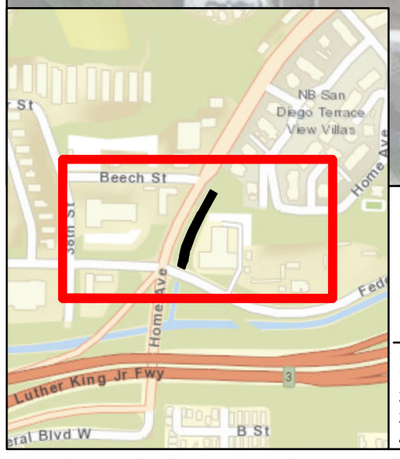
HOME AV

221 (Start of Maintenance)

Culvert (Station 221 to 295)

301

FEDERAL BL



Culvert

Station

Facility Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

The City of SAN DIEGO

Notes:
1. In-stream post-maintenance erosion control measures 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.

August 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Home
Segment Name: Home 1
Facility No: 5-04-220
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Home Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom, earthen and partial riprap banks
Location Within Watershed	Lower reach of Auburn Creek, immediately upstream of Auburn Creek (Home, Segment 1)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 920 feet
Top-of-Bank Width	Approximately 45–55 feet
Bottom Facility Width	Approximately 12–22 feet
Facility Depth	Approximately 5–11 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Office, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	3706-D
Coastal Zone	No

Figure 1: March 2016, looking upstream at the vegetation and displaced riprap downstream of the double 7-foot wide by 6-foot tall RCB culvert

Figure 2: Vicinity Map of Home Segment 2

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 January 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 31/33 USACE File #SPL-2018-00276-SRR (expires March 2022)
401	RWQCB 401 Cert No. R9-2018-0076 (expires March 2022)
1602	No 1602 required per CDFW letter reference No. 1600-2018-0123-R5
Mitigation for Previous Impacts	Stadium (0.06 acre); Marron Valley Cornerstone Lands Conservation Bank (0.005 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 February 2017, the channel was observed to contain extensive sediment as well as cobbles along the bottom of the channel and dense vegetation at the upstream end

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	120	290	430	630	950	1,200

Hydraulic Capacity of Facility

Current Capacity	630 cfs
Proposed MWMP Maintained Capacity	1,200 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the bed and banks of the segment from Station 5 to Station 165. Remove accumulated sediment, debris, and vegetation from culvert at Station 5.
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Disturbed wetland (Arundo-dominated) • Natural flood channel • Riparian forest (coast live oak) • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species, such as least Bell's vireo, the channel extents and area of vegetation present are limited such that it is unlikely for these species to use the channel for nesting or foraging. However, there is potential for raptors and other migratory species to use the vegetation within and 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 550 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; 1956 earthen channel
Potential Historical Resources Constraint Identified	Yes

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	

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	Auburn Creek - Home
Segment Name	Home 2
Facility No.	5-04-224
Facility Location	From downstream end of outlet of culvert beneath Interstate 805 (I-805) to inlet of culvert under Spillman Drive
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 Recommendation[2]	Remove accumulated sediment, debris, and vegetation from the bed and banks of the segment from Station 5 to Station 165. Remove accumulated sediment, debris, and vegetation from culvert at Station 5.
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	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 3706-D
Substrate Detail	Earthen bottom, earthen and partial riprap banks
Facility Dimensions (Approximate)	Length: 920 feet Top width: 45–55 feet Bottom width: 12–22 feet Depth: 5–11 feet

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

Authorized Facility Maintenance Area	Length: Channel: 160 feet Width: 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, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer, and excavator enter or are 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
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 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	Yes; implement BMPs per Water Pollution Control Plan

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

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

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.

The City of SAN DIEGO

August 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Home
Segment Name: Home 2
Facility No: 5-04-224
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DUDEK
Geosyntec consultants

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

Home Segment 3 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Auburn Creek, immediately upstream of Auburn Creek (Home, Segment 2)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 1,237 feet
Top-of-Bank Width	Approximately 30 feet
Bottom Facility Width	Approximately 12 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	12728-2-L
Coastal Zone	No

Figure 1: March 2016, looking downstream towards 7-foot wide by 6-foot tall double RCB culvert. Note clean channel.

Figure 2: Vicinity Map of Home Segment 3

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 channel was relatively clean with very little evidence of vegetation or 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])	120	290	430	630	950	1,200
Hydraulic Capacity of Facility						
Current Capacity	950 cfs					
Proposed MWMP Maintained Capacity	950 cfs					
Maintenance Recommendation	Concrete repair and replacement from Station 1793 to Station 2162. Remove accumulated sediment, debris and vegetation from Station 1793 to Station 2162.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife; however, suitable habitat is present in the areas surrounding the facility for sensitive bird species, such as coastal California gnatcatcher
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 45 feet 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	Channel; Pre-1963 concrete channel
Potential Historical Resources Constraint Identified	Yes

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	MM-BIO-7
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	

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.

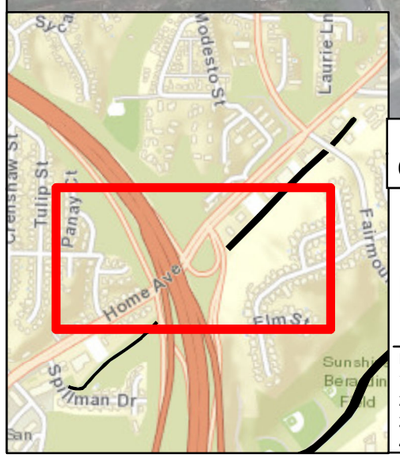
Facility Group	Auburn Creek - Home
Segment Name	Home 3
Facility No.	5-04-227
Facility Location	From downstream end of Home 4 segment to inlet of culvert beneath Interstate 805 (I-805)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Concrete repair and replacement from Station 1793 to Station 2162. Remove accumulated sediment, debris and vegetation from Station 1793 to Station 2162.
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-Builts?	Yes; 12728-2-L
Substrate Detail[3]	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,237 feet Top width: 30 feet Bottom width: 12 feet Depth: 6 feet

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

Authorized Facility Maintenance Area	Length: Channel: 369 feet Width: 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	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–10 people
Routine Maintenance Procedures	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 private property owner
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: No 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	Yes; implement BMPs per Water Pollution Control Plan

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

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

N

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Notes:
1. Concrete repair may occur in 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.

August 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Home
Segment Name: Home 3
Facility No: 5-04-227
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

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

Home Segment 5 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 3018-3293: Earthen bottom and concrete right bank Stations 3018-3166: Earthen bottom and shotcrete left bank Stations 3166-3293: Earthen bottom and earthen left bank
Location Within Watershed	Lower reach of Auburn Creek, immediately upstream of Auburn Creek (unnamed tributary, Home, Segment 4)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 377 feet
Top-of-Bank Width	Approximately 30 feet
Bottom Facility Width	Approximately 12 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	12728-2-L
Coastal Zone	No

Figure 1: March 2016, looking upstream at the double-barrel 74-inch-diameter RCP culvert

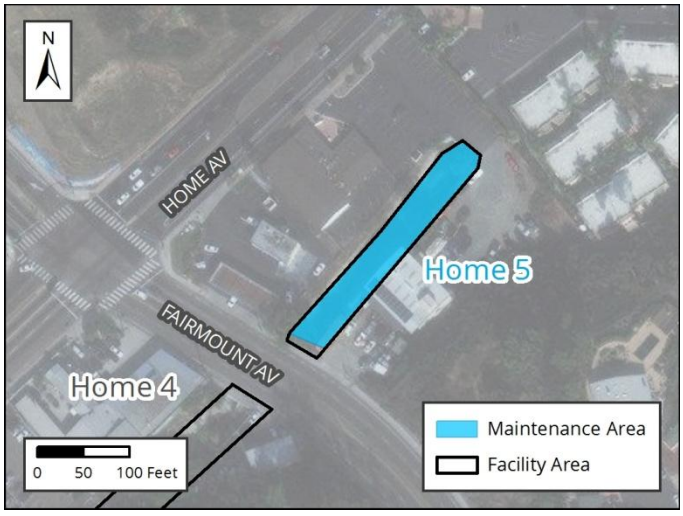


Figure 2: Vicinity Map of Home Segment 5

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

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 and vegetation 2018: Routine maintenance conducted 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2015-00945-RAG; NWP 31/33 USACE File #SPL-2018-00276-SRR (expires March 2022)
401	RGP 63 Verification No. R9-2016-0043:821318;lhonma; RWQCB 401 Cert No. R9-2018-0076 (expires March 2022)
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance to 0.10 acre. Added Otay Reed Wetland Mitigation Plan (0.16 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	In February 2017, the amount of vegetation in the channel was observed to be light to medium and cobbles were observed 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])	120	290	430	630	950	1,200
Hydraulic Capacity of Facility						
Current Capacity	630 cfs					
Proposed MWMP Maintained Capacity	630 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 3018 to Station 3293. Remove accumulated sediment and debris from culvert at Station 2916 to Station 3018.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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	• Natural flood channel
Adjacent Vegetation	• Coastal sage scrub • Developed concrete-lined channel • Developed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife; however, suitable habitat for sensitive bird species, such as coastal California gnatcatcher, is present in the areas surrounding the facility
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 90 feet south of the channel.
Mitigation Within Facility	None

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

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; 1956 earthen channel
Potential Historical Resources Constraint Identified	Yes

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	

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.

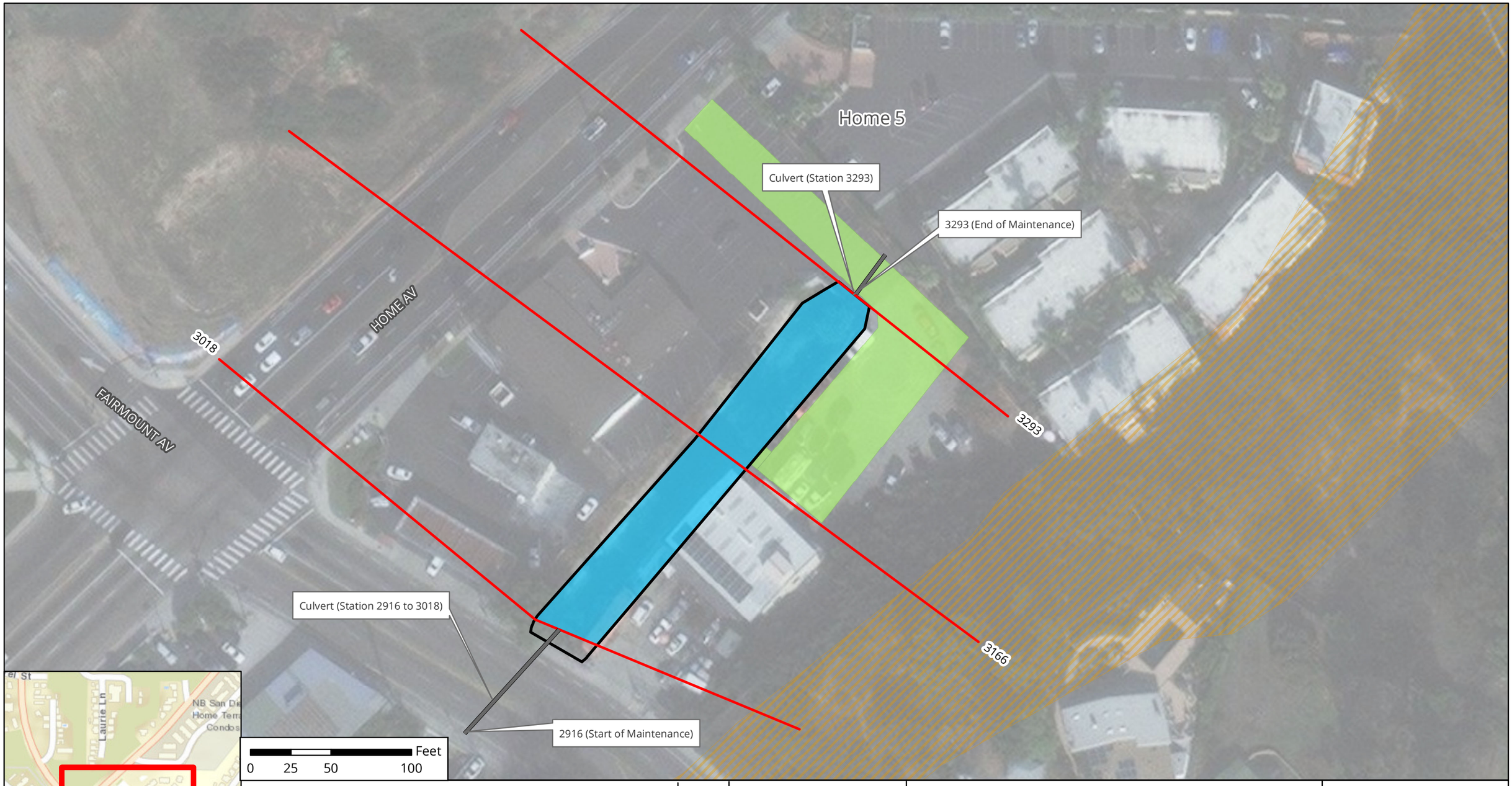
Facility Group	Auburn Creek - Home
Segment Name	Home 5
Facility No.	5-04-231
Facility Location	From 290 feet northeast of Fairmount Avenue to inlet of culvert underneath Fairmount Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions, previous maintenance approval, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 3018 to Station 3293. Remove accumulated sediment and debris from culvert at Station 2916 to Station 3018.
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; 12728-2-L
Substrate Detail[3]	Stations 3018-3293: Earthen bottom and concrete right bank Stations 3018-3166: Earthen bottom and shotcrete left bank Stations 3166-3293: Earthen bottom and earthen left bank

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

Facility Dimensions (Approximate)	Length: 377 feet Top width: 30 feet Bottom width: 12 feet Depth: 6 feet
Authorized Facility Maintenance Area	Length: Channel: 275 feet; Culvert: 102 feet Width: 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, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer and loader enter or are lowered into channel at access/loading area 2. Bulldozer/track-steer 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 private property owner and the City of San Diego
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[4]: 1. Within maintenance area: No 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

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

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

N

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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.

August 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Home
Segment Name: Home 5
Facility No: 5-04-231
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Auburn Creek - Wightman Facility Group

Segment Names (Facility numbers):

Wightman 1 (5-04-239)

Wightman 2 (5-04-241)

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Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Auburn Creek (04)
Facility Group Name	Auburn Creek - Wightman
Segment Name (Facility Number)	Wightman 1 (5-04-239) Wightman 2 (5-04-241)
Substrate	Wightman 1 / Earthen and concrete Wightman 2 / Earthen
Location	Extends north to south between Euclid Avenue and 54th Street, crossing beneath University Avenue
MMP Map No(s).	67, 68
Facility Inspection No.	67, 68
Other Former Names	Home Avenue Channel

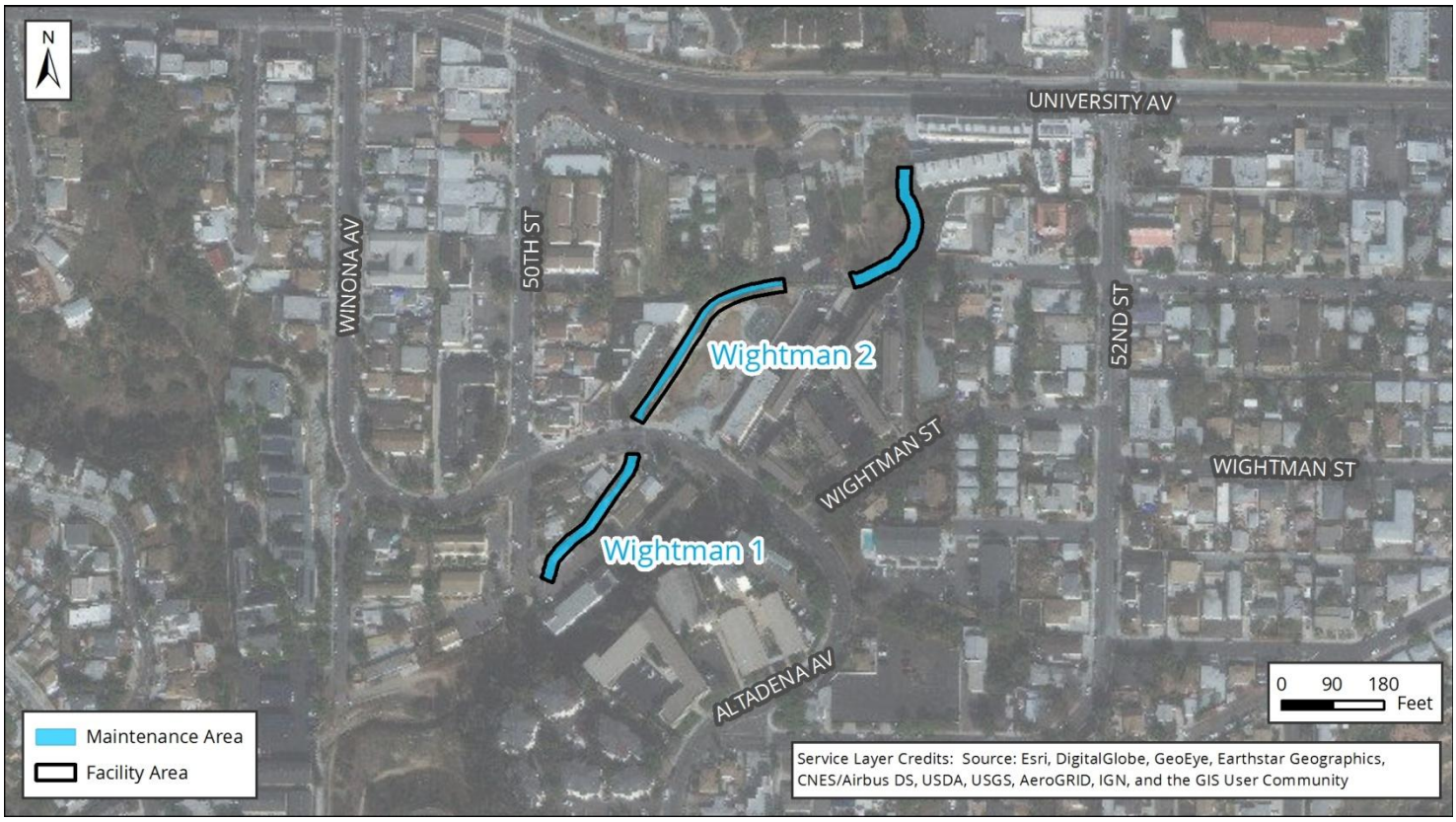


Figure 1: Vicinity Map of Auburn Creek - Wightman Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Paleta Creek - Cottonwood	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego Bay (First downstream water body)	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Wightman Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 5830-5870: Concrete bottom and banks Stations 5870-5910: Earthen bottom and banks Stations 5910-6127: Concrete bottom and banks
Location Within Watershed	Upper reach of Auburn Creek (unnamed tributary), immediately upstream of Auburn Creek (unnamed tributary, Wightman, Segment 1)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 332 feet
Top-of-Bank Width	Approximately 13–34.5 feet
Bottom Facility Width	Approximately 3.5–13.5 feet
Facility Depth	Approximately 2–6 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: August 2017, looking upstream just after transition from concrete to earthen lining; deep sediment observed

Figure 2: Vicinity Map of Wightman Segment 1

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

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 and vegetation 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	RGP 63 USACE File #SPL-2015-00862-RAG
401	RGP 63 Verification No. R9-2015-0192;819895;lhonma
1602	LSA Emergency Notification submitted 12/2015
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	The channel was relatively clean with very little evidence of vegetation or 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])	116	172	220	343	500	630
Hydraulic Capacity of Facility						
Current Capacity	248 cfs					
Proposed MWMP Maintained Capacity	248 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 5830 to Station 6127. Remove accumulated sediment and debris in culvert from Station 5795 to Station 5830.					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

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

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	• Developed concrete-lined channel • Disturbed wetland (Arundo-dominated) • Natural flood channel
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife species. Suitable habitat for sensitive wildlife species (e.g., least Bell's vireo) is present adjacent to the facility. However, the vegetation present is both limited and isolated by residential development such that it is unlikely for sensitive bird species to use the habitat for nesting or foraging.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Cobble substrate restored onsite following previous maintenance

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; 1968 earthen channel
Potential Historical Resources Constraint Identified	Yes

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)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Hydrology (HYD)	MM-HR-2
EP-HYD-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	

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.

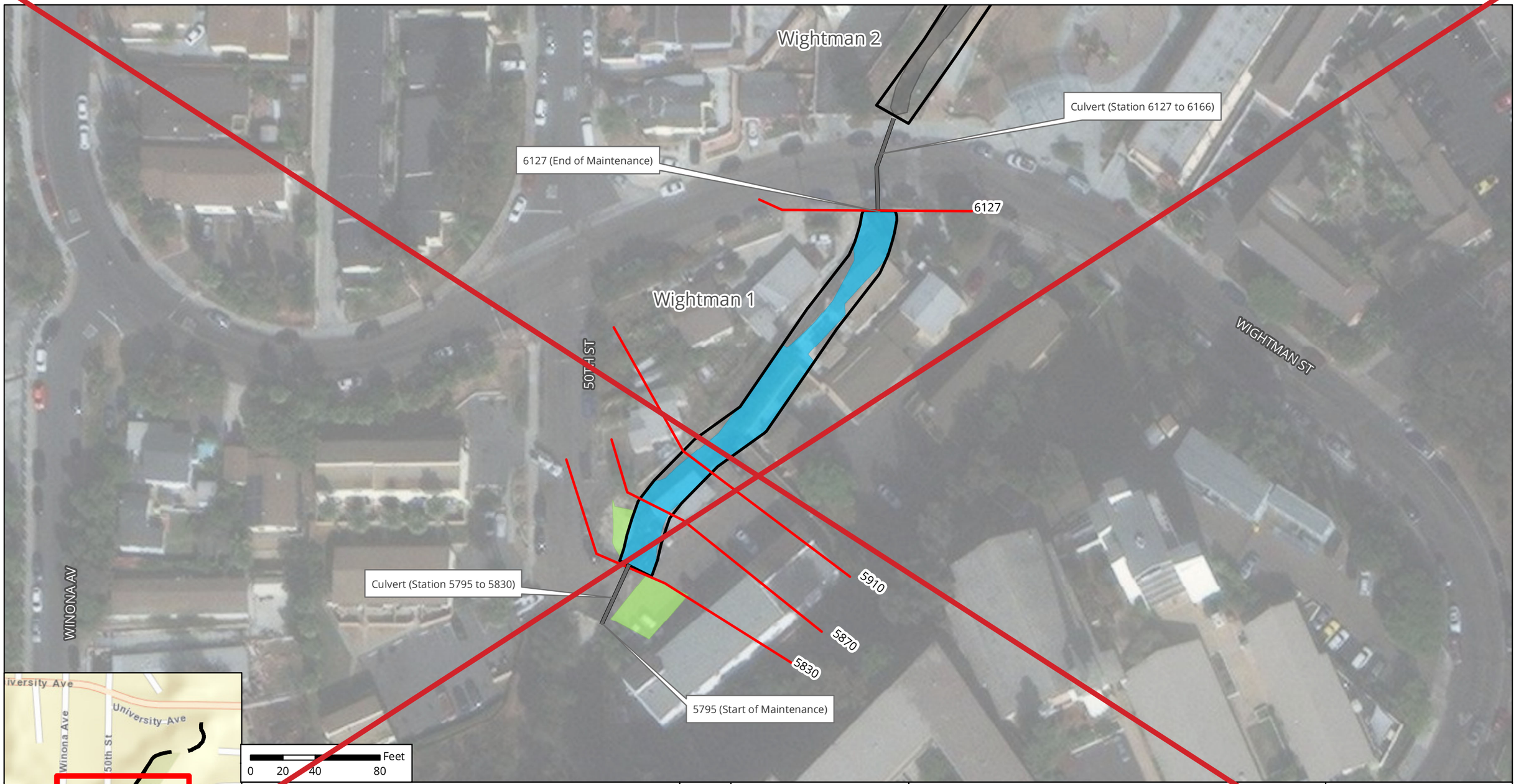
Facility Group	Auburn Creek - Wightman
Segment Name	Wightman 1
Facility No.	5-04-239
Facility Location	From outlet of culvert beneath Wightman Street to inlet of culvert at the southern terminus of 50th Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen and concrete channel per estimated original design dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 5830 to Station 6127. Remove accumulated sediment and debris in culvert from Station 5795 to Station 5830.
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	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?	None
Substrate Detail[3]	Stations 5830-5870: Concrete bottom and banks Stations 5870-5910: Earthen bottom and banks Stations 5910-6127: Concrete bottom and banks

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

Facility Dimensions (Approximate)	Length: 332 feet Top width: 13–34.5 feet Bottom width: 3.5–13.5 feet Depth: 2–6 feet
Authorized Facility Maintenance Area	Length: Channel: 297 feet; Culvert: 35 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, bulldozer/track-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	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 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 disposal site
Traffic Control	Yes; coordinate with the City of San Diego
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[4]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes, limited suitable habitat present 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

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

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	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



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

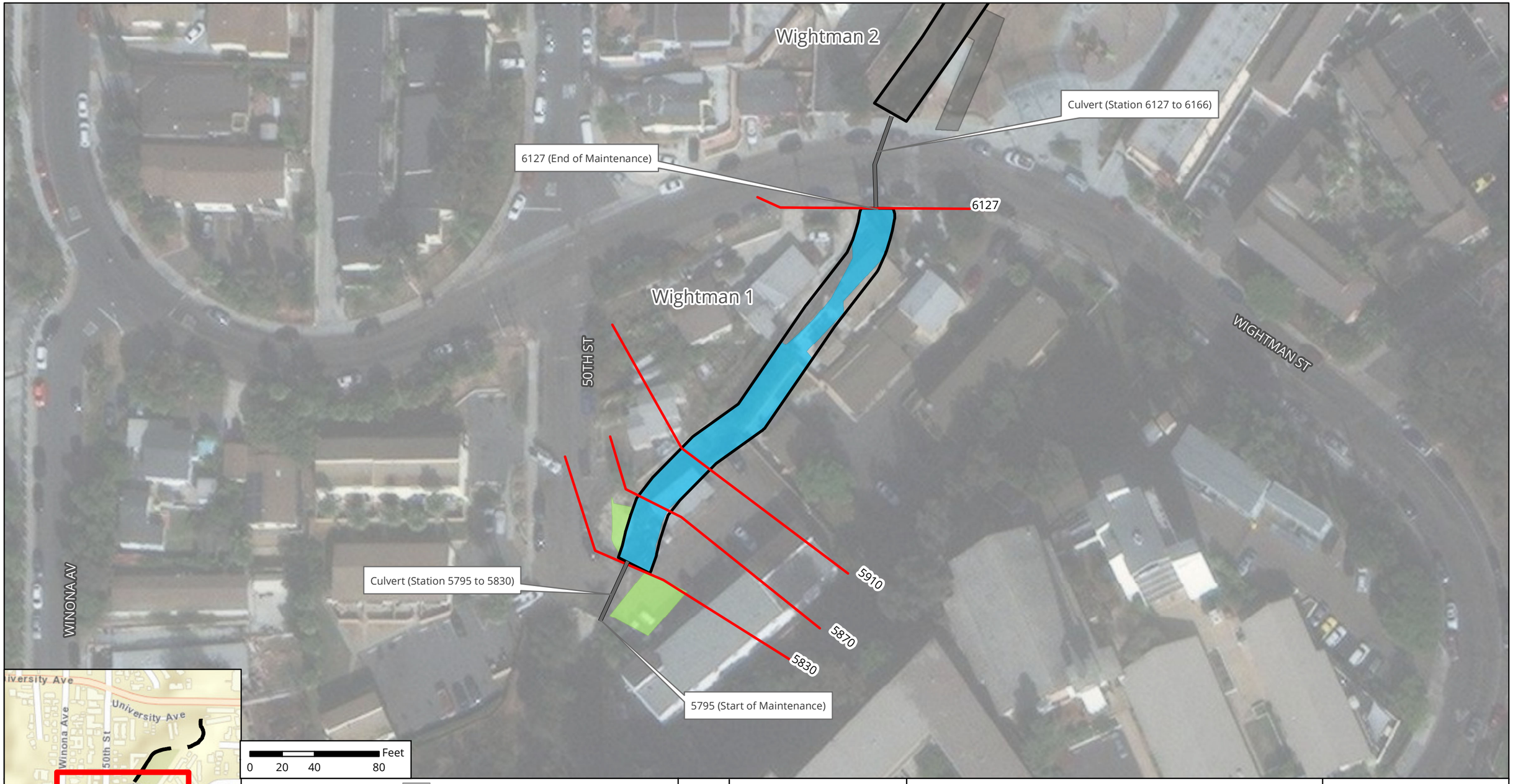
The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Wightman
Segment Name: Wightman 1
Facility No: 5-04-239
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DUDEK
Geosyntec consultants

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



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

N

The City of SAN DIEGO

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

March 2020

Map A: General Site Plan
Facility Group Name: Auburn Creek - Wightman
Segment Name: Wightman 1
Facility No: 5-04-239
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Wightman Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Auburn Creek (unnamed tributary), upstream of Auburn Creek (unnamed tributary, Home, Segment 5)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 801 feet
Top-of-Bank Width	Approximately 18–39 feet
Bottom Facility Width	Approximately 2.5–13.5 feet
Facility Depth	Approximately 2–7 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	12983-1-D & 12983-2-D
Coastal Zone	No

Figure 1: August 2017, looking downstream toward channel bank failure/erosion

Figure 2: Vicinity Map of Wightman Segment 2

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 and vegetation 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	RGP 63 USACE File #SPL-2015-00862-RAG
401	RGP 63 Verification No. R9-2015-0192;819895;lhonma
1602	LSA Emergency Notification submitted 12/2015
Mitigation for Previous Impacts	Onsite restoration for NFC (0.09 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	Amount of vegetation was observed to range from medium to dense, however, there was little evidence of sediment deposition. Earthen and channel bank failures were noted.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	86	127	160	248	360	450

Hydraulic Capacity of Facility

Current Capacity	160 cfs
Proposed MWMP Maintained Capacity	160 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 6166 to Station 6542, and Station 6659 to Station 6928. Remove accumulated sediment and debris in culvert from Station 6127 to Station 6166, and Station 6542 to Station 6659. Perform bank repair between Station 6780 to Station 6850. Perform concrete repair/replacement between Station 6353 to Station 6403 and Station 6659 to Station 6710.
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

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	• Disturbed wetland (Arundo-dominated) • Natural flood channel • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the channel extents and area of vegetation present are both limited and isolated from other suitable habitat by residential development such that it is unlikely for sensitive bird species 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	Cobble substrate restored onsite following previous maintenance

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; 1968 earthen channel
Potential Historical Resources Constraint Identified	Yes

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
Geologic Resources (GEO)	MM-BIO-6
EP-GEO-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-3	MM-HR-2
Hydrology (HYD)	**Noise (NOI)**
EP-HYD-1	MM-NOI-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	

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.

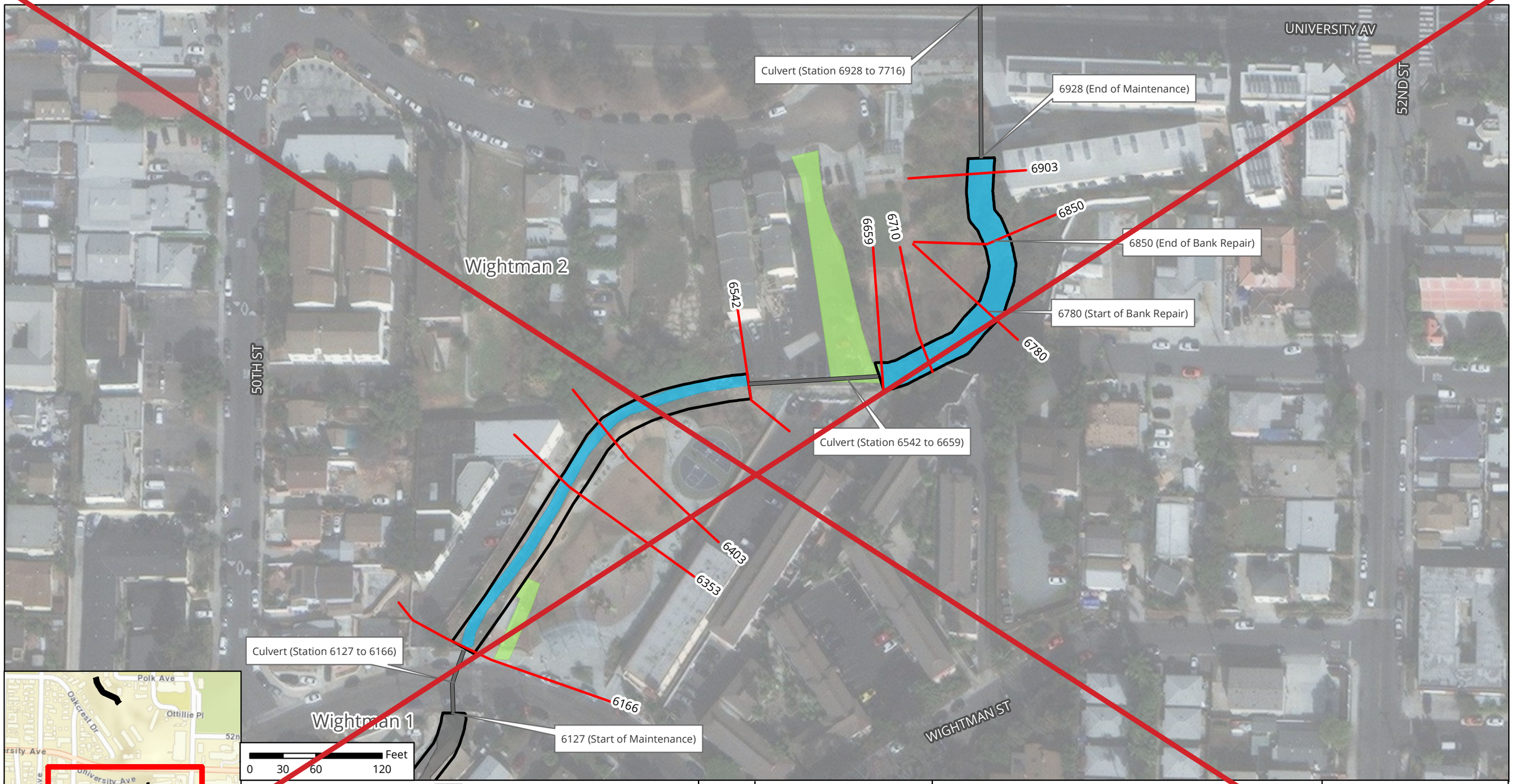
Facility Group	Auburn Creek - Wightman
Segment Name	Wightman 2
Facility No.	5-04-241
Facility Location	From outlet of culvert beneath University Avenue to inlet of culvert beneath Wightman Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 6166 to Station 6542, and Station 6659 to Station 6928. Remove accumulated sediment and debris in culvert from Station 6127 to Station 6166, and Station 6542 to Station 6659. Perform bank repair between Station 6780 to Station 6850. Perform concrete repair/replacement between Station 6353 to Station 6403 and Station 6659 to Station 6710.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation Bank grading and stabilization
Bank Repair	Yes (multiple options); see Appendix A-4
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

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

Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 12983-1-D & 12983-2-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 801 feet Top width: 18–39 feet Bottom width: 2.5–13.5 feet Depth: 2–7 feet
Authorized Facility Maintenance Area	Length: Channel: 645 feet; Culvert: 156 feet Width: 13–26 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, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	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 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, limited suitable habitat present 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

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

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	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



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

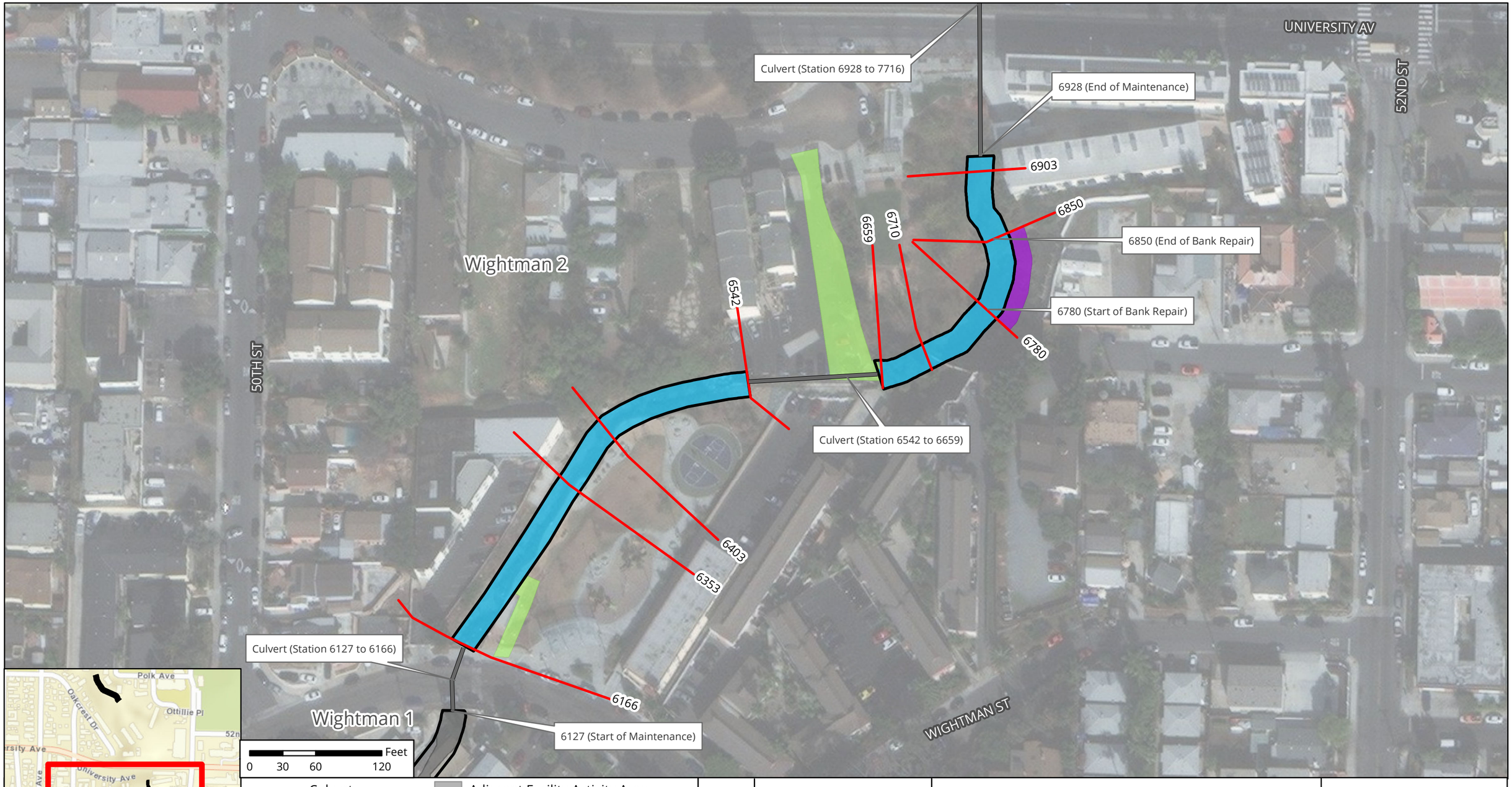
The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Wightman
Segment Name: Wightman 2
Facility No: 5-04-241
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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



Culvert
Station
Facility Area

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

N

The City of SAN DIEGO

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

March 2020

Map A: General Site Plan
Facility Group Name: Auburn Creek - Wightman
Segment Name: Wightman 2
Facility No: 5-04-241
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Chollas Creek - Megan Facility Group

Segment Names (Facility numbers):

Megan 1 (5-04-260)

Megan 2 (5-04-262)

The City *of* SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek Unnamed Tributary (04)
Facility Group Name	Chollas Creek - Megan
Segment Name (Facility Number)	Megan 1 (5-04-260) Megan 2 (5-04-262)
Substrate	Megan 1 / Concrete Megan 2 / Earthen
Location	About 400 feet southwest of the intersection of Megan Way and Euclid Avenue
MMP Map No(s).	N/A
Facility Inspection No.	312
Other Former Names	None

Figure 1: Vicinity Map of Chollas Creek - Megan Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - Megan	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Megan Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Chollas Creek unnamed tributary, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 849 feet
Top-of-Bank Width	Approximately 15–24 feet
Bottom Facility Width	Approximately 3–6 feet
Facility Depth	Approximately 4–6 feet
Adjacent Land Use	Open Space, Other Residential, Single-Family Residential, Transportation
As-Built Drawing Number	16653-D (Reach 1) & 11812-D (Reach 2)
Coastal Zone	No

Figure 1: July 2017, looking upstream at concrete ditch

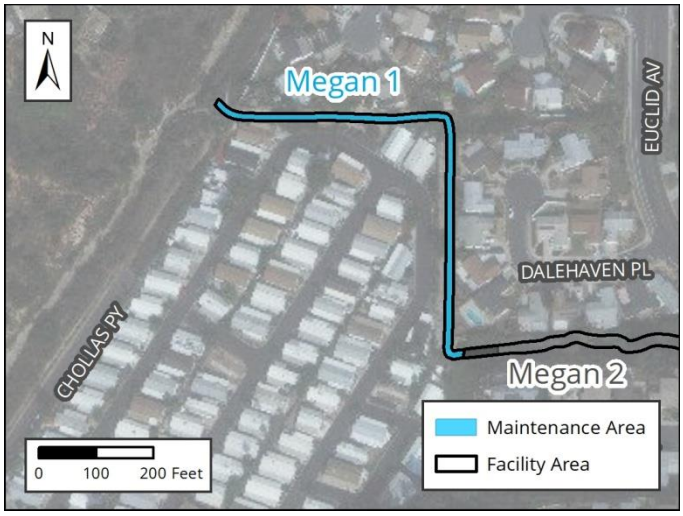


Figure 2: Vicinity Map of Megan Segment 1

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 amount of vegetation in the segment varied from light to moderate and sediment deposition 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])	295	430	502	602	675	747

Hydraulic Capacity of Facility

Current Capacity	602 cfs
Proposed MWMP Maintained Capacity	747 cfs
Maintenance Recommendation	Remove deposited sediment, debris, and vegetation from Station 2 to Station 851. Concrete repair/replacement between Stations 2 and 851. Perform bank repair behind right (north/northeast) bank of concrete ditch from Station 846 to 851. Perform bank repair and riprap replacement at Station 2.
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Developed concrete-lined channel • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Coastal sage scrub (baccharis-dominated) • Developed land • Disturbed coastal sage scrub • Natural flood channel • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, suitable coastal sage scrub habitat for coastal California gnatcatcher is present to the west of the channel.
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 40 feet 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. 1966 concrete channel
Potential Historical Resources Constraint Identified	Yes

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-6
EP-GEO-1	MM-BIO-7
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	

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	Chollas Creek - Megan
Segment Name	Megan 1
Facility No.	5-04-260
Facility Location	From downstream end of Megan 2 segment to Chollas Creek just downstream of a pedestrian bridge
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove deposited sediment, debris, and vegetation from Station 2 to Station 851. Concrete repair/replacement between Stations 2 and 851. Perform bank repair behind right (north/northeast) bank of concrete ditch from Station 846 to 851. Perform bank repair and riprap replacement at Station 2.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair Bank repair
Maintenance Method	Excavation; mechanized equipment outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation Bank grading and stabilization
Bank Repair	Yes (multiple options); see Appendix A-4
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-Builts?	Yes; 16653-D (Reach 1) & 11812-D (Reach 2)

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

Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 849 feet Top width: 15–24 feet Bottom width: 3–6 feet Depth: 4–6 feet
Authorized Facility Maintenance Area	Length: Ditch: 849 feet Width: 15–24 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, wheelbarrow, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–16 people
Routine Maintenance Procedures	1. Hand tools and wheelbarrow used in ditch to move material to Gradall/excavator at access/loading area 2. 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	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

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

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

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.

The City of SAN DIEGO

August 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - Megan
Segment Name: Megan 1
Facility No: 5-04-260
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Megan Segment 2 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Chollas Creek unnamed tributary, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 464 feet
Top-of-Bank Width	Approximately 23 feet
Bottom Facility Width	Approximately 5 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Other Residential, Single-Family Residential, Transportation
As-Built Drawing Number	11812-D
Coastal Zone	No

Figure 1: July 2017, looking upstream near upstream end at vegetation

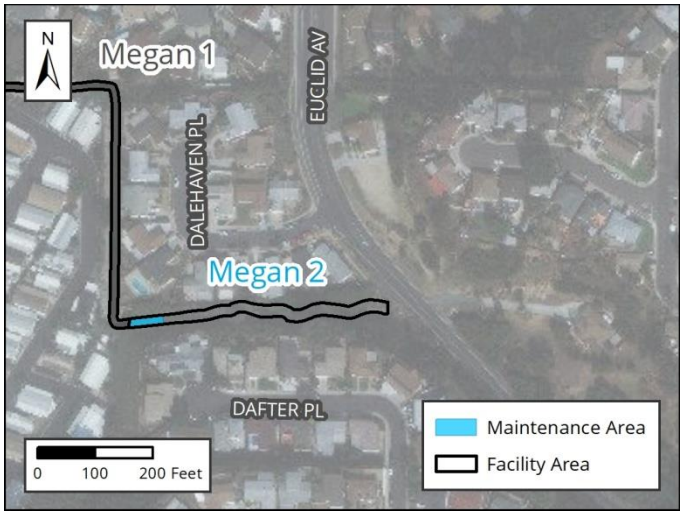


Figure 2: Vicinity Map of Megan Segment 2

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 medium to dense with the flow path of the ditch mainly unobstructed. At the transition to the concrete ditch, sediment deposition was noted within the earthen ditch flowline as well as failure of a portion of the earthen bank.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	106	204	239	286	321	355

Hydraulic Capacity of Facility

Current Capacity	355 cfs
Proposed MWMP Maintained Capacity	355 cfs
Maintenance Recommendation	Remove accumulated sediment and vegetation from the south side (left bank) of the ditch between Stations 851 and 913 to return the ditch flow path to originally designed condition.
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

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	• Natural flood channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed coastal sage scrub • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within the facility and the majority of coastal sage scrub present adjacent to the facility is disturbed and not suitable for coastal California gnatcatcher
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 600 feet north 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. 1953–1964 earthen channel
Potential Historical Resources Constraint Identified	Yes

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
Paleontological Resources (PAL)	**Noise (NOI)**
EP-PAL-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	

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.

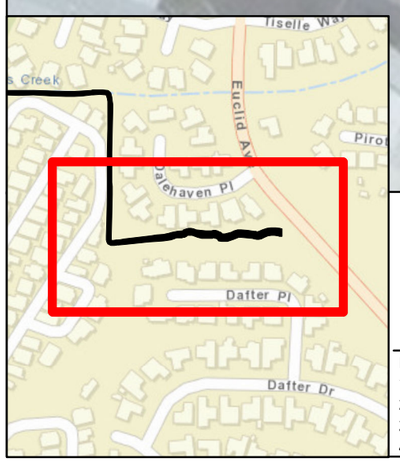
Facility Group	Chollas Creek - Megan
Segment Name	Megan 2
Facility No.	5-04-262
Facility Location	From outlet of culvert that crosses under Euclid Avenue to upstream end of Megan 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen ditch per as-built dimensions and Hydrology and Hydraulics recommendations. Additionally, vegetation may be trimmed/removed within portions of the facility identified as access.
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and vegetation from the south side (left bank) of the ditch between Stations 851 and 913 to return the ditch flow path to originally designed condition.
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 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	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen ditch
Existing Plans and/or As-Builts?	Yes; 11812-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 464 feet Top width: 23 feet Bottom width: 5 feet Depth: 6 feet

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

Authorized Facility Maintenance Area	Length: Ditch: 62 feet Width: ~~5~~ 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	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–16 people
Routine Maintenance Procedures	Riprap Restoration: 1. Gradall/excavator stationed above ditch places riprap into ditch 2. Bulldozer/track-steer, and/or Gradall/excavator enters ditch at access/loading area 3. Bulldozer/track-steer, loader, and/or Gradall/excavator clears area and transports/places riprap into place 4. Gradall/excavator scoops material from ditch and loads dump truck 5. Dump truck hauls material to legal disposal site Routine Maintenance: 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; coordinate with the City of San Diego

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: No 2. Adjacent to maintenance area: No 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	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

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



Facility Area

Adjacent Facility Activity Area

Access/Loading/Staging/Stockpiling Area

Maintenance Area

N

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Notes:

1. In-stream post-maintenance erosion control measures 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.

August 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - Megan
Segment Name: Megan 2
Facility No: 5-04-262
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Chollas Creek - 54th St Facility Group

Segment Name (Facility number):

54th St 1 (5-04-280)

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Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek Unnamed Tributary (04)
Facility Group Name	Chollas Creek - 54th St
Segment Name (Facility Number)	54th St 1 (5-04-280)
Substrate	54th St 1 / Concrete
Location	South of Redwood Street and is bound by 54th Street to the west and by Thornton Place to the east
MMP Map No(s).	N/A
Facility Inspection No.	305
Other Former Names	None

Figure 1: Vicinity Map of Chollas Creek - 54th St Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - 54th St	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

54th St Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Gunite bottom and banks
Location Within Watershed	Upper reach of Chollas Creek unnamed tributary, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 346 feet
Top-of-Bank Width	Approximately 6–20 feet
Bottom Facility Width	Approximately 3 feet
Facility Depth	Approximately 3.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	9373-L
Coastal Zone	No

Figure 1: July 2017, looking downstream towards the culvert; conveys flows beneath parking lot, then discharges back into ditch

Figure 2: Vicinity Map of 54th St Segment 1

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	Accumulated sediment and patches of dense vegetation in the bottom of the ditch were observed and sediment deposition was estimated to be 2 inches within the ditch and up to 2 feet within 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])	73	93	108	130	146	163

Hydraulic Capacity of Facility

Current Capacity	40 cfs
Proposed MWMP Maintained Capacity	93 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 34 to Station 135, and Station 217 to 380. Remove accumulated sediment and debris in the culvert from Station 135 to 217, and at Station 34.
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Developed concrete-lined channel • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• 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/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	Channel; c. 1966–1968 concrete channel
Potential Historical Resources Constraint Identified	Yes

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
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	

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.

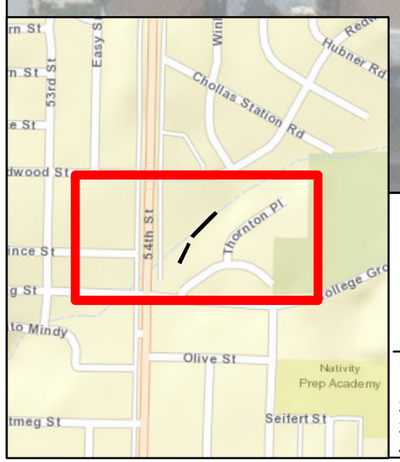
Facility Group	Chollas Creek - 54th St
Segment Name	54th St 1
Facility No.	5-04-280
Facility Location	From 200 feet south of Redwood Street to culvert entrance to the storm drain system in 54th Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 34 to Station 135, and Station 217 to 380. Remove accumulated sediment and debris in the culvert from Station 135 to 217, and at Station 34.
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?	Yes; 9373-L
Substrate Detail	Gunite bottom and banks

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

Facility Dimensions (Approximate)	Length: 346 feet Top width: 6–20 feet Bottom width: 3 feet Depth: 3.5 feet
Authorized Facility Maintenance Area	Length: Ditch: 264 feet; Culvert: 82 feet Width: 6–19 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, wheelbarrow, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Hand tools and wheelbarrow used in ditch to move material to Gradall/excavator at access/loading area 2. 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	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

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

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
Station
Facility Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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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.

August 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - 54th St
Segment Name: 54th St 1
Facility No: 5-04-280
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

South Chollas Creek - Southcrest Facility Group

Segment Names (Facility numbers):

Alpha 1 (5-05-006)

Ocean View 1 (5-05-008)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek (05)
Facility Group Name	South Chollas Creek - Southcrest
Segment Name (Facility Number)	Alpha 1 (5-05-006) Ocean View 1 (5-05-008)
Substrate	Alpha 1 / Earthen and concrete Ocean View 1 / Earthen and concrete
Location	About 500 feet upstream of the Ocean View Boulevard bridge to 600 feet upstream of Interstate 5 (I-5)
MMP Map No(s).	95, 97, 97a, 98
Facility Inspection No.	95, 97, 97a, 98
Other Former Names	Southcrest, 40th Street

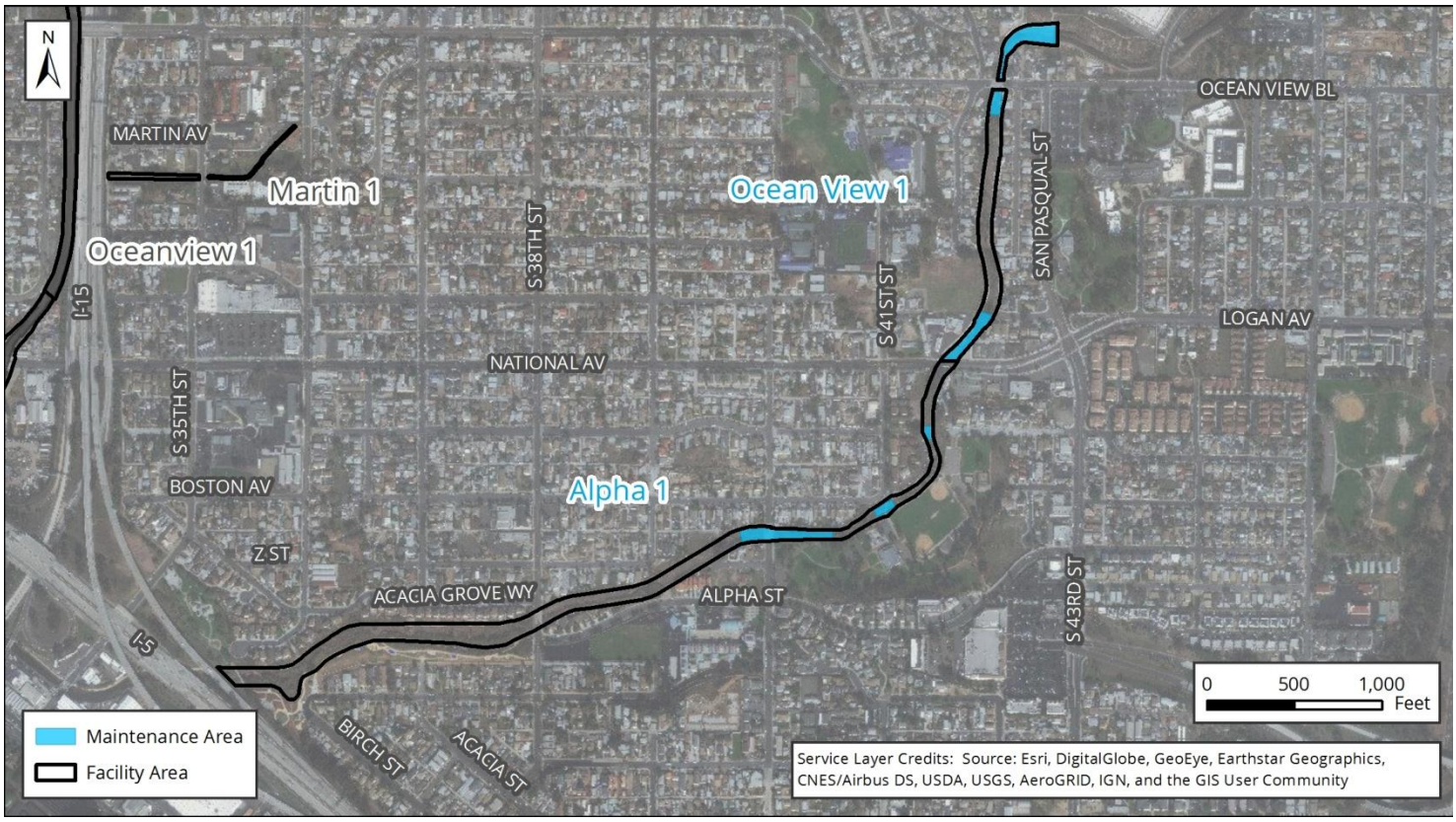


Figure 1: Vicinity Map of South Chollas Creek - Southcrest Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek - Southcrest	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Alpha Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 1662-3467: Earthen bottom, earthen left bank, and concrete right bank Stations 3467-5135: Earthen bottom and concrete banks Stations 5135-5627: Earthen bottom and banks Stations 5627-6437: Earthen bottom, earthen left bank, and concrete right bank Stations 6437-6580: Earthen bottom and riprap banks Stations 6580-6687: Concrete bottom and banks
Location Within Watershed	Lower reach of South Chollas Creek, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	South Chollas Creek, South Chollas Creek Encanto Branch
Facility Length	Approximately 5,024 feet
Top-of-Bank Width	Approximately 46–105 feet
Bottom Facility Width	Approximately 16–85 feet
Facility Depth	Approximately 6–16 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Office, Open Sapce, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	2420-2423-D, 7662-7669-D, 11275-D, 15690-D, 18816-D, 18817-D, & 5796-5798-L
Coastal Zone	No

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

Figure 1: July 2017, looking downstream under the pedestrian bridge located just east of I-5

Figure 2: Vicinity Map of Alpha Segment 1

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: Invasive vegetation removal 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	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	The vegetation observed ranged from light to dense with 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])	550	1,300	2,000	3,000	3,900	5,300
Hydraulic Capacity of Facility						
Current Capacity	550 cfs					
Proposed MWMP Maintained Capacity	1,300 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from Station 4788 to Station 5135, Station 5613 to Station 5734, and Station 6195 to 6277. Trim vegetation from Station 5135 to Station 5316. Perform bank repair on the earthen bank from Station 5456 to Station 5556. Private segments to be maintained by private property owners (Station 5734 to Station 6195 and Station 6277 to Station 6580).					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

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

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	• Disturbed wetland • Disturbed wetland (Arundo-dominated) • Freshwater marsh • Natural flood channel • Riparian forest (southern willow forest) • Riparian scrub
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	The habitat within and adjacent to the facility provides potential nesting and/or foraging for raptor and sensitive bird species, including least Bell's vireo and coastal California gnatcatcher
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Proposed as part of the "FY16 Emergency Wetlands Mitigation 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	P-37-025706; P-37-034479
Resource Identified Adjacent to APE	None
Resource Type	Shell scatter; Pedestrian bridge
Historical Resources	
Resource Identified in APE	Channel; 1959, 1964 earthen channel
Potential Historical Resources Constraint Identified	Yes

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-HR-1
Hydrology (HYD)	MM-HR-2
EP-HYD-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	

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.

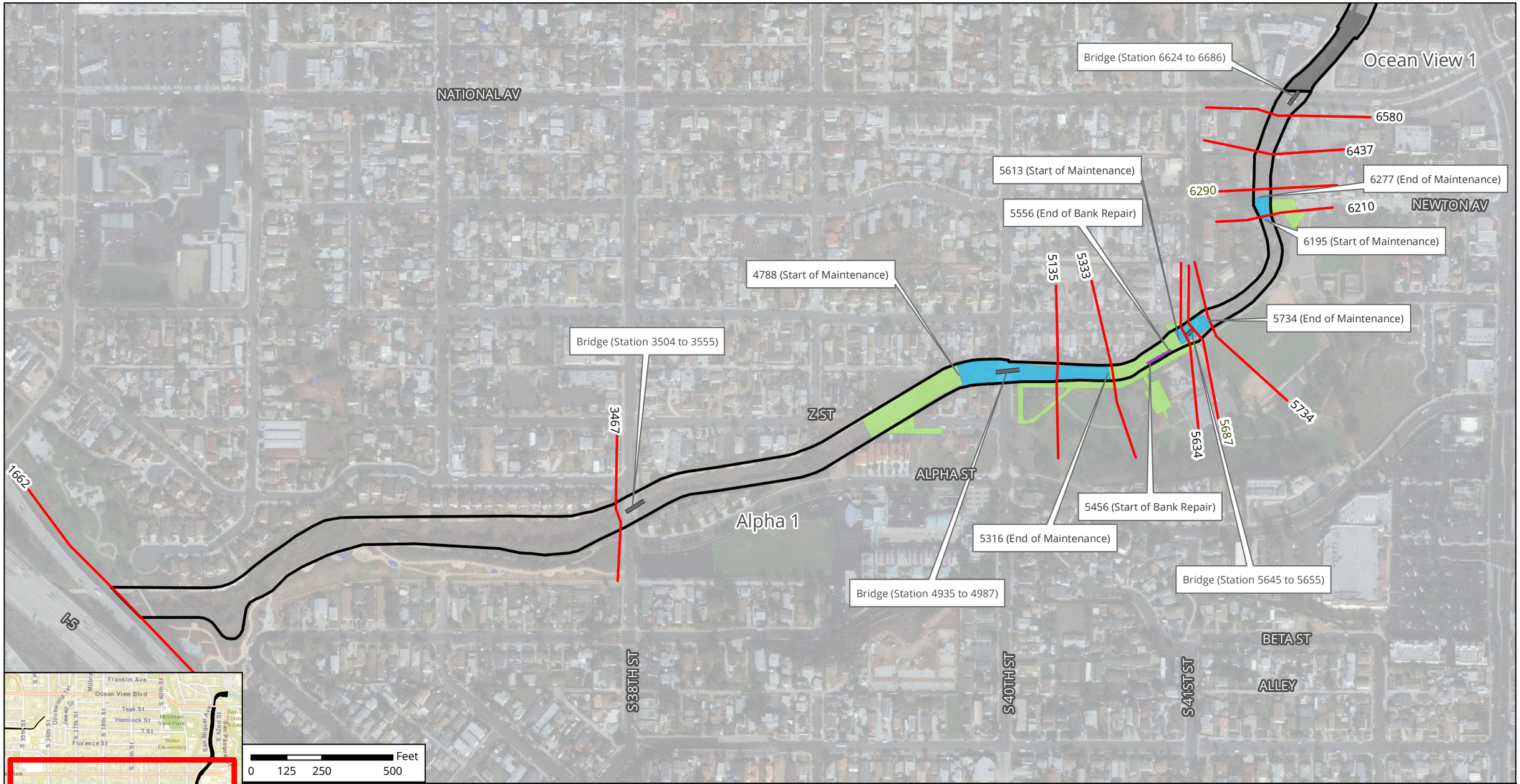
Facility Group	South Chollas Creek - Southcrest
Segment Name	Alpha 1
Facility No.	5-05-006
Facility Location	From the downstream end of the Ocean View segment to 600 feet upstream of Interstate 5 (I-5)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and overgrown vegetation from Station 4788 to Station 5135, Station 5613 to Station 5734, and Station 6195 to 6277. Trim vegetation from Station 5135 to Station 5316. Perform bank repair on the earthen bank from Station 5456 to Station 5556. Private segments to be maintained by private property owners (Station 5734 to Station 6195 and Station 6277 to Station 6580).
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair Bank Repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation Bank grading and stabilization
Bank Repair	Yes (multiple options); see Appendix A-4
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

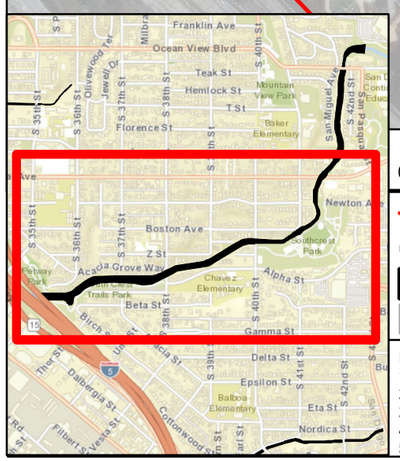
[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 2420-2423-D, 7662-7669-D, 11275-D, 15690-D, 18816-D, 18817-D, & 5796-5798-L
Substrate Detail[3]	Stations 1662-3467: Earthen bottom, earthen left bank, and concrete right bank Stations 3467-5135: Earthen bottom and concrete banks Stations 5135-5627: Earthen bottom and banks Stations 5627-6437: Earthen bottom, earthen left bank, and concrete right bank Stations 6437-6580: Earthen bottom and riprap banks Stations 6580-6687: Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 5,024 feet Top width: 46–105 feet Bottom width: 16–85 feet Depth: 6–16 feet
Authorized Facility Maintenance Area	Length: Channel: 1,007 feet Width: 20–68 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	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 70 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator, loader, and bulldozer/track-steer enter channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator 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	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[4]: 1. Within maintenance area: Yes 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	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 7. If maintenance occurs in privately owned sections, post-maintenance erosion control measures are recommended to be evaluated by the private property owners
Other Notes	None

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





Station
Bridge
Facility Area
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Bank Repair
Maintenance Area

N

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

November 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek - Southcrest
Segment Name: Alpha 1
Facility No: 5-05-006
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

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

Ocean View Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 6687-6942: Concrete bottom and banks Stations 6942-8200: Earthen bottom and concrete banks Stations 8200-8910: Concrete bottom and banks
Location Within Watershed	Lower reach of South Chollas Creek, immediately upstream of Chollas Creek (Alpha Segment 1)
Tributaries (listed from downstream to upstream)	South Chollas Creek, South Chollas Creek Encanto Branch
Facility Length	Approximately 2,223 feet
Top-of-Bank Width	Approximately 53–195 feet
Bottom Facility Width	Approximately 11–100 feet
Facility Depth	Approximately 8–14 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Office, Open Space, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	20117-D & 20116-D
Coastal Zone	No

Figure 1: July 2017, looking downstream toward the start of the concrete bottom channel

Figure 2: Vicinity Map of Ocean View Segment 1

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

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.[2]

Current Conditions Affecting Facility Capacity	The channel was relatively clean with very little evidence of vegetation or 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])	550	1,300	2,000	3,000	3,900	5,300
Hydraulic Capacity of Facility						
Current Capacity	1,300 cfs					
Proposed MWMP Maintained Capacity	1,300 cfs					
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	If maintenance occurs in privately owned section of downstream segment (Alpha 1), in-stream post-maintenance erosion control measures are recommended to be evaluated by the private property owners					

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

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	• Developed concrete-lined channel • Disturbed wetland (Arundo-dominated; concrete-lined) • Ornamental plantings (concrete-lined) • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Natural flood channel • 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 coastal California gnatcatcher, to occur in coastal sage scrub habitat adjacent to the channel
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Proposed as part of the "FY16 Emergency Wetlands Mitigation 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 Constraint Identified	None

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	**Noise (NOI)**
EP-HAZ-3	MM-NOI-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	

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.

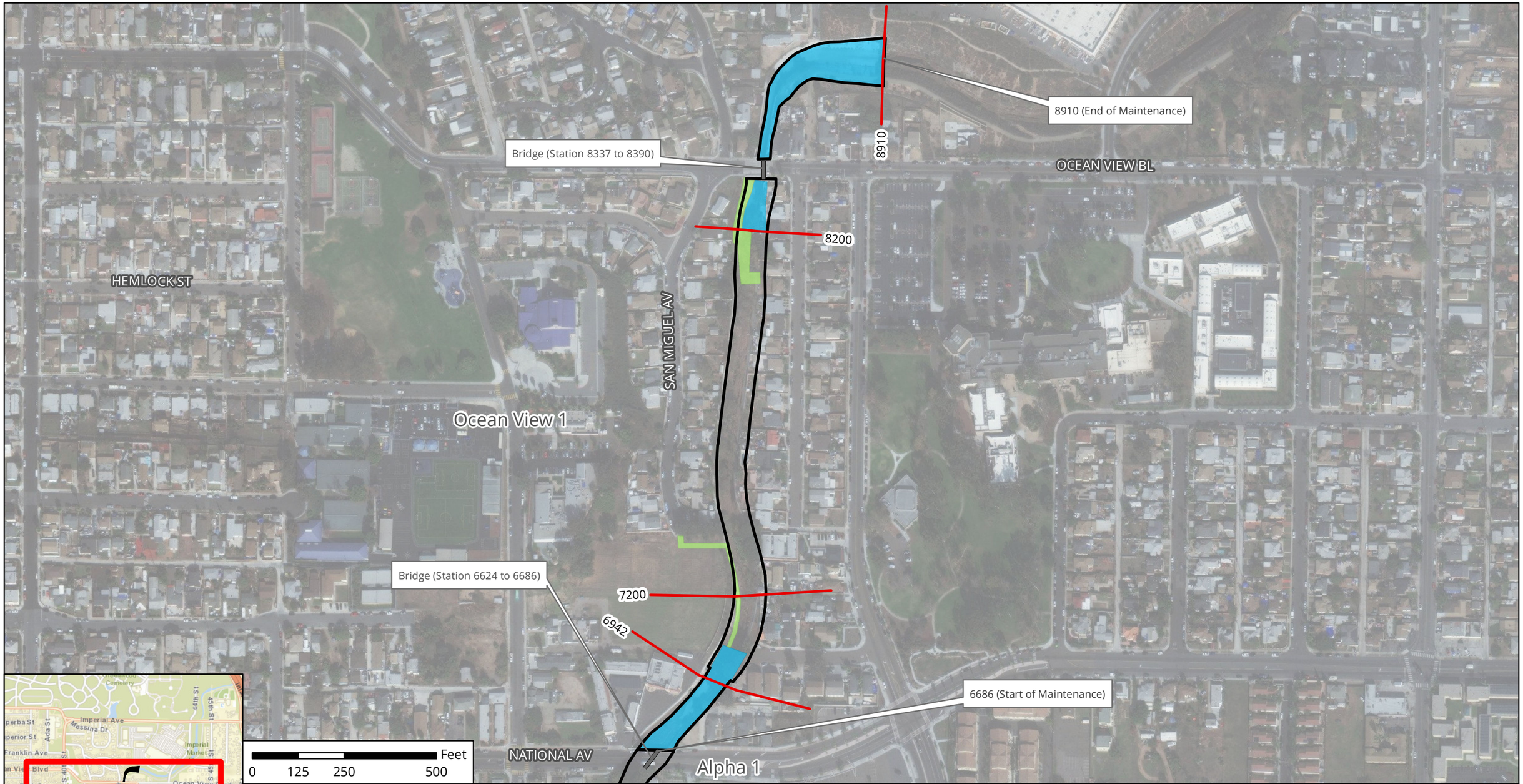
Facility Group	South Chollas Creek - Southcrest
Segment Name	Ocean View 1
Facility No.	5-05-008
Facility Location	From about 500 feet upstream of the Ocean View Boulevard bridge, where the concrete channel segment begins, to the upstream side of the National Avenue bridge
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	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	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 20117-D & 20116-D
Substrate Detail[3]	Stations 6687-6942: Concrete bottom and banks Stations 6942-8200: Earthen bottom and concrete banks Stations 8200-8910: Concrete bottom and banks

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

Facility Dimensions (Approximate)	Length: 2,223 feet Top width: 53–195 feet Bottom width: 11–100 feet Depth: 8–14 feet
Authorized Facility Maintenance Area	Length: Channel: 1,010 feet Width: 53–195 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, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator, loader, bulldozer/track-steer enter or are lowered into channel at access/loading area 2. Bulldozer/track-steer and/or loader push material to Gradall/excavator and loader at access/loading area 3. Gradall/excavator and loader 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	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[4]: 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

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

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	If maintenance occurs in privately owned section of downstream segment (Alpha 1), in-stream post-maintenance erosion control measures are recommended to be evaluated by the private property owners
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



Notes:
1. Concrete repair may occur within this facility area.
2. If maintenance occurs in privately owned section of downstream segment (Alpha 1), in-stream post-maintenance erosion control measures are recommended to be evaluated by the private property owners.
3. Access/Loading/Staging/Stockpiling may also occur within City ROW.
4. Access/Loading/Staging/Stockpiling may be modified during implementation.
5. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

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Map A: General Site Plan
Facility Group Name: South Chollas Creek - Southcrest
Segment Name: Ocean View 1
Facility No: 5-05-008
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

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

South Chollas Creek - Euclid Facility Group

Segment Names (Facility numbers):

- Euclid 1 (5-05-019) (See Appendix A-5)
- Euclid 2 (5-05-021)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek (05)
Facility Group Name	South Chollas Creek - Euclid
Segment Name (Facility Number)	Euclid 1 (5-05-019) (See Appendix A-5) Euclid 2 (5-05-021)
Substrate	Euclid 1 / Earthen Euclid 2 / Concrete
Location	About 250 feet southeast of the intersection of Hilltop Drive and Euclid Avenue, northwest of the intersection of Market Street and Euclid Avenue
MMP Map No(s).	104
Facility Inspection No.	104
Other Former Names	Guymon

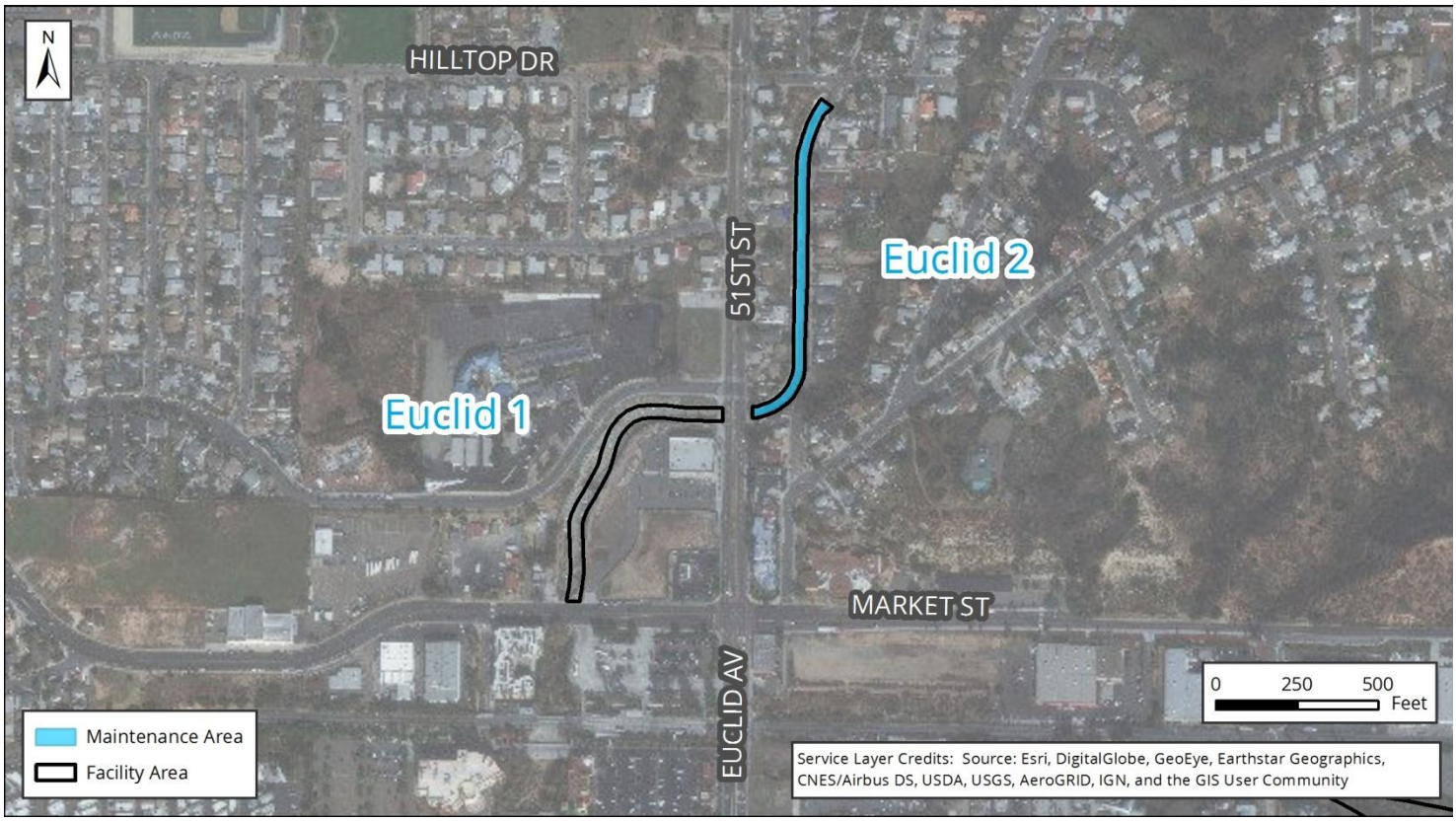


Figure 1: Vicinity Map of South Chollas Creek - Euclid Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek - Euclid	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Euclid Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of South Chollas Creek, upstream of South Chollas Creek (Euclid Segment 1)
Tributaries (listed from downstream to upstream)	South Chollas Creek
Facility Length	Approximately 1,142 feet
Top-of-Bank Width	Approximately 18–39 feet
Bottom Facility Width	Approximately 10–21 feet
Facility Depth	Approximately 4–6 feet
Adjacent Land Use	Open Space, Other Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	2420-2423-D, 7662-7669-D, & 9983-6-D
Coastal Zone	No

Figure 1: April 2017, representative of concrete portion of channel

Figure 2: Vicinity Map of Euclid Segment 2

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 channel was observed to be relatively clean with very little evidence of vegetation or 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])	540	1,250	2,000	3,000	3,900	5,300
Hydraulic Capacity of Facility						
Current Capacity	225 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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed chaparral • Disturbed land • Disturbed wetland • 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). The nearest MHPA boundary is located more than 1,000 feet north of the channel.
Mitigation Within Facility	Proposed as part of the "FY16 Emergency Wetlands Mitigation 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 Constraint Identified	None

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-1	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	

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	South Chollas Creek - Euclid
Segment Name	Euclid 2
Facility No.	5-05-021
Facility Location	From the southwest corner of Hilltop Drive and 51st Street to inlet of box culvert beneath Euclid Avenue
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 Recommendation[2]	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-Builts?	Yes; 2420-2423-D, 7662-7669-D, & 9983-6-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,142 feet Top width: 18–39 feet Bottom width: 10–21 feet Depth: 4–6 feet

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

Authorized Facility Maintenance Area	Length: Channel: 1,045 feet; Culvert: 97 feet Width: 18–39 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	Bobcat/skid-steer, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and/or loader enter or are lowered into ditch at access/loading area 2. Bobcat/skid-steer and/or loader push material to loader at access/loading area 3. Loader 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	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: No 2. Adjacent to maintenance area: No 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	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

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
Station
Facility Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

The City of SAN DIEGO

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.

August 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek - Euclid
Segment Name: Euclid 2
Facility No: 5-05-021
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

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

South Chollas Creek - Federal Facility Group

Segment Names (Facility numbers):

Federal 1 (5-05-035)

Federal 2 (5-05-037)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek (05)
Facility Group Name	South Chollas Creek - Federal
Segment Name (Facility Number)	Federal 1 (5-05-035) Federal 2 (5-05-037)
Substrate	Federal 1 / Earthen and concrete Federal 2 / Concrete
Location	About 300 feet north of the intersection of Federal Boulevard and Winnett Street, 500 feet north of the intersection of Federal Boulevard and 60th Street, and 65 feet south of State Route 94
MMP Map No(s).	101
Facility Inspection No.	101
Other Former Names	None

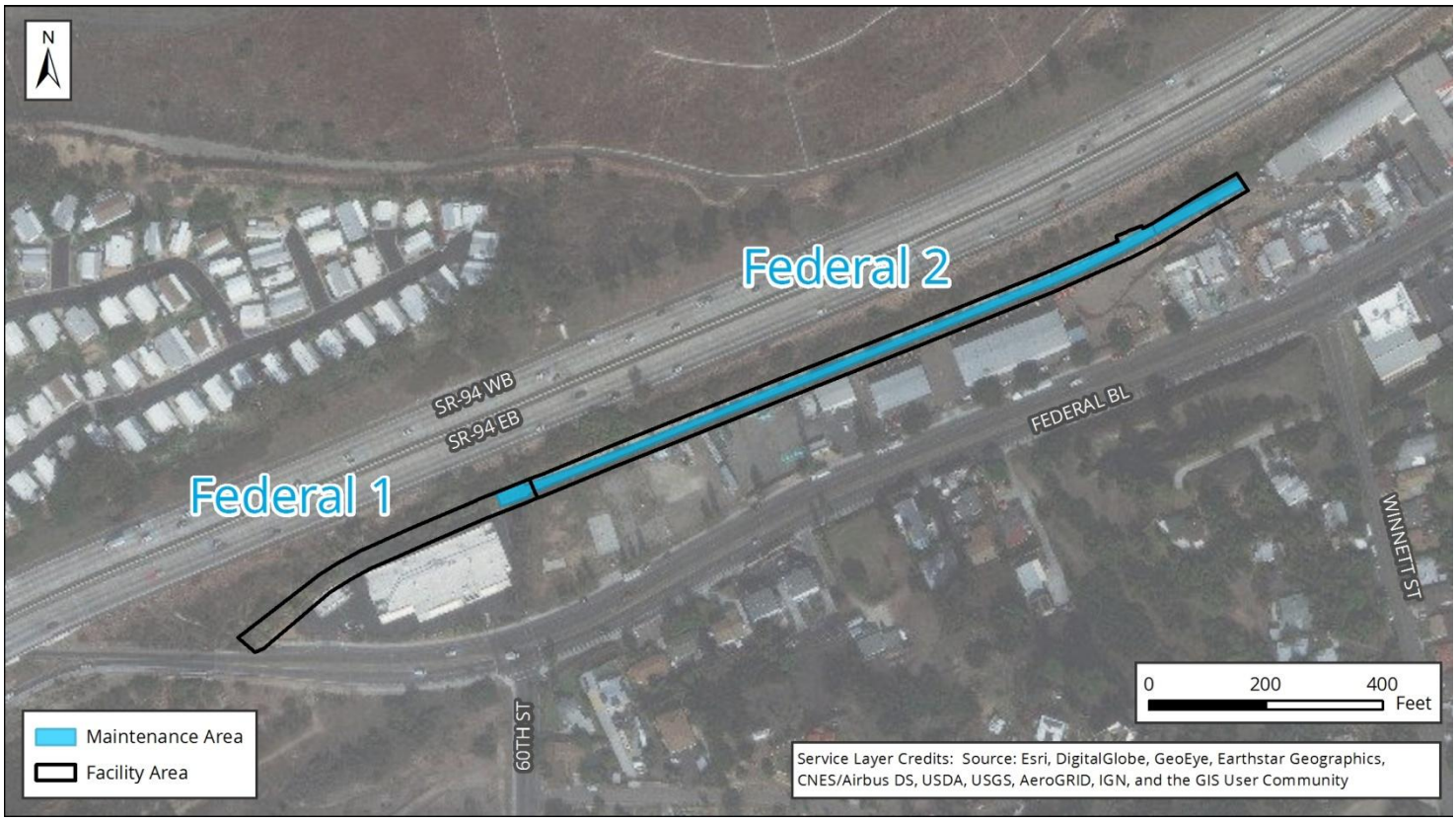


Figure 1: Vicinity Map of South Chollas Creek - Federal Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek - Federal	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Federal Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 363-927: Earthen bottom, earthen right bank, and concrete/vertical retaining wall left bank Stations 927-977: Riprap bottom, earthen right bank, and concrete/vertical retaining wall on left bank
Location Within Watershed	Upper reach of South Chollas Creek, immediately upstream of South Chollas Creek (Euclid Segment 2)
Tributaries (listed from downstream to upstream)	South Chollas Creek
Facility Length	Approximately 614 feet
Top-of-Bank Width	Approximately 28 feet
Bottom Facility Width	Approximately 24 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Industrial, Multi-Family Residential, Open Space, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	14482-D & 20039-D
Coastal Zone	No

Figure 1: December 2016, looking upstream

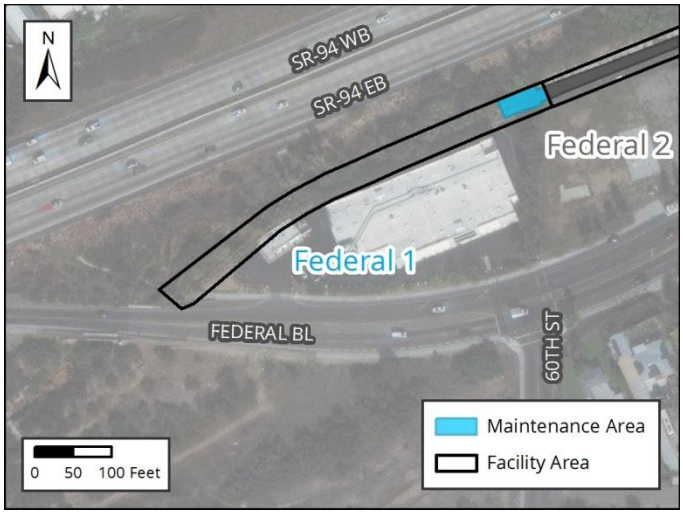


Figure 2: Vicinity Map of Federal Segment 1

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

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 31/33 USACE File #SPL-2018-00364-MAL (expires March 2022)
401	RWQCB 401 Cert No. R9-2018-0089 (expires March 2022)
1602	CDFW SAA No. 1600-2018-0167-R5 Op Law Letter (expires 03/15/2023)
Mitigation for Previous Impacts	HAF/Cornerstone (0.04 acre); Stadium (0.12 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	In November 2016, the vegetation was observed to be dense with 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])	167	370	580	830	1,100	1,500
Hydraulic Capacity of Facility						
Current Capacity	580 cfs					
Proposed MWMP Maintained Capacity	830 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from channel bottom and banks in the riprap portion of the channel from Station 927 to Station 977					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Ornamental plantings
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • 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/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat 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 500 feet to the southwest 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	P-37-011165
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric midden and artifact scatter

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

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)	MM-BIO-7
EP-HAZ-3	**Noise (NOI)**
Land Use (LU)	MM-NOI-1
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	

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.

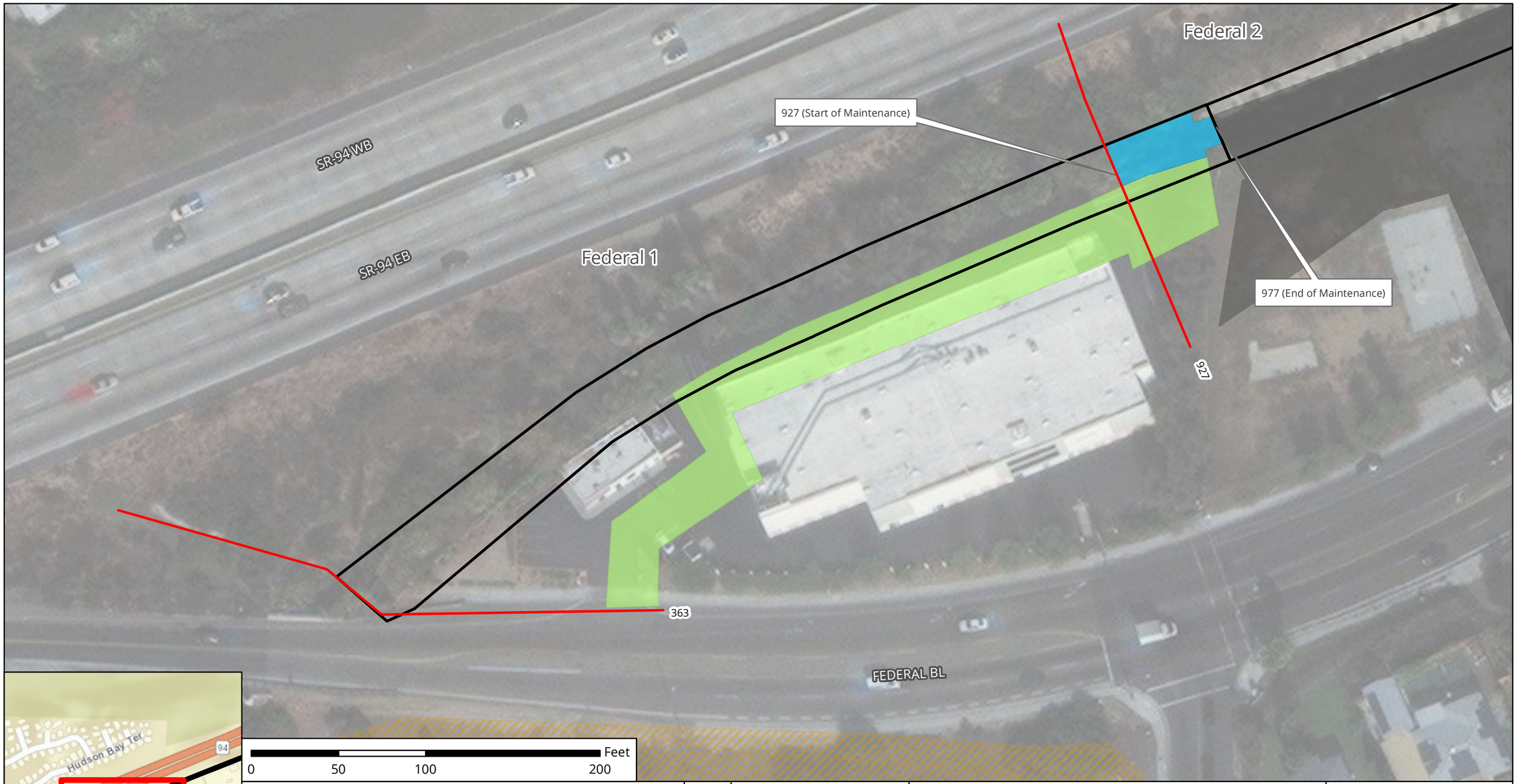
Facility Group	South Chollas Creek - Federal
Segment Name	Federal 1
Facility No.	5-05-035
Facility Location	From the downstream end of Federal 2 segment to a single-span bridge at Federal Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from channel bottom and banks in the riprap portion of the channel from Station 927 to Station 977
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 Riprap replacement
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	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 14482-D & 20039-D
Substrate Detail[3]	Stations 363-927: Earthen bottom, earthen right bank, and concrete/vertical retaining wall left bank Stations 927-977: Riprap bottom, earthen right bank, and concrete/vertical retaining wall on left bank

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

Facility Dimensions (Approximate)	Length: 614 feet Top width: 28 feet Bottom width: 24 feet Depth: 6 feet
Authorized Facility Maintenance Area	Length: Channel: 61 feet Width: 17–28 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 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and bulldozer/track-steer 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. Bobcat/skid-steer to be used on concrete section (Federal 2), and bulldozer/track-steer to be used on earthen section (Federal 1) 3. Gradall/excavator and backhoe scoop material from channel and load dump truck 4. 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[4]: 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

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

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	Overnight equipment storage required



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.

The City of SAN DIEGO

August 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek - Federal
Segment Name: Federal 1
Facility No: 5-05-035
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

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

Federal Segment 2 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of South Chollas Creek, immediately upstream of South Chollas Creek (Federal Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,329 feet
Top-of-Bank Width	Approximately 28 feet
Bottom Facility Width	Approximately 8 feet
Facility Depth	Approximately 5–9 feet
Adjacent Land Use	Industrial, Multi-Family Residential, Open Space, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	14482-D & 20039-D
Coastal Zone	No

Figure 1: November 2016, looking northeast at the concrete-lined ditch. Note the minimal vegetation established within the ditch.

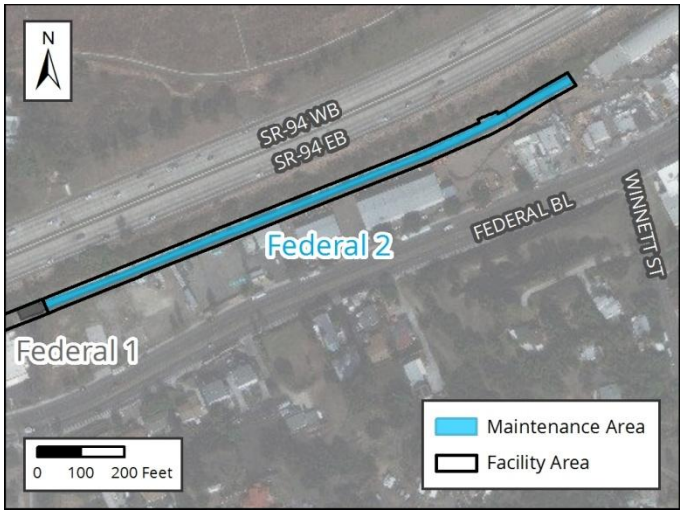


Figure 2: Vicinity Map of Federal Segment 2

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 31/33 USACE File #SPL-2018-00364-MAL (expires March 2022)
401	RWQCB 401 Cert No. R9-2018-0089 (expires March 2022)
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 November 2016, the amount of vegetation was observed to be mostly clean concrete ditch with portions of minor sediment deposit and light vegetation					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	167	370	580	830	1,100	1,500
Hydraulic Capacity of Facility						
Current Capacity	1,500 cfs					
Proposed MWMP Maintained Capacity	1,500 cfs					
Maintenance Recommendation	Remove vegetation from ditch bottom from Station 977 to Station 2306					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • 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/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the ditch.
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; 1972 concrete channel
Potential Historical Resources Constraint Identified	None

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	

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	South Chollas Creek - Federal
Segment Name	Federal 2
Facility No.	5-05-037
Facility Location	From 300 feet north of the intersection of Federal Boulevard and Winnett Street to the upstream end of Federal 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove vegetation from ditch bottom from Station 977 to Station 2306
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-Builts?	Yes; 14482-D & 20039-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,329 feet Top width: 28 feet Bottom width: 8 feet Depth: 5–9 feet

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

Authorized Facility Maintenance Area	Length: Ditch: 1,329 feet Width: 28 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 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator and backhoe scoop material from ditch and load dump truck 4. 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	Yes; implement BMPs per Water Pollution Control Plan

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

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	Overnight equipment storage required

0 50 100 200 Feet

Facility Area

Adjacent Facility Activity Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

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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.

August 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek - Federal
Segment Name: Federal 2
Facility No: 5-05-037
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

South Chollas Creek Encanto Branch - Castana Facility Group

Segment Name (Facility number):

Castana 1 (5-05-205)

The City *of* SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek Encanto Branch (05)
Facility Group Name	South Chollas Creek Encanto Branch - Castana
Segment Name (Facility Number)	Castana 1 (5-05-205)
Substrate	Castana 1 / Earthen and concrete
Location	About 350 feet south of Groveland Drive and 120 east of Euclid Avenue
MMP Map No(s).	105
Facility Inspection No.	105
Other Former Names	None

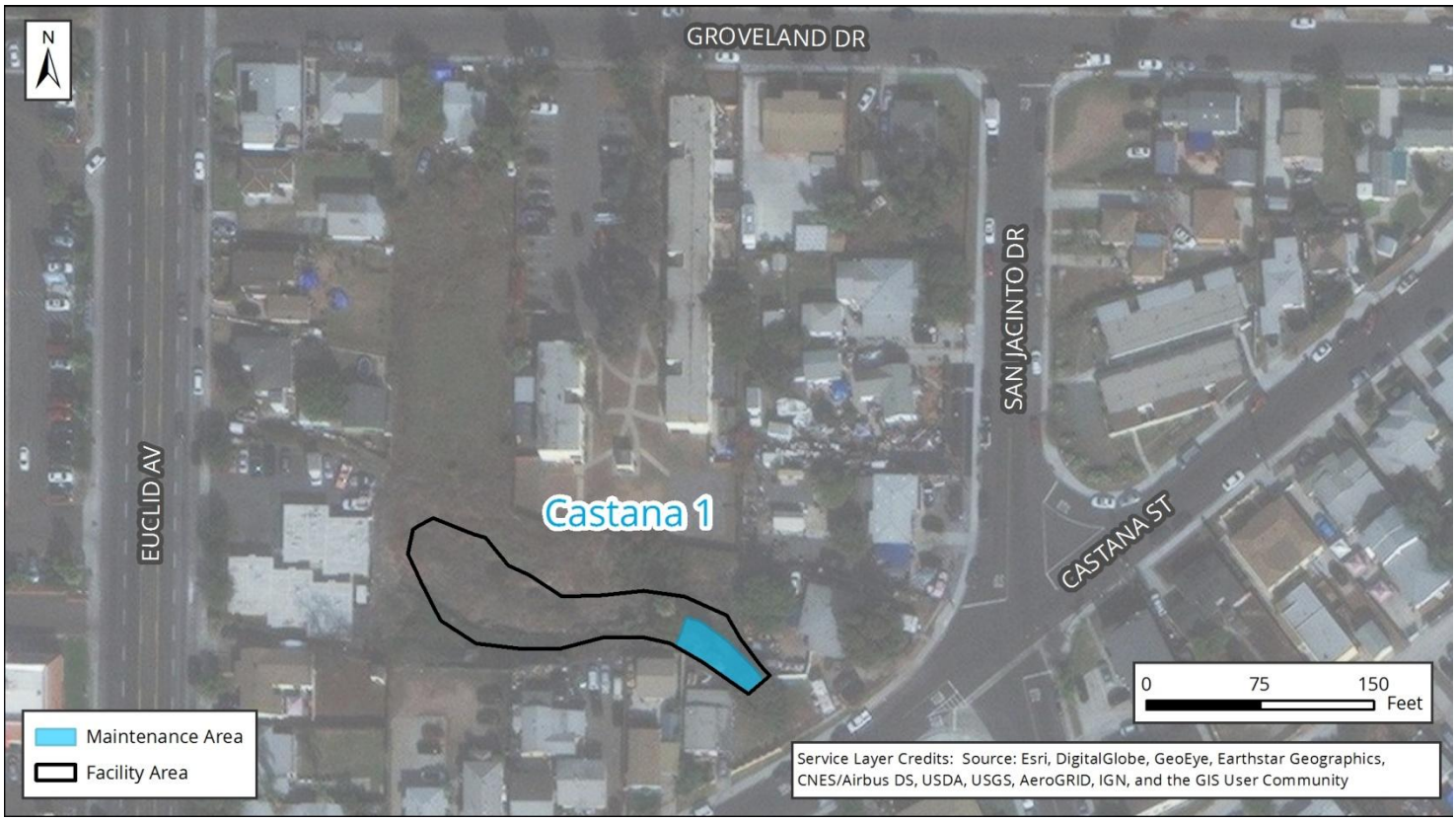


Figure 1: Vicinity Map of South Chollas Creek Encanto Branch - Castana Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek Encanto Branch - Castana	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Not Listed in Basin Plan (First downstream water body)	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) list

Castana Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 122-316: Earthen bottom and banks Stations 316-382: Earthen bottom, earthen right bank, gunite left bank
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 260 feet
Top-of-Bank Width	Approximately 20–70 feet
Bottom Facility Width	Approximately 4–10 feet
Facility Depth	Approximately 4–10 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Office, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at vegetation and gunite lining on left bank

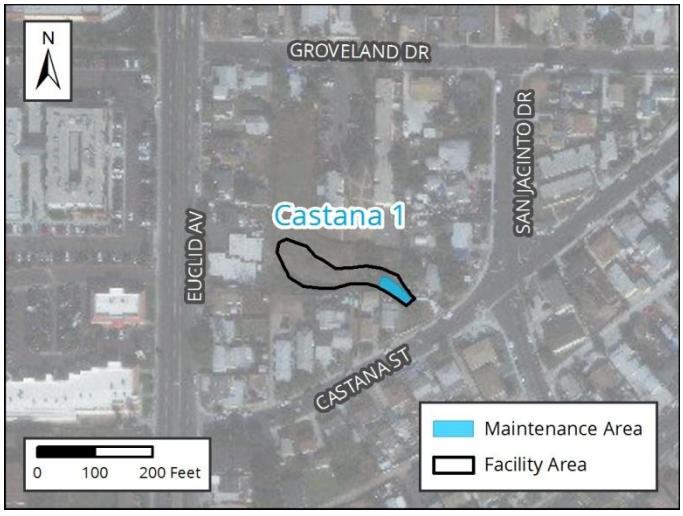


Figure 2: Vicinity Map of Castana Segment 1

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

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.[2]

Current Conditions Affecting Facility Capacity	The amount of vegetation was observed to be light to medium with no 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])	25	32	38	45	51	56
Hydraulic Capacity of Facility						
Current Capacity	49 cfs					
Proposed MWMP Maintained Capacity	49 cfs					
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	Yes; see Appendix A-4 Location: Station to be determined					

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

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	• Disturbed wetland
Adjacent Vegetation	• Developed land • Disturbed 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). The nearest MHPA boundary is located more than 1,000 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	None
Potential Historical Resources Constraint Identified	None

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	**Noise (NOI)**
Health and Safety/Hazards (HAZ)	MM-NOI-1
EP-HAZ-3	
Hydrology (HYD)	
EP-HYD-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	

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	South Chollas Creek Encanto Branch - Castana
Segment Name	Castana 1
Facility No.	5-05-205
Facility Location	From 170 feet west of the intersection of San Jacinto Drive and Castana Street to 120 east of Euclid Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete and earthen-lined channel per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	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
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-Builts?	None
Substrate Detail[3]	Stations 122-316: Earthen bottom and banks Stations 316-382: Earthen bottom, earthen right bank, gunite left bank

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

Facility Dimensions (Approximate)	Length: 260 feet Top width: 20–70 feet Bottom width: 4–10 feet Depth: 4–10 feet
Authorized Facility Maintenance Area	Length: Channel: 66 feet Width: 20–70 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, 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	Palm Removal Methodology: 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. Routine Maintenance: 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
Traffic Control	
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[4]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No 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	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

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

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within 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

August 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creel Encanto Branch - Castana
Segment Name: Castana 1
Facility No: 5-05-055
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

South Chollas Creek Encanto Branch - Imperial Facility Group

Segment Names (Facility numbers):

- Imperial 1 (5-05-304) (See Appendix A-5)
- Imperial 2 (5-05-306)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek Encanto Branch (05)
Facility Group Name	South Chollas Creek Encanto Branch - Imperial
Segment Name (Facility Number)	Imperial 1 (5-05-304) (See Appendix A-5) Imperial 2 (5-05-306)
Substrate	Imperial 1 / Earthen Imperial 2 / Concrete
Location	Southwest of 60th Street and East of Euclid Avenue
MMP Map No(s).	107
Facility Inspection No.	107
Other Former Names	Encanto Channel, Akins

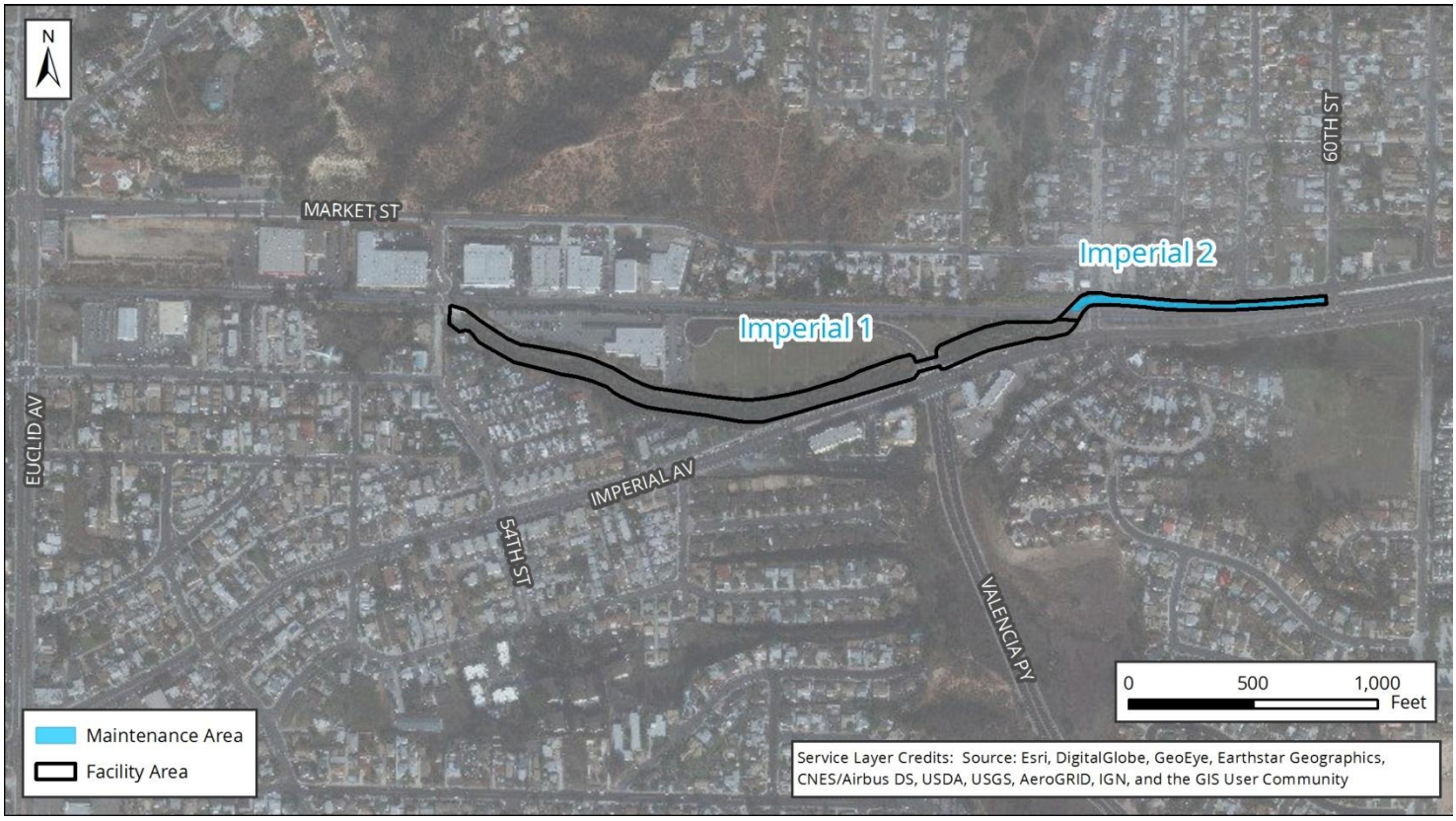


Figure 1: Vicinity Map of South Chollas Creek Encanto Branch - Imperial Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek Encanto Branch - Imperial	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Imperial Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch, immediately upstream of South Chollas Creek Encanto Branch (Imperial Segment 1)
Tributaries (listed from downstream to upstream)	South Chollas Creek Encanto Branch
Facility Length	Approximately 1,074 feet
Top-of-Bank Width	Approximately 22–34 feet
Bottom Facility Width	Approximately 10–30 feet
Facility Depth	Approximately 5–10 feet
Adjacent Land Use	Commercial, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	11556-3-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at concrete channel near 60th Street

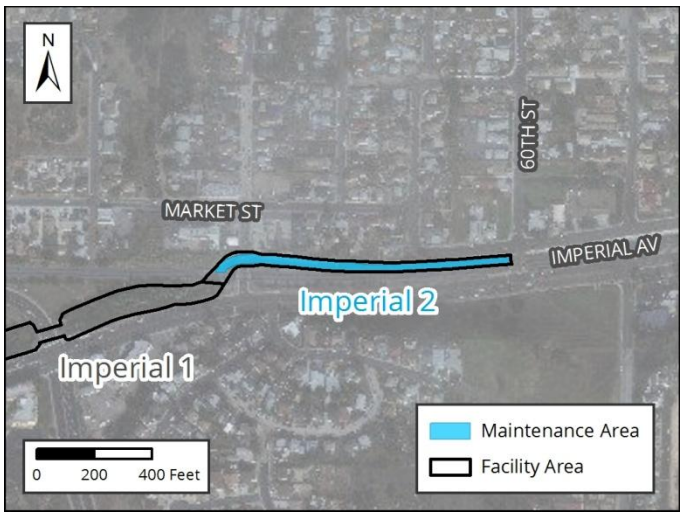


Figure 2: Vicinity Map of Imperial Segment 2

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 channel was observed to be relatively clean with very little evidence of vegetation or 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])	563	851	1,100	1,762	2,600	3,400
Hydraulic Capacity of Facility						
Current Capacity	3,400 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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within the facility, but raptors or other migratory species may use the tall trees in the disturbed wetland 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 approximately 470 feet northwest 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 Constraint Identified	None

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-1	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	

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.

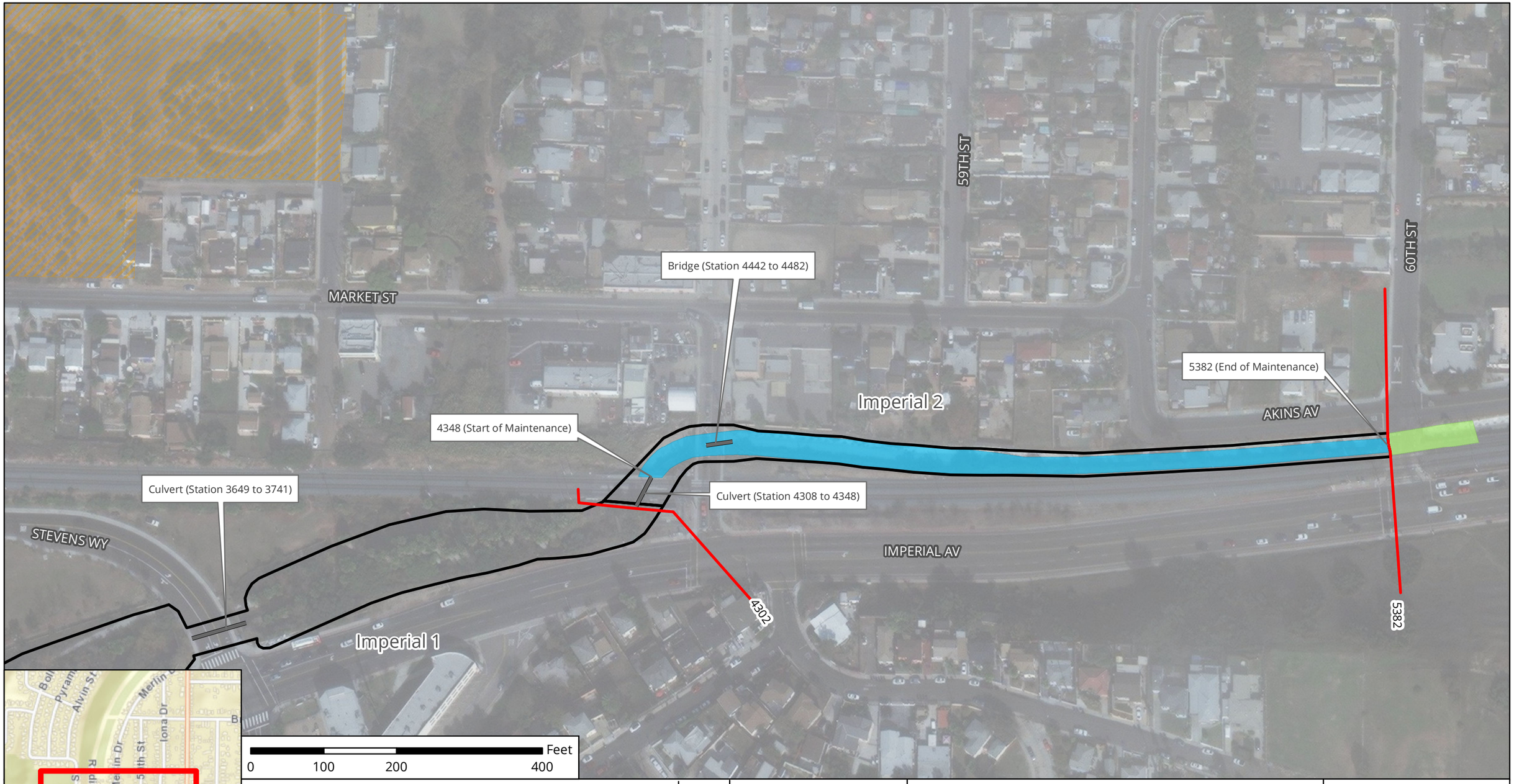
Facility Group	South Chollas Creek Encanto Branch - Imperial
Segment Name	Imperial 2
Facility No.	5-05-306
Facility Location	From west of 60th Street to the upstream end of Imperial 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	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-Builts?	Yes; 11556-3-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,074 feet Top width: 22–34 feet Bottom width: 10–30 feet Depth: 5–10 feet

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

Authorized Facility Maintenance Area	Length: Channel: 1,074 feet Width: 22–34 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	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 and Metropolitan Transit Board
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: No 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	Yes; implement BMPs per Water Pollution Control Plan

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

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



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.

August 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek Encanto Branch - Imperial
Segment Name: Imperial 2
Facility No: 5-05-306
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

South Chollas Creek Encanto Branch - Jamacha Facility Group

Segment Names (Facility numbers):

- Jamacha 1 (5-05-603)
- Jamacha 2 (5-05-606) (See Appendix A-5)
- Jamacha 3 (5-05-610) (See Appendix A-5)
- Lobrico 1 (5-05-702) (See Appendix A-5)
- Cadman 1 (5-05-802) (See Appendix A-5)

The City *of* SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek Encanto Branch (05)
Facility Group Name	South Chollas Creek Encanto Branch - Jamacha
Segment Name (Facility Number)	Jamacha 1 (5-05-603) Jamacha 2 (5-05-606) (See Appendix A-5) Jamacha 3 (5-05-610) (See Appendix A-5) Lobrico 1 (5-05-702) (See Appendix A-5) Cadman 1 (5-05-802) (See Appendix A-5)
Substrate	Jamacha 1 / Earthen Jamacha 2 / Earthen Jamacha 3 / Earthen Lobrico 1 / Earthen Cadman 1 / Earthen
Location	About 1,100 feet west of Cardiff Street and southeast of the intersection of Imperial Avenue and Woodman Street
MMP Map No(s).	113, 114, 115
Facility Inspection No.	113, 114, 115, 301, 309
Other Former Names	Jamacha Channel, Jamacha Expressway

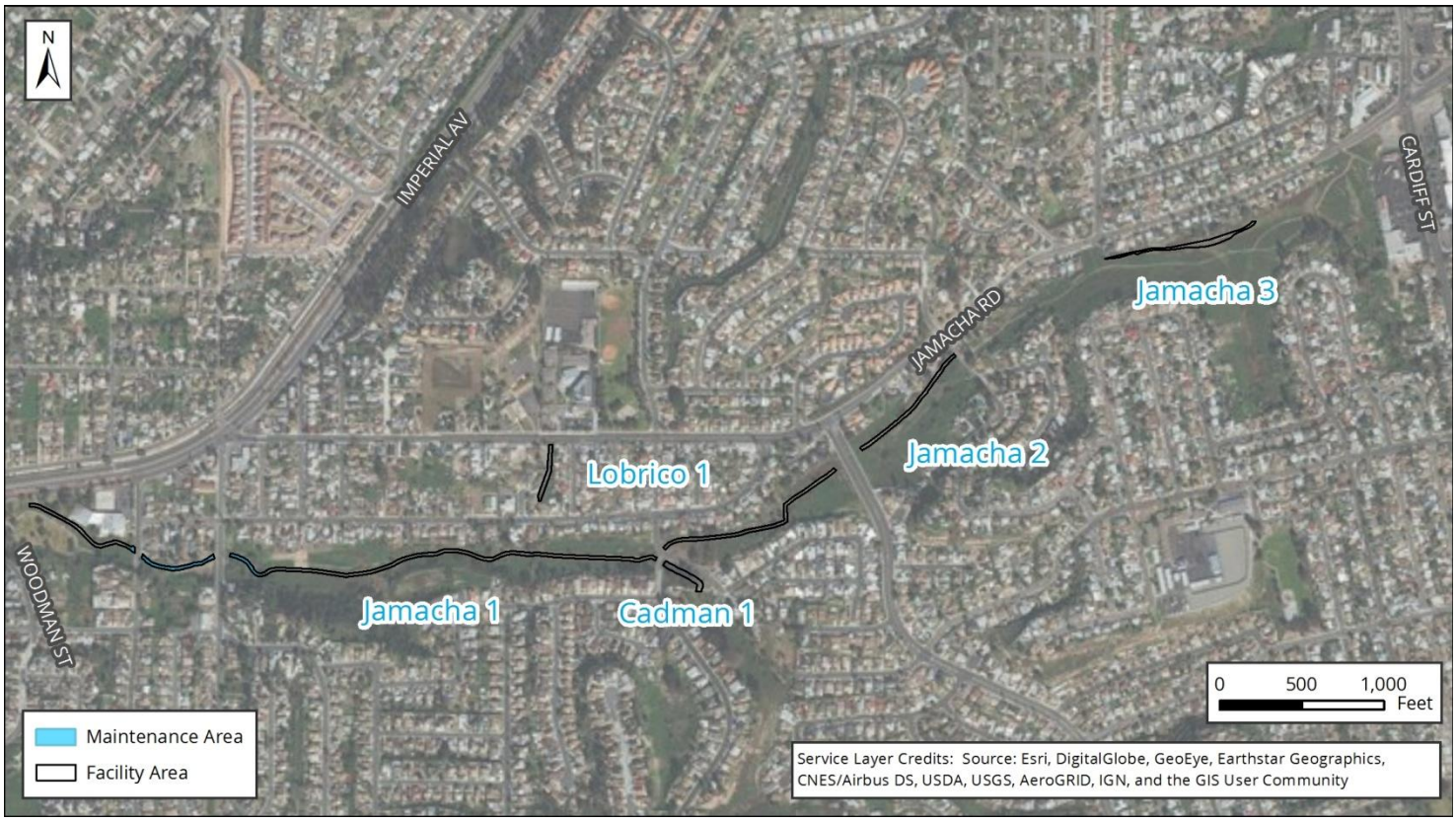


Figure 1: Vicinity Map of South Chollas Creek Encanto Branch - Jamacha Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek Encanto Branch - Jamacha	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Jamacha Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch, upstream of South Chollas Creek Encanto Branch (Imperial Segment 2)
Tributaries (listed from downstream to upstream)	South Chollas Creek Encanto Branch
Facility Length	Approximately 5,386 feet
Top-of-Bank Width	Approximately 18–95 feet
Bottom Facility Width	Approximately 6–21 feet
Facility Depth	Approximately 1–8 feet
Adjacent Land Use	Commercial, Open Space, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2016, upstream of 10-foot-wide by 5-foot-high RCB culvert beneath 69th Street facing west

Figure 2: Vicinity Map of Jamacha Segment 1

Facility Maintenance History

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

History of Maintenance	Prior to 2011: Unknown January 2011 – December 2013: No maintenance conducted December 2014: Invasive vegetation removal conducted 2015/2016: Emergency excavation of sediment and vegetation 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	RGP 63 USACE File #SPL-2016-00944-RAG
401	RGP 63 Verification No. R9-2016-0016
1602	LSA Emergency Notification submitted 01/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.10 acre); an additional 0.02 acre for DW needed for City mitigation

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 vary from light to dense and sediment deposition near the culverts was estimated to be 1 to 2 feet					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	612	779	913	1,102	1,241	1,386
Hydraulic Capacity of Facility						
Current Capacity	244 cfs					
Proposed MWMP Maintained Capacity	440 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 1441 to Station 1457, Station 1523 to Station 1996, and Station 2110 to Station 2324. Remove accumulated sediment and debris in culverts from Station 1457 to Station 1523 and Station 1996 to Station 2110.					
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

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	• Disturbed freshwater marsh • Disturbed wetland • Disturbed wetland (Arundo-dominated) • Freshwater marsh • Natural flood channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Disturbed wetland (Arundo-dominated) • Eucalyptus woodland • Non-native grassland • Ornamental plantings • Riparian forest (coast live oak)
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within the facility, but raptors or other migratory species may use the riparian forest (coast live oak), eucalyptus woodland, and coastal sage scrub habitat adjacent to the channel. Coastal sage scrub habitat is isolated and unlikely to support coastal California gnatcatcher.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Identified as potential compensatory mitigation area. A compensatory mitigation plan has not yet been prepared.

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 Constraint Identified	None

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)**
Hydrology (HYD)	MM-NOI-1
EP-HYD-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	

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.

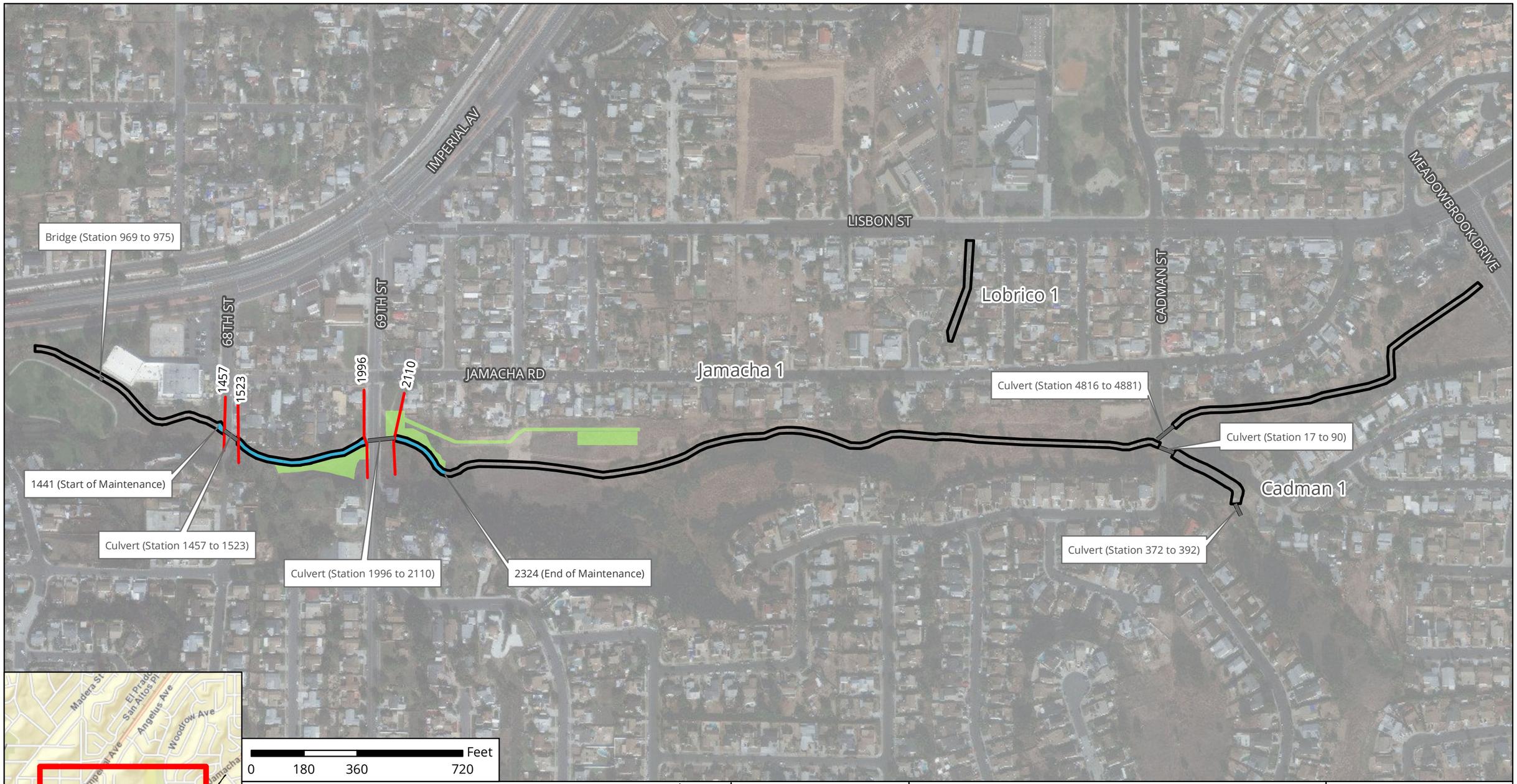
Facility Group	South Chollas Creek Encanto Branch - Jamacha
Segment Name	Jamacha 1
Facility No.	5-05-603
Facility Location	From downstream outlet of culvert beneath Meadow Brook Drive to inlet of culvert beneath Imperial Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 1441 to Station 1457, Station 1523 to Station 1996, and Station 2110 to Station 2324. Remove accumulated sediment and debris in culverts from Station 1457 to Station 1523 and Station 1996 to Station 2110.
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 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-Builts?	None
Substrate Detail	Earthen bottom and banks

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

Facility Dimensions (Approximate)	Length: 5,386 feet Top width: 18–95 feet Bottom width: 6–21 feet Depth: 1–8 feet
Authorized Facility Maintenance Area	Length: Channel: 703 feet; Culvert: 180 feet Width: 10–25 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	Bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, sweeper
Schedule	Up to approximately 60 working days
Maintenance Crew	Approximately 8–16 people
Routine Maintenance Procedures	1. Gradall/excavator and loader work within access/loading area 2. Gradall/excavator and loader scoop material from channel and load dump truck 3. If necessary, bulldozer/track-steer enters channel at access/loading area and pushes material to Gradall/excavator 4. 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: No 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

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

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



Notes:
1. In-stream post-maintenance erosion control measures 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.

The City of SAN DIEGO

August 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek Encanto Branch - Jamacha
Segment Name: Jamacha 1
Facility No: 5-05-603
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DUDEK
Geosyntec consultants

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

Paleta Creek - Cottonwood Facility Group

Segment Names (Facility numbers):

Cottonwood 1 (5-06-005)

Cottonwood 2 (5-06-008)

The City *of* SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.31
Drainage Name (Number)	Paleta Creek (06)
Facility Group Name	Paleta Creek - Cottonwood
Segment Name (Facility Number)	Cottonwood 1 (5-06-005) Cottonwood 2 (5-06-008)
Substrate	Cottonwood 1 / Concrete Cottonwood 2 / Concrete
Location	Bound by Highland Avenue to the east, by I-5 to the west, by Cottonwood Street and Nordica Avenue to the north, and by Marine View Avenue and Division Street to the south
MMP Map No(s).	120, 121
Facility Inspection No.	120, 121
Other Former Names	Cottonwood Channel

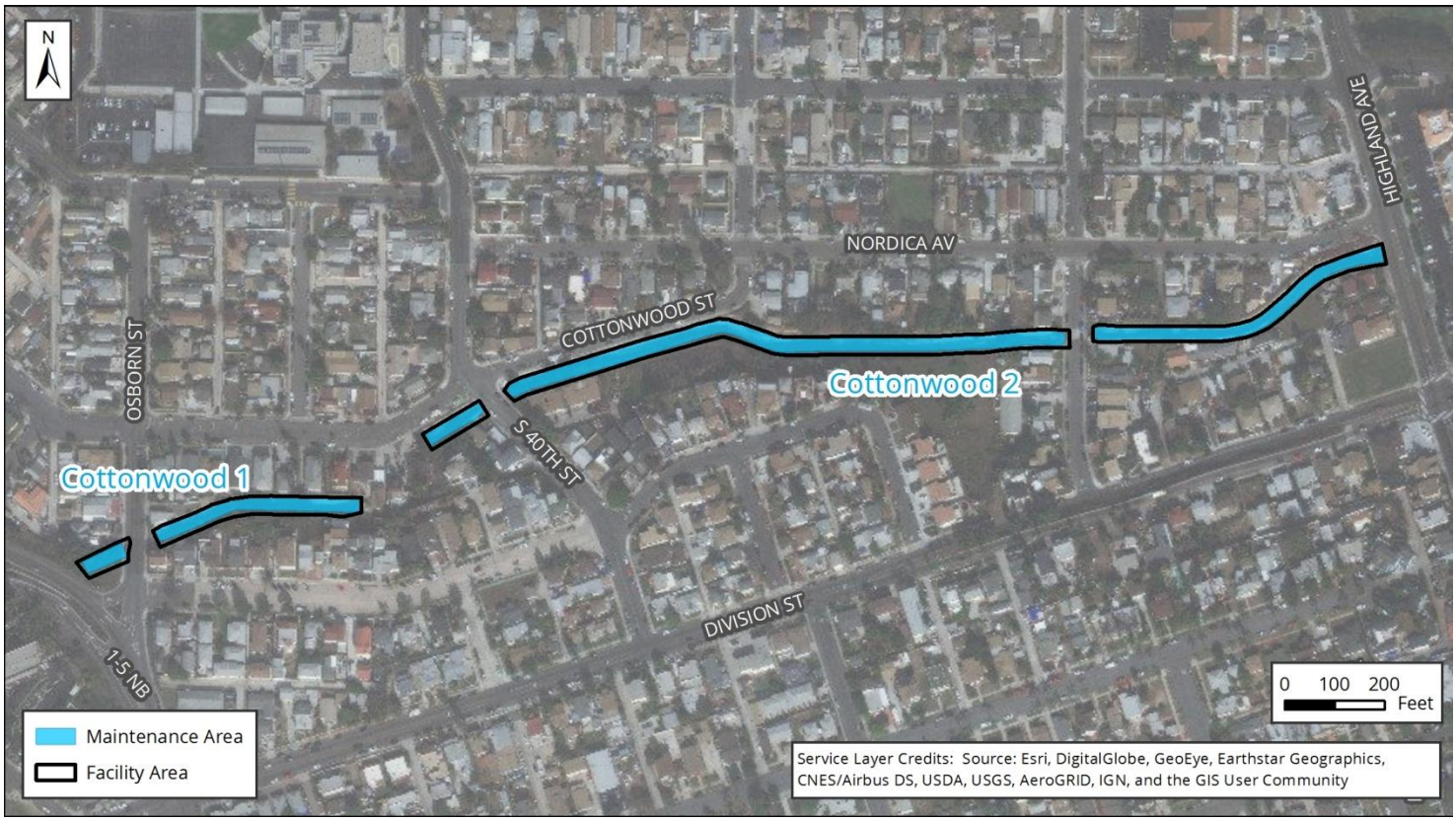


Figure 1: Vicinity Map of Paleta Creek - Cottonwood Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.31	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Paleta Creek - Cottonwood	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Lead

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • 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) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

Cottonwood Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Paleta Creek, upstream of the San Diego Bay
Tributaries (listed from downstream to upstream)	Paleta Creek
Facility Length	Approximately 572 feet
Top-of-Bank Width	Approximately 28.5 feet
Bottom Facility Width	Approximately 12 feet
Facility Depth	Approximately 5.5 feet
Adjacent Land Use	Single-Family Residential, Multi-Family Residential, Commercial, Transportation, Open Space, Vacant
As-Built Drawing Number	3019-D, 3021-D
Coastal Zone	No

Figure 1: May 2015, looking downstream at concrete channel

Figure 2: Vicinity Map of Cottonwood Segment 1

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	RGP 63 USACE File #SPL-2015-00900-WSZ
401	RGP 63 Verification No. R9-2015-0203:820160:lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.12 acre); an additional 0.12 acre for FWM needed for City mitigation

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 May 2015, the amount of vegetation was observed to range from moderate to dense in the bottom of the channel and many trees. The sediment deposition was estimated to be 0.2 feet.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	1,116	1,422	1,664	2,001	2,254	2,507

Hydraulic Capacity of Facility

Current Capacity	630 cfs
Proposed MWMP Maintained Capacity	678 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 1006 to Station 1091, and Station 1163 to Station 1578. Remove accumulated sediment and debris in culverts at Station 1006 and from Station 1091 to Station 1163.
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed 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. 1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

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	
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	

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	Paleta Creek - Cottonwood
Segment Name	Cottonwood 1
Facility No.	5-06-005
Facility Location	From 300 feet southwest of the intersection of Cottonwood Street and S 40th Street to inlet of culvert beneath Osborn Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 1006 to Station 1091, and Station 1163 to Station 1578. Remove accumulated sediment and debris in culverts at Station 1006 and from Station 1091 to Station 1163.
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-Builts?	Yes; 3019-D, 3021-D
Substrate Detail	Concrete bottom and banks

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

Facility Dimensions (Approximate)	Length: 572 feet Top width: 28.5 feet Bottom width: 12 feet Depth: 5.5 feet
Authorized Facility Maintenance Area	Length: Channel: 500 feet; Culvert: 72 feet Width: 28.5 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, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 6–8 people
Routine Maintenance Procedures	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	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: No 2. Adjacent to maintenance area: No 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

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

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

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.

The City of SAN DIEGO

August 2019

Map A: General Site Plan
Facility Group Name: Paleta Creek - Cottonwood
Segment Name: Cottonwood 1
Facility No: 5-06-005
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Cottonwood Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Paleta Creek, immediately upstream of Paleta Creek (Cottonwood Segment 1)
Tributaries (listed from downstream to upstream)	Paleta Creek
Facility Length	Approximately 2,204 feet
Top-of-Bank Width	Approximately 28.5 feet
Bottom Facility Width	Approximately 12 feet
Facility Depth	Approximately 5.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	3019-D, 3021-D
Coastal Zone	No

Figure 1: May 2015, looking upstream from double 9-foot-wide by 5-foot-tall RCB culvert at 40th Street

Figure 2: Vicinity Map of Cottonwood Segment 2

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	RGP 63 USACE File #SPL-2015-00900-WSZ
401	RGP 63 Verification No. R9-2015-0203:820160:lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.12 acre); an additional 0.06 acre for DSWS needed for City mitigation

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 May 2015, the vegetation was observed to range from moderate to dense vegetation in the bottom of the channel and many trees. The sediment deposition was estimated to be 0.2 feet.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	1,104	1,406	1,646	1,979	2,229	2,479

Hydraulic Capacity of Facility

Current Capacity	519 cfs
Proposed MWMP Maintained Capacity	522 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 1765 to Station 1892, Station 1951 to Station 3095, and Station 3152 to Station 3782. Remove accumulated sediment and debris in culverts from Station 1578 to Station 1765, Station 1892 to Station 1951, and Station 3095 to Station 3152.
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed 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; 1969 concrete channel
Potential Historical Resources Constraint Identified	Yes

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	

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	Paleta Creek - Cottonwood
Segment Name	Cottonwood 2
Facility No.	5-06-008
Facility Location	From a outlet of culvert underneath Highland Avenue from the east and south of Nordica Avenue to inlet of culverts beneath residences south of intersection of Cottonwood Street and S 40th Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 1765 to Station 1892, Station 1951 to Station 3095, and Station 3152 to Station 3782. Remove accumulated sediment and debris in culverts from Station 1578 to Station 1765, Station 1892 to Station 1951, and Station 3095 to Station 3152.
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-Builts?	Yes; 3019-D, 3021-D

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

Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 2,204 feet Top width: 28.5 feet Bottom width: 12 feet Depth: 5.5 feet
Authorized Facility Maintenance Area	Length: Channel: 1,899 feet; Culvert: 303 feet Width: 28.5 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, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 6–8 people
Routine Maintenance Procedures	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 form 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	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: No 2. Adjacent to maintenance area: No 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

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

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

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.

The City of SAN DIEGO

August 2019

Map A: General Site Plan
Facility Group Name: Paleta Creek - Cottonwood
Segment Name: Cottonwood 2
Facility No: 5-06-008
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Paleta Creek - Solola Facility Group

Segment Names (Facility numbers):

- Solola 1 (5-06-020)
- Solola 2 (5-06-023)
- Cervantes 1 (5-06-025) (See Appendix A-5)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.31
Drainage Name (Number)	Paleta Creek (06)
Facility Group Name	Paleta Creek - Solola
Segment Name (Facility Number)	Solola 1 (5-06-020) Solola 2 (5-06-023) Cervantes 1 (5-06-025) (See Appendix A-5)
Substrate	Solola 1 / Concrete Solola 2 / Concrete Cervantes 1 / Earthen
Location	About 300 feet southwest of intersection of South Radio Drive and Cervantes Avenue, and east of 47th Street
MMP Map No(s).	116, 117, 118, 119
Facility Inspection No.	116, 117, 118, 119
Other Former Names	None

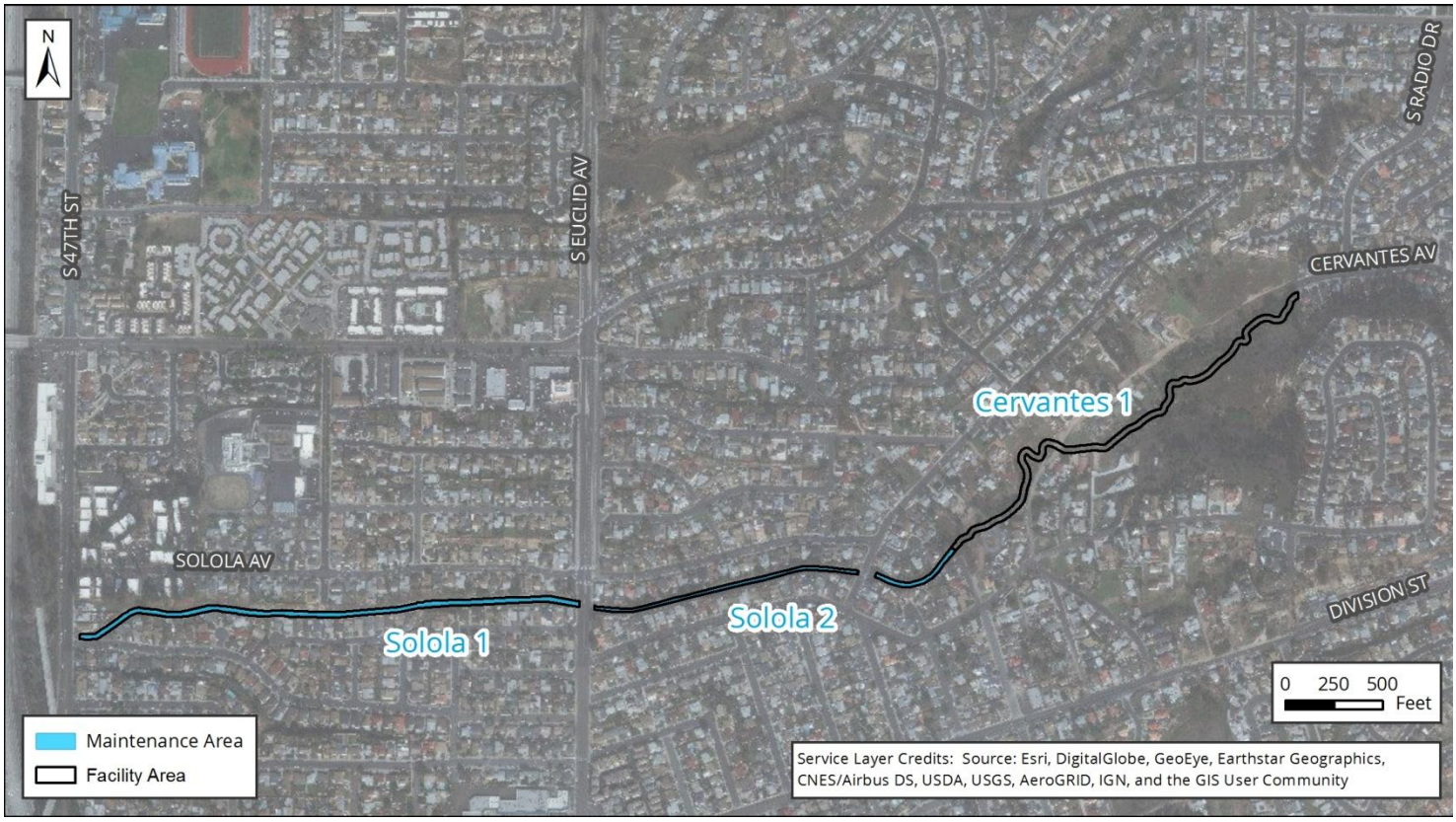


Figure 1: Vicinity Map of Paleta Creek - Solola Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.31	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Paleta Creek - Solola	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Lead

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • 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) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

Solola Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of Paleta Creek, upstream of Paleta Creek (Cottonwood Segment 2)
Tributaries (listed from downstream to upstream)	Paleta Creek
Facility Length	Approximately 2,625 feet
Top-of-Bank Width	Approximately 28 feet
Bottom Facility Width	Approximately 10–19 feet
Facility Depth	Approximately 5–6 feet
Adjacent Land Use	Multi-Family Residential, Single-Family Residential, Transportation
As-Built Drawing Number	15422-D & 12964-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at accumulated sediment and debris in concrete channel

Figure 2: Vicinity Map of Solola Segment 1

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 minor concrete repair
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 range from a mostly clean channel to moderate vegetation with sediment and debris deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	43	100	160	250	390	470
Hydraulic Capacity of Facility						
Current Capacity	470 cfs					
Proposed MWMP Maintained Capacity	470 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation between Station 39 and Station 2664					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed 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	None
Potential Historical Resources Constraint Identified	None

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	

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	Paleta Creek - Solola
Segment Name	Solola 1
Facility No.	5-06-020
Facility Location	From outlet of culvert at Euclid Avenue to inlet of culvert at 47th Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation between Station 39 and Station 2664
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	Yes; see Appendix A-4
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-Builts?	Yes; 15422-D & 12964-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 2,625 feet Top width: 28 feet Bottom width: 10–19 feet Depth: 5–6 feet
Authorized Facility Maintenance Area	Length: Channel: 2,625 feet Width: 28 feet

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

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	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	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: No 2. Adjacent to maintenance area: No 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	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

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

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.

The City of SAN DIEGO

August 2019

Map A: General Site Plan
Facility Group Name: Paleta Creek - Solola
Segment Name: Solola 1
Facility No: 5-06-020
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Solola Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Paleta Creek, immediately upstream of Paleta Creek (Solola Segment 1)
Tributaries (listed from downstream to upstream)	Paleta Creek
Facility Length	Approximately 2,027 feet
Top-of-Bank Width	Approximately 9–30 feet
Bottom Facility Width	Approximately 4–17.5 feet
Facility Depth	Approximately 4–12 feet
Adjacent Land Use	Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	9228-L & 9227-L
Coastal Zone	No

Figure 1: April 2017, looking downstream at second drop structure and sediment accumulated at bottom of structure

Figure 2: Vicinity Map of Solola Segment 2

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 minor concrete repair
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 range from a mostly clean channel to moderate vegetation with sediment and debris deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	43	100	160	250	390	470
Hydraulic Capacity of Facility						
Current Capacity	325 cfs					
Proposed MWMP Maintained Capacity	325 cfs					
Maintenance Recommendation	Remove the accumulated sediment, debris, and vegetation from Station 2734 to Station 4122, and Station 4172 to Station 4691. Remove the accumulated sediment and debris in culverts from Station 2664 to Station 2734, and Station 4122 to Station 4172.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Natural flood channel • 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; Pre-1974 concrete channel
Potential Historical Resources Constraint Identified	Yes

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	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	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	

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	Paleta Creek - Solola
Segment Name	Solola 2
Facility No.	5-06-023
Facility Location	From downstream end of Cervantes 1 segment to inlet of culvert that crosses under Euclid Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove the accumulated sediment, debris, and vegetation from Station 2734 to Station 4122, and Station 4172 to Station 4691. Remove the accumulated sediment and debris in culverts from Station 2664 to Station 2734, and Station 4122 to Station 4172.
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	Yes; see Appendix A-4
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-Builts?	Yes; 9228-L & 9227-L
Substrate Detail	Concrete bottom and banks

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

Facility Dimensions (Approximate)	Length: 2,027 feet Top width: 9–30 feet Bottom width: 4–17.5 feet Depth: 4–12 feet
Authorized Facility Maintenance Area	Length: Channel: 1,907 feet; Culvert: 120 feet Width: 9–30 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	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	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	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: No 2. Adjacent to maintenance area: No 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

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

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

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.

The City of SAN DIEGO

August 2019

Map A: General Site Plan
Facility Group Name: Paleta Creek - Solola
Segment Name: Solola 2
Facility No: 5-06-023
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Sweetwater River - Parkside Facility Group

Segment Name (Facility number):

Parkside 1 (5-11-003)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Sweetwater (5)
Hydrologic Subarea	909.12
Drainage Name (Number)	Sweetwater River Unnamed Tributary (11)
Facility Group Name	Sweetwater River - Parkside
Segment Name (Facility Number)	Parkside 1 (5-11-003)
Substrate	Parkside 1 / Concrete
Location	About 300 feet west of the eastern intersection of Garber Avenue and Parkside Avenue, southeast of the intersection of Rhoades Road and Parkside Avenue
MMP Map No(s).	122
Facility Inspection No.	122
Other Former Names	Parkside Channel

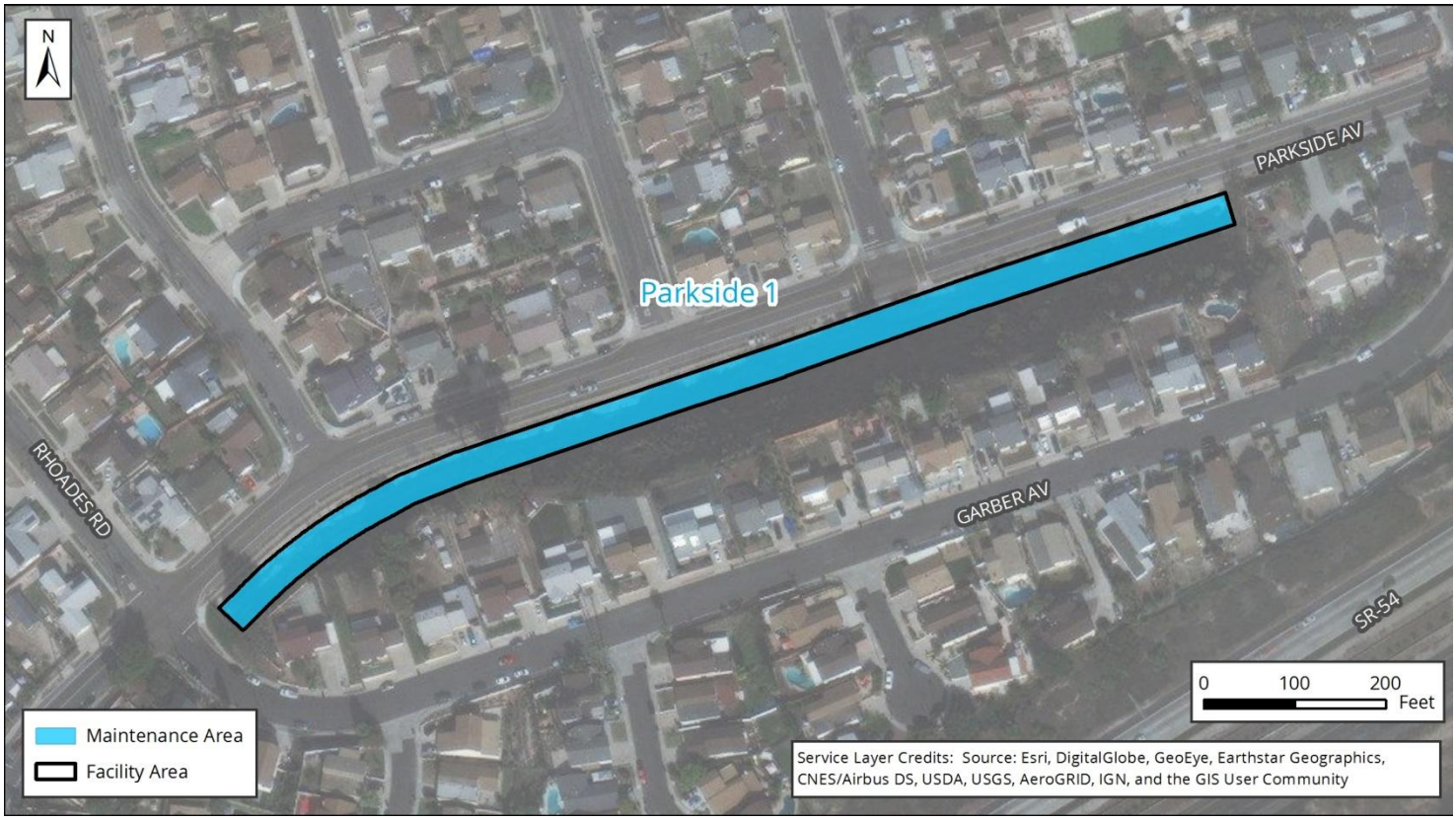


Figure 1: Vicinity Map of Sweetwater River - Parkside Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 909.12	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Sweetwater River - Parkside	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Sweetwater River (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphorus, Selenium, Total Dissolved Solids, Toxicity

Parkside Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of Sweetwater River unnamed tributary
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,197 feet
Top-of-Bank Width	Approximately 25–35 feet
Bottom Facility Width	Approximately 10–17 feet
Facility Depth	Approximately 5–7 feet
Adjacent Land Use	Single-Family Residential, Transportation, Open Space
As-Built Drawing Number	7498-D
Coastal Zone	No

Figure 1: May 2015, representative of channel (with moderate vegetation), looking upstream

Figure 2: Vicinity Map of Parkside Segment 1

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 and vegetation 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	RGP 63 USACE File #SPL-2015-00909-RAG
401	RGP 63 Verification No. R9-2015-0208:820215:lhonma
1602	LSA Emergency Notification submitted 01/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.20 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 May 2015, the amount of vegetation observed was dense with many large trees and sediment deposition was estimated to be 0.2 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])	709	886	1,034	1,241	1,477	1,536
Hydraulic Capacity of Facility						
Current Capacity	735 cfs					
Proposed MWMP Maintained Capacity	735 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from Station 298 to Station 1495					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• 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	None
Potential Historical Resources Constraint Identified	None

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	

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	Sweetwater River - Parkside
Segment Name	Parkside 1
Facility No.	5-11-003
Facility Location	From 300 feet west of Garber Avenue to inlet of culvert beneath Rhoades Road
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and overgrown vegetation from Station 298 to Station 1495
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-Builts?	Yes; 7498-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,197 feet Top width: 25–35 feet Bottom width: 10–17 feet Depth: 5–7 feet

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

Authorized Facility Maintenance Area	Length: Channel: 1,197 feet Width: 25–35 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 6–8 people
Routine Maintenance Procedures	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	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: No 2. Adjacent to maintenance area: No 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	Yes; implement BMPs per Water Pollution Control Plan

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

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

Nestor Creek - Nestor Facility Group

Segment Names (Facility numbers):

- Cedar 1 (5-22-008)
- Cedar 2 (5-22-010)
- Dahlia 1 (5-22-013)
- Cerissa 1 (5-22-016)
- Grove 1 (5-22-023)
- 30th St 1 (5-22-028)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Otay (5)
Hydrologic Subarea	910.20
Drainage Name (Number)	Nestor Creek (22)
Facility Group Name	Nestor Creek - Nestor
Segment Name (Facility Number)	Cedar 1 (5-22-008) Cedar 2 (5-22-010) Dahlia 1 (5-22-013) Cerissa 1 (5-22-016) Grove 1 (5-22-023) 30th St 1 (5-22-028)
Substrate	Cedar 1 / Earthen Cedar 2 / Concrete Dahlia 1 / Concrete Cerissa 1 / Earthen Grove 1 / Earthen and concrete 30th St 1 / Earthen and concrete
Location	About 400 feet north of Palm Avenue and 1,300 feet north of Iris Avenue, crossing Interstate 5 (I-5)
MMP Map No(s).	131, 132, 133, 134
Facility Inspection No.	132, 133, 134, 300x
Other Former Names	Nestor

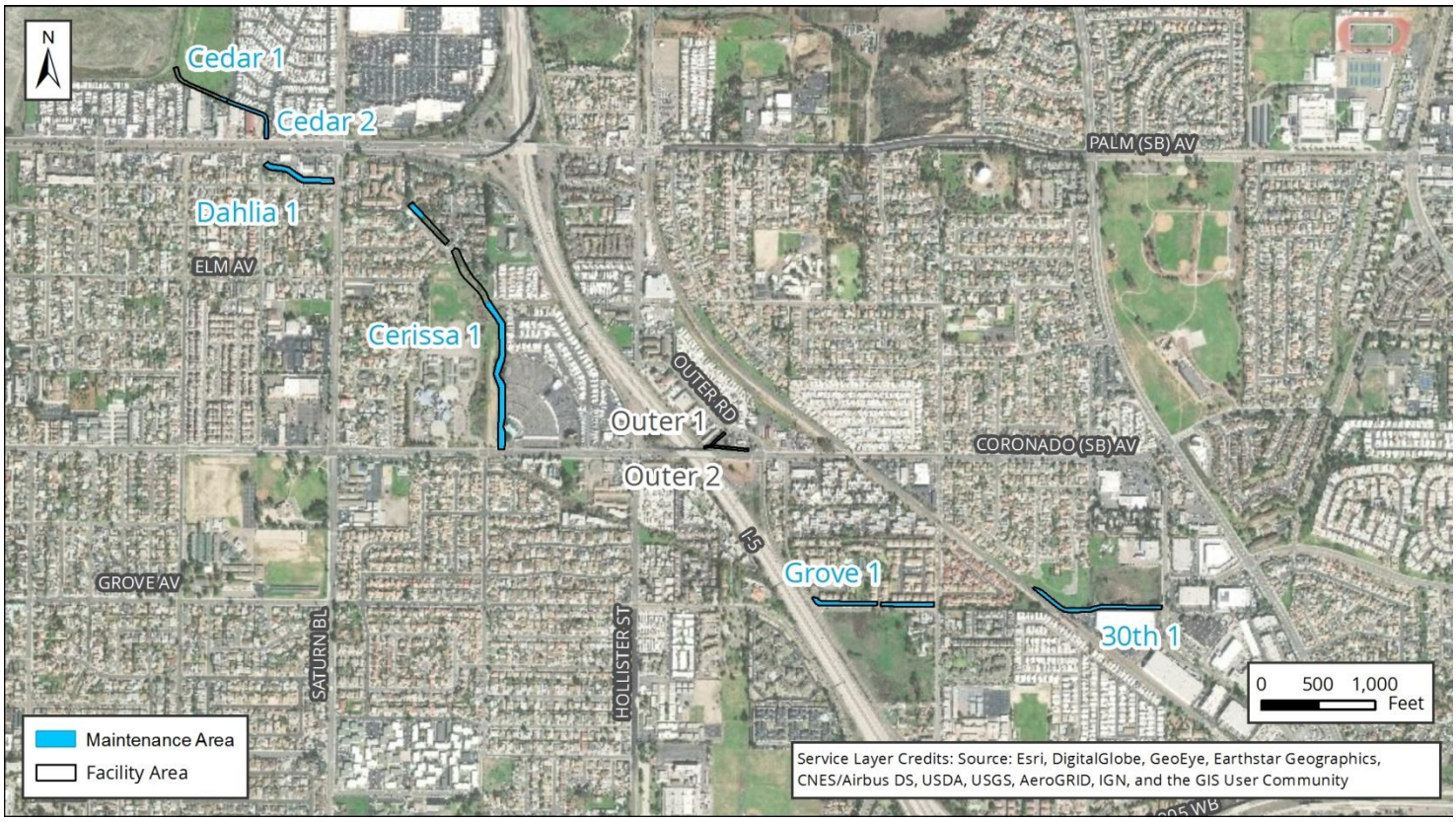


Figure 1: Vicinity Map of Nestor Creek - Nestor Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 910.20	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Nestor Creek - Nestor	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Otay River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • 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

Cedar Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and riprap banks
Location Within Watershed	Lower reach of Nestor Creek, upstream of the San Diego Bay
Tributaries (listed from downstream to upstream)	Nestor Creek, Nestor Creek Unnamed Tributary
Facility Length	Approximately 427 feet
Top-of-Bank Width	Approximately 28–32 feet
Bottom Facility Width	Approximately 10–16.5 feet
Facility Depth	Approximately 4–7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	CST-APP

Figure 1: November 2016, looking downstream from the upstream end of the segment

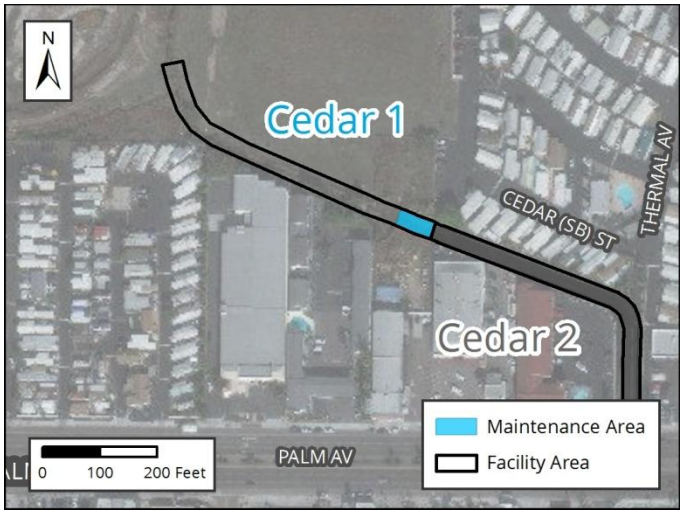


Figure 2: Vicinity Map of Cedar Segment 1

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 and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	CDP No. 2161345 (City issued)
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00011-MBT
401	RGP 63 Verification No. R9-2016-0044;821320;lhonma
1602	LSA Emergency Notification submitted 02/2016; CDFW SAA No. 1600-2018-0189-R5 (expires 01/15/2023)
Mitigation for Previous Impacts	TBD

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 2016, the amount of vegetation was observed to from light to dense and 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])	300	360	440	640	840	1,093
Hydraulic Capacity of Facility						
Current Capacity	160 cfs					
Proposed MWMP Maintained Capacity	360 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 790 to Station 855. Assessment continues on the remainder of Cedar 1 (Station 428 to Station 790) to determine if future maintenance will benefit the associated areas.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Freshwater marsh • Natural flood channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility. However, due to the adjacency to coastal and marsh habitat, there is potential for sensitive species, such as Ridgway's rail, to occur within and downstream of the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundaries are located approximately 370 feet west 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; Pre-1953 earthen channel
Potential Historical Resources Constraint Identified	Yes

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	

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.

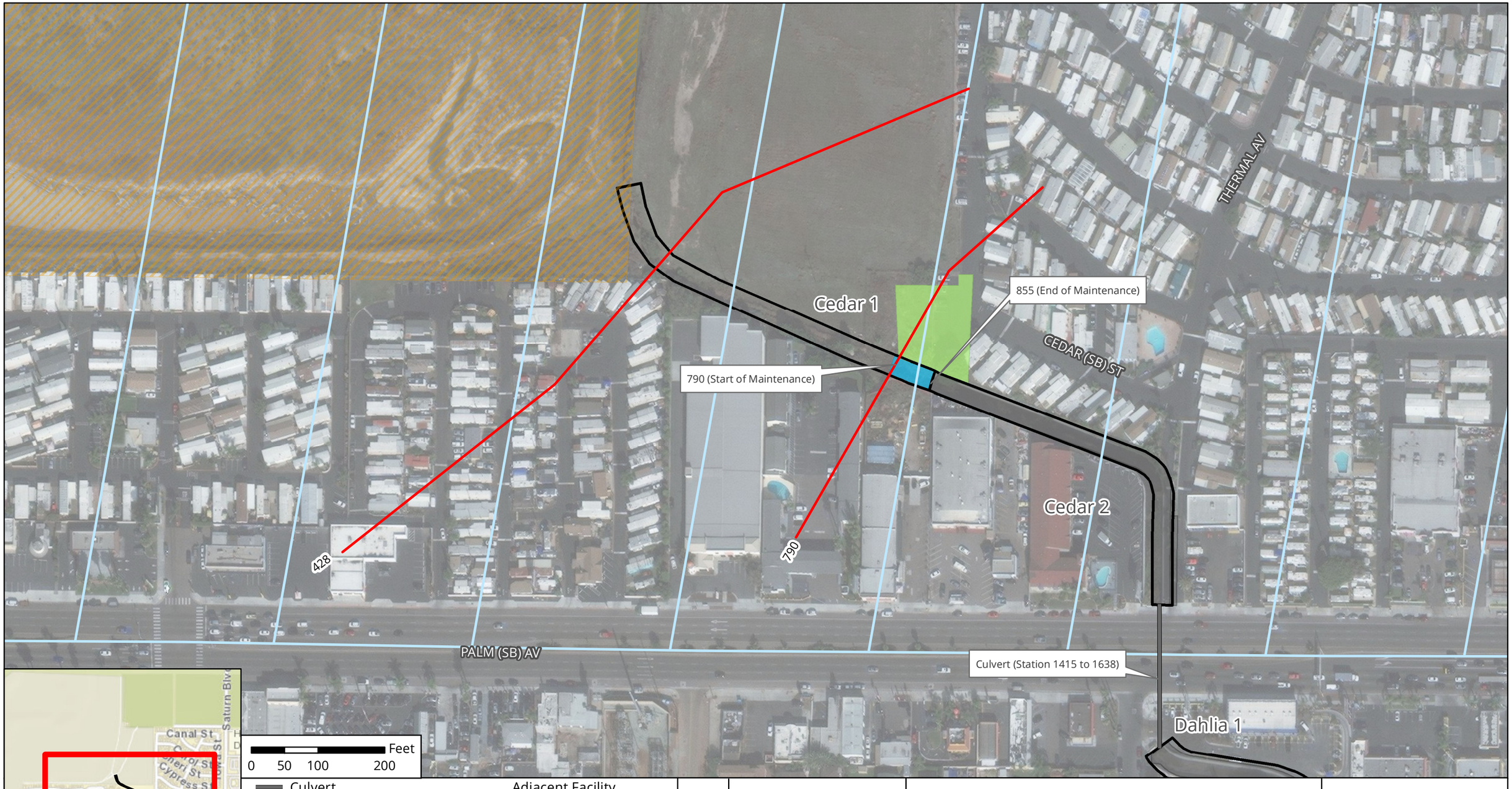
Facility Group	Nestor Creek - Nestor
Segment Name	Cedar 1
Facility No.	5-22-008
Facility Location	From downstream end of Cedar 2 segment to 600 feet northwest of the intersection of Palm Avenue and Thermal Avenue
Coastal Zone	CST-APP
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 790 to Station 855. Assessment continues on the remainder of Cedar 1 (Station 428 to Station 790) to determine if future maintenance will benefit the associated areas.
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-Builts?	None
Substrate Detail	Earthen bottom and riprap banks
Facility Dimensions (Approximate)	Length: 427 feet Top width: 28–32 feet Bottom width: 10–16.5 feet Depth: 4–7 feet

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

Authorized Facility Maintenance Area	Length: Channel: 65 feet Width: 28–32 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, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to loader and Gradall/excavator at access/loading area 3. Loader and Gradall/excavator scoop material from channel and load dump truck 4. 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

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

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



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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: Cedar 1
Facility No: 5-22-008
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Cedar Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Nestor Creek, immediately upstream of Nestor Creek (Cedar Segment 1)
Tributaries (listed from downstream to upstream)	Nestor Creek, Nestor Creek Unnamed Tributary
Facility Length	Approximately 560 feet
Top-of-Bank Width	Approximately 28 feet
Bottom Facility Width	Approximately 16.5–28 feet
Facility Depth	Approximately 8–9 feet
Adjacent Land Use	Commercial, Open Space, Other Residential, Single-Family Residential, Transportation
As-Built Drawing Number	22431-D
Coastal Zone	CST-APP

Figure 1: November 2016, looking upstream at the Palm Avenue triple RCB culvert

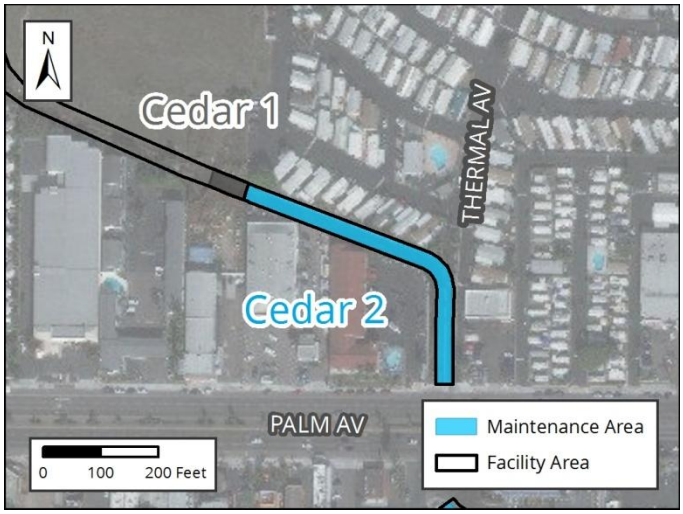


Figure 2: Vicinity Map of Cedar Segment 2

Facility Maintenance History

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

History of Maintenance	Prior to 2010: Unknown 2010: Emergency maintenance activities January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	CDP No. 2161345 (City issued)
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 43
401	RWQCB 401 Cert No. 10C-059 (one-time maintenance authorization)
1602	CDFW SAA No. 1600-2010-0195-R5 (expires 09/30/2015)
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 November 2016, the vegetation was observed to vary from light to moderate with approximately 0.5 foot 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])	300	360	440	640	840	1,093
Hydraulic Capacity of Facility						
Current Capacity	980 cfs					
Proposed MWMP Maintained Capacity	1,093 cfs					
Maintenance Recommendation	Remove accumulated sediment and vegetation from channel bottom from Station 855 to Station 1415					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Freshwater marsh • Natural flood channel • Ornamental plantings
Habitat and Wildlife	There are no biological resources suitable for sensitive species use within the facility. However, due to the adjacency to coastal and marsh habitat, there is potential for sensitive species, such as Ridgway's rail, to occur within and downstream of the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundaries are located approximately 500 feet west 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 Constraint Identified	None

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	**Noise (NOI)**
EP-BIO-6	MM-NOI-1
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	

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	Nestor Creek - Nestor
Segment Name	Cedar 2
Facility No.	5-22-010
Facility Location	From outlet of culvert beneath Palm Avenue to upstream end of Cedar 1 segment
Coastal Zone	CST-APP
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and vegetation from channel bottom from Station 855 to Station 1415
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-Builts?	Yes; 22431-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 560 feet Top width: 28 feet Bottom width: 16.5–28 feet Depth: 8–9 feet

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

Authorized Facility Maintenance Area	Length: Channel: 560 feet Width: 28 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 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and/or loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer/loader push material to loader and Gradall/excavator at access/loading area 3. Loader and Gradall/excavator scoop material from channel and load dump truck 4. 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: No 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

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

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

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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: Cedar 2
Facility No: 5-22-010
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Dahlia Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Nestor Creek, immediately upstream of Nestor Creek (Cedar Segment 2)
Tributaries (listed from downstream to upstream)	Nestor Creek, Nestor Creek Unnamed Tributary
Facility Length	Approximately 845 feet
Top-of-Bank Width	Approximately 30 feet
Bottom Facility Width	Approximately 30 feet
Facility Depth	Approximately 7–9 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	21584-D
Coastal Zone	No

Figure 1: April 2015, looking upstream

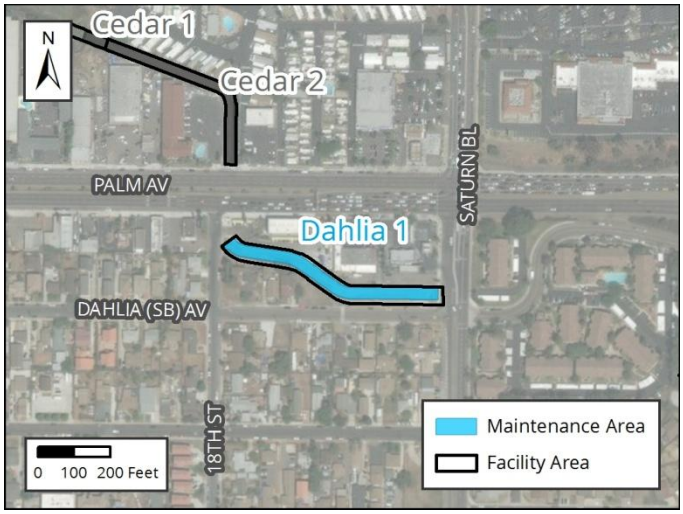


Figure 2: Vicinity Map of Dahlia Segment 1

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 April 2015, the vegetation was observed to vary from light to moderate with some 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])	243	300	365	520	690	864
Hydraulic Capacity of Facility						
Current Capacity	864 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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Developed concrete-lined channel • 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). The nearest MHPA boundary is located more than 1,000 feet northwest 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 Constraint Identified	None

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	

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.

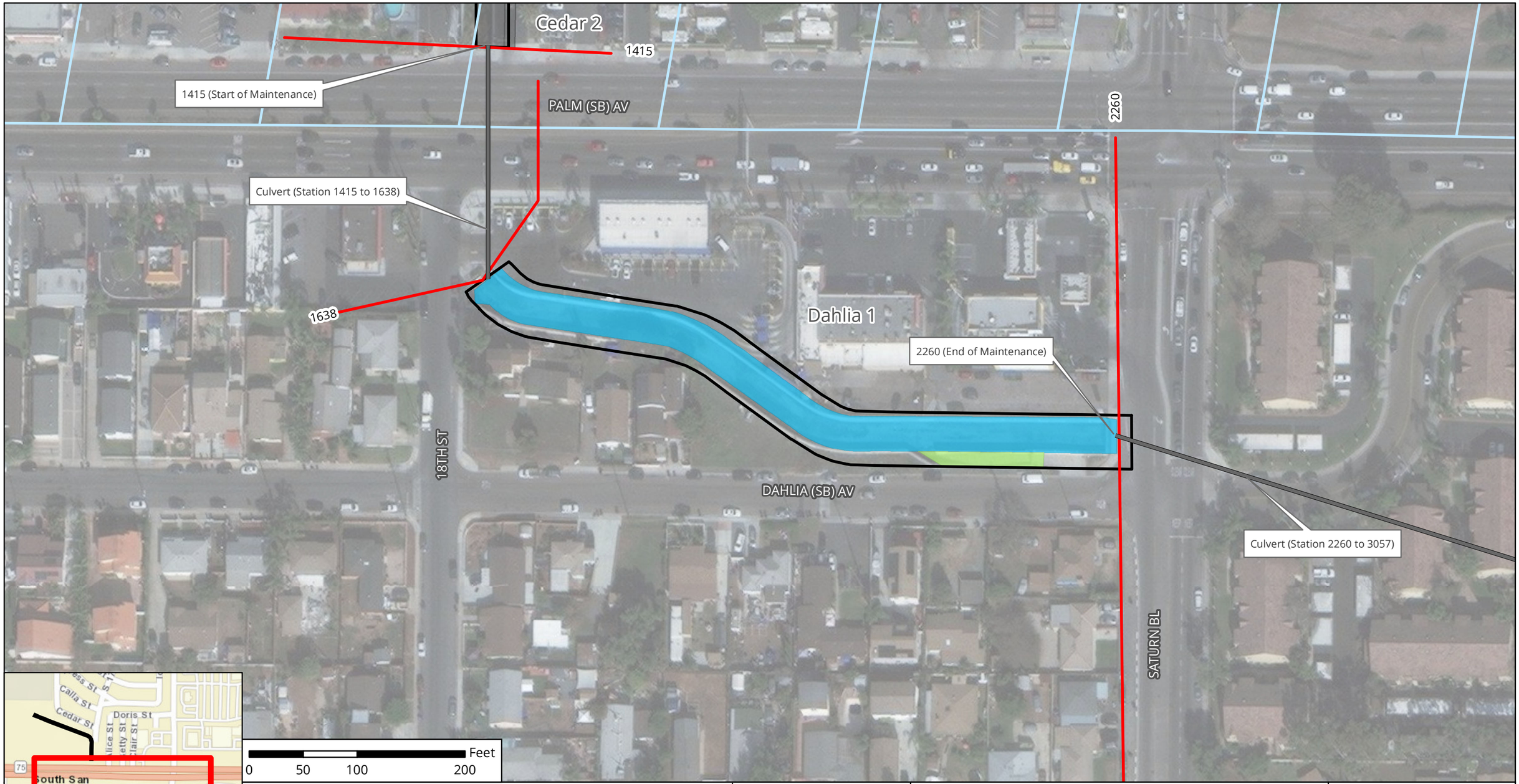
Facility Group	Nestor Creek - Nestor
Segment Name	Dahlia 1
Facility No.	5-22-013
Facility Location	From outlet of culvert west of Saturn Boulevard to inlet of culvert southeast of the intersection of Palm Avenue and 18th Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	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-Builts?	Yes; 21584-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 845 feet Top width: 30 feet Bottom width: 30 feet Depth: 7–9 feet

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

Authorized Facility Maintenance Area	Length: Channel: 622 feet; Culvert: 223 feet Width: 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	Bobcat/skid-steer, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer/loader enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer/loader scoops material from channel and loads dump truck at access/loading area 3. 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: No 2. Adjacent to maintenance area: No 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
BMP Installation	See Water Pollution Control Plan

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

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



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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: Dahlia 1
Facility No: 5-22-013
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Cerissa Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of Nestor Creek, immediately upstream of Nestor Creek (Dahlia Segment 1)
Tributaries (listed from downstream to upstream)	Nestor Creek, Nestor Creek Unnamed Tributary
Facility Length	Approximately 3,253 feet
Top-of-Bank Width	Approximately 65–85 feet
Bottom Facility Width	Approximately 35–60 feet
Facility Depth	Approximately 6–7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Other Residential, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	21570-D & 17561-D
Coastal Zone	No

Figure 1: April 2015, looking upstream at the downstream end of the segment

Figure 2: Vicinity Map of Cerissa Segment 1

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 April 2015, the vegetation was observed to be light to dense and there was 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])	215	260	330	470	640	796
Hydraulic Capacity of Facility						
Current Capacity	340 cfs					
Proposed MWMP Maintained Capacity	420 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 3057 to Station 3197 and Station 4167 to Station 5494. Remove accumulated sediment and debris from the culvert at Station 2260 to Station 3057. The remainder of Cerissa 1 is recommended to be maintained by the private property owners to remove accumulated sediment, debris, and overgrown vegetation.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Disturbed wetland • Disturbed wetland (Arundo-dominated) • Freshwater marsh • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland • Disturbed wetland (Arundo-dominated) • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	The habitat contained within the facility provides potential nesting and/or foraging for migratory bird or raptor species, as well as for other sensitive bird species such as least Bell's vireo and southern willow flycatcher. However, the channel is relatively isolated from other riparian habitat, reducing the potential for sensitive species to occur.
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 Constraint Identified	None

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	MM-BIO-7
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	

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.

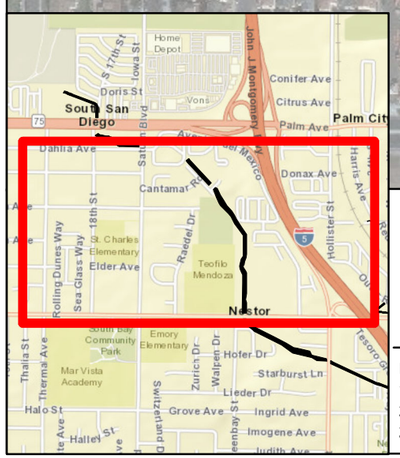
Facility Group	Nestor Creek - Nestor
Segment Name	Cerissa 1
Facility No.	5-22-016
Facility Location	From outlet of culvert beneath Coronado Avenue to inlet of culvert beneath Saturn Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of portions of the earthen channel that are City responsibility per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 3057 to Station 3197 and Station 4167 to Station 5494. Remove accumulated sediment and debris from the culvert at Station 2260 to Station 3057. The remainder of Cerissa 1 is recommended to be maintained by the private property owners to remove accumulated sediment, debris, and overgrown vegetation.
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	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 21570-D & 17561-D
Substrate Detail	Earthen bottom and banks

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

Facility Dimensions (Approximate)	Length: 3,253 feet Top width: 65–85 feet Bottom width: 35–60 feet Depth: 6–7 feet
Authorized Facility Maintenance Area	Length: Channel: 1,467 feet; Culvert: 797 feet Width: 45–69 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	Northwest section: Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump South section: Bulldozer/track-steer, Gradall/excavator, long reach excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 28–35 working days
Maintenance Crew	Approximately 10–20 people
Routine Maintenance Procedures	Northwest Section: 1. Bulldozer/track-steer enters 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 stockpiles material on-site 4. Loader manages stockpile. Loader will scoop material into dump truck 5. Dump truck hauls material to legal disposal site South Section: 1. Gradall/excavator and long-reach excavator at access/loading area scoop material from channel and load dump truck 2. Bulldozer/track-steer may be used in channel to push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and stockpiles material on-site 4. Loader manages stockpile. Loader will scoop material into dump truck 5. 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 2. Adjacent to maintenance area: No 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
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

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



Culvert
Station
Facility Area

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

N

The City of SAN DIEGO

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: Nestor Creek - Nestor
Segment Name: Cerissa 1
Facility No: 5-22-016
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Grove Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail	Earthen bottom and concrete banks
Location Within Watershed	Upper reach of Nestor Creek, upstream of Nestor Creek (Cerissa Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,454 feet
Top-of-Bank Width	Approximately 29–34 feet
Bottom Facility Width	Approximately 29–34 feet
Facility Depth	Approximately 3–4 feet
Adjacent Land Use	Open Space, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	14319-D
Coastal Zone	No

Figure 1: May 2015, looking upstream at the downstream portion of the segment

Figure 2: Vicinity Map of Grove Segment 1

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 May 2015, the vegetation was observed to be moderate 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])	20	88	180	270	365	456
Hydraulic Capacity of Facility						
Current Capacity	456 cfs					
Proposed MWMP Maintained Capacity	456 cfs					
Maintenance Recommendation	Remove accumulated vegetation from channel bottom from Station 8660 to Station 9228, and Station 9261 to Station 9732. Remove accumulated sediment, debris, and vegetation from the culverts from Station 9228 to Station 9261, and Station 9732 to Station 9802.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Disturbed wetland • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Ornamental plantings • Riparian forest (southern willow forest; concrete-lined)
Habitat and Wildlife	The habitat contained within this facility provides potential nesting and/or foraging for migratory birds and raptor species, as well as for other sensitive bird species such as least Bell's vireo and southern willow flycatcher. Although suitable habitat is present, the channel extents are limited and it is also isolated from other riparian corridors.
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. 1971 earthen channel
Potential Historical Resources Constraint Identified	Yes

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)	**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	

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.

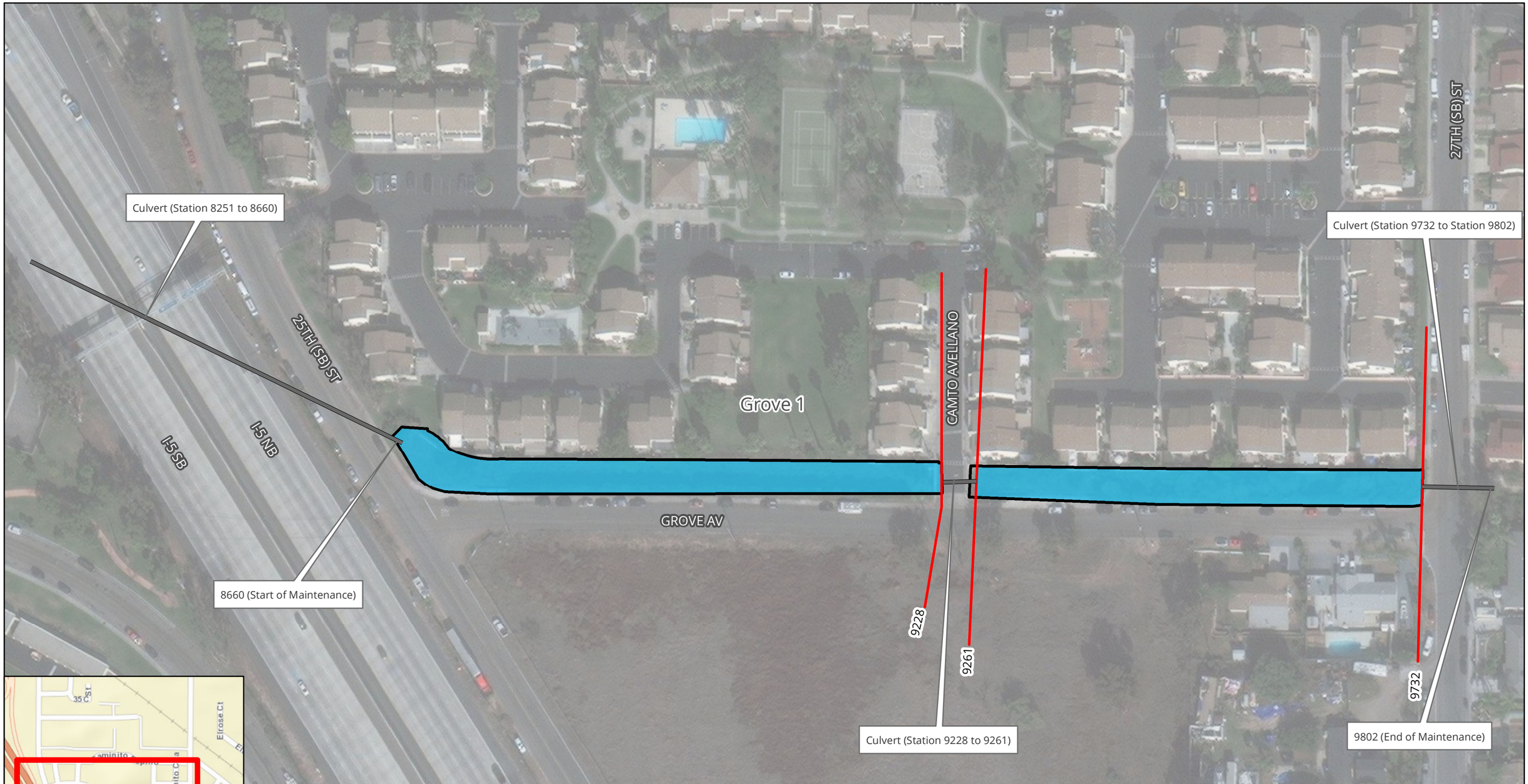
Facility Group	Nestor Creek - Nestor
Segment Name	Grove 1
Facility No.	5-22-023
Facility Location	From outlet of culvert beneath 27th Street to inlet of culvert beneath Interstate 5 (I-5)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of portions of the earthen channel that are City responsibility per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated vegetation from channel bottom from Station 8660 to Station 9228, and Station 9261 to Station 9732. Remove accumulated sediment, debris, and vegetation from the culverts from Station 9228 to Station 9261, and Station 9732 to Station 9802.
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; 14319-D
Substrate Detail	Earthen bottom and concrete banks

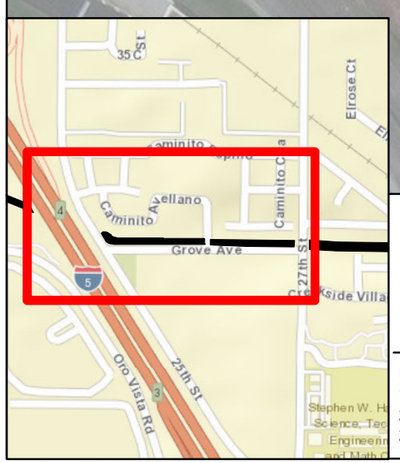
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,454 feet Top width: 29–34 feet Bottom width: 29–34 feet Depth: 3–4 feet
Authorized Facility Maintenance Area	Length: Channel: 1,039 feet; Culvert: 103 feet Width: 29–34 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, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer and/or loader enter or are lowered into channel at access/loading area 2. Bulldozer/track-steer and/or loader push material to loader or Gradall/excavator 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	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 2. Adjacent to maintenance area: Yes, limited suitable habitat present 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

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

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





Culvert
Station
Facility Area

Maintenance Area

N

The City of SAN DIEGO

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: Nestor Creek - Nestor
Segment Name: Grove 1
Facility No: 5-22-023
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

30th St Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 10653-10833: Earthen bottom and banks Stations 10833- 11801: Concrete bottom and banks
Location Within Watershed	Upper reach of Nestor Creek, upstream of Nestor Creek (Grove segment 2)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,183 feet
Top-of-Bank Width	Approximately 18–32 feet
Bottom Facility Width	Approximately 5–10 feet
Facility Depth	Approximately 3–10 feet
Adjacent Land Use	Industrial, Open Space, Other Residential, Single-Family Residential, Transportation
As-Built Drawing Number	23199-D & 22424-D
Coastal Zone	No

Figure 1: May 2015, looking upstream from a location downstream of the 42-inch-diameter RCP culvert

Figure 2: Vicinity Map of 30th St Segment 1

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

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.[2]

Current Conditions Affecting Facility Capacity	In May 2015, dense vegetation and sediment deposition was observed throughout the segment length

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	20	88	180	270	365	456

Hydraulic Capacity of Facility

Current Capacity	140 cfs
Proposed MWMP Maintained Capacity	165 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from segment channel from Station 10653 to Station 11830. Remove accumulated sediment, debris, and vegetation from culverts from under gabion dam and at Station 10680 and at Station 11830. Perform bank repair on the north concrete bank near Station 11547.
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Developed concrete-lined channel • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Ornamental plantings • Riparian forest (southern willow forest; concrete-lined)
Habitat and Wildlife	Although this channel 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)
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 Constraint Identified	None

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
Geologic Resources (GEO)	**Noise (NOI)**
EP-GEO-1	MM-NOI-1
Health and Safety/Hazards (HAZ)	
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	

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	Nestor Creek - Nestor
Segment Name	30th St 1
Facility No.	5-22-028
Facility Location	From west of 30th street to inlet of culvert beneath the San Diego and Imperial Valley Railroad crossing
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from segment channel from Station 10653 to Station 11830. Remove accumulated sediment, debris, and vegetation from culverts from under gabion dam and at Station 10680 and at Station 11830. Perform bank repair on the north concrete bank near Station 11547.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation Bank grading and stabilization
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	Yes; see Appendix A-4
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; 23199-D & 22424-D

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

Substrate Detail[3]	Stations 10653-10833: Earthen bottom and banks Stations 10833- 11801: Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,183 feet Top width: 18–32 feet Bottom width: 5–10 feet Depth: 3–10 feet
Authorized Facility Maintenance Area	Length: Channel: 1,183 feet; Culvert: 18 feet (under gabion dam) Width: 11–32 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	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 12–18 people
Routine Maintenance Procedures	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 loads dump truck 4. 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[4]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present 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

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

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	Concrete and riprap used to repair scour behind concrete wall previously

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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: 30th St 1
Facility No: 5-22-028
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Nestor Creek - Outer Facility Group

Segment Names (Facility numbers):

Outer 1 (5-22-110)

Outer 2 (5-22-112)

The City *of* SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Otay (5)
Hydrologic Subarea	910.20
Drainage Name (Number)	Nestor Creek Unnamed Tributary (22)
Facility Group Name	Nestor Creek - Outer
Segment Name (Facility Number)	Outer 1 (5-22-110) Outer 2 (5-22-112)
Substrate	Outer 1 / Earthen Outer 2 / Concrete
Location	Bordered by Outer Road to the east and northeast, by Coronado Avenue to the south, and by Interstate 5 (I-5) to the west
MMP Map No(s).	N/A
Facility Inspection No.	321
Other Former Names	None

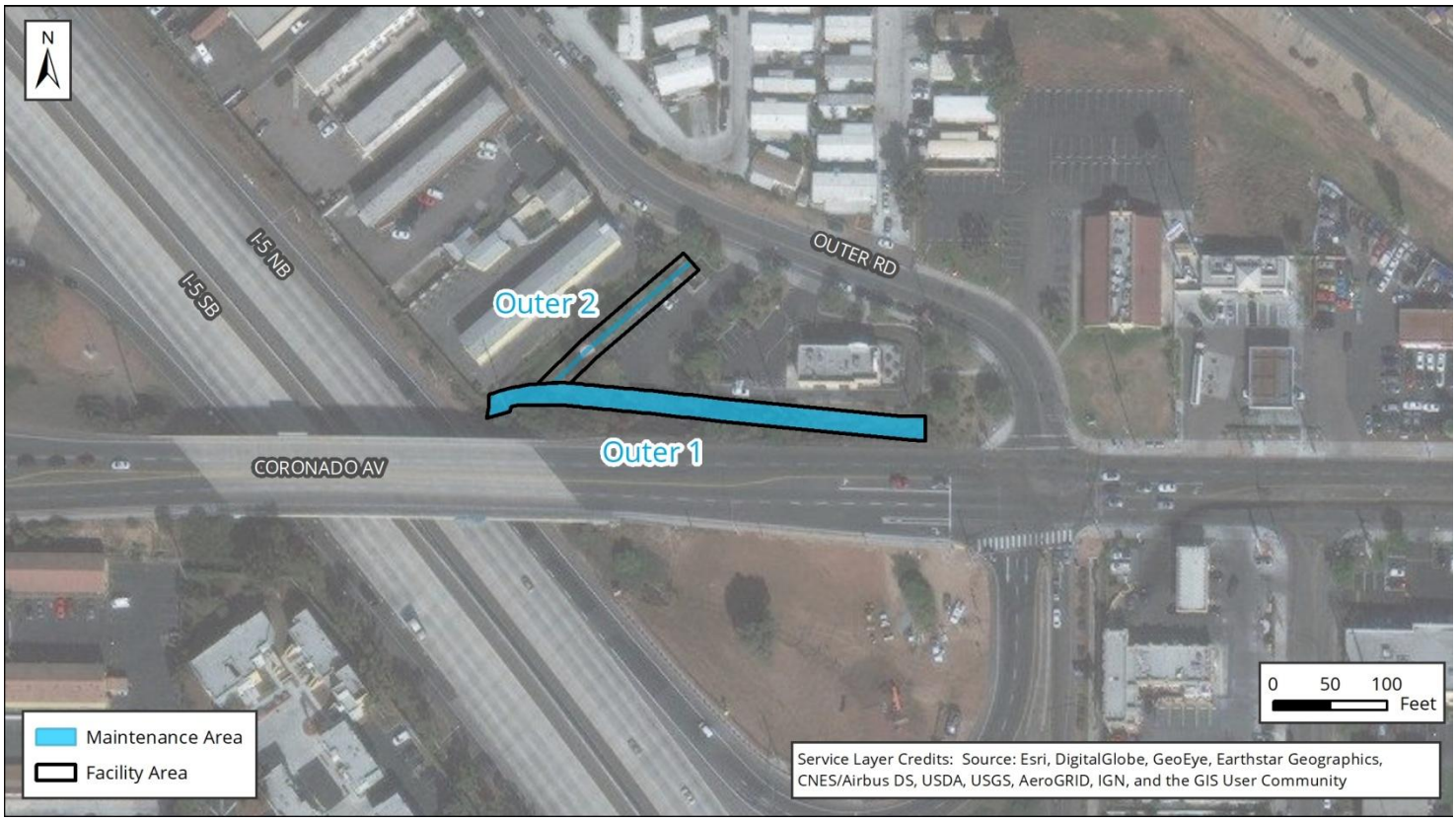


Figure 1: Vicinity Map of Nestor Creek - Outer Facility Group

Water Quality Resource Summary

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

San Diego Bay Watershed Management Area; Hydrologic Subarea 910.20	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Nestor Creek - Outer	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Otay River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • 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

Outer Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Nestor Creek unnamed tributary
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 385 feet
Top-of-Bank Width	Approximately 20–50 feet
Bottom Facility Width	Approximately 4–14 feet
Facility Depth	Approximately 3–4 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at vegetation downstream of Outer 1 and Outer 2 junction

Figure 2: Vicinity Map of Outer Segment 1

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 medium to dense and there was 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])	106	135	158	190	212	236
Hydraulic Capacity of Facility						
Current Capacity	53 cfs					
Proposed MWMP Maintained Capacity	80 cfs					
Maintenance Recommendation	Trim vegetation from Station 228 to Station 613					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Disturbed wetland
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed 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	None
Potential Historical Resources Constraint Identified	None

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	**Noise (NOI)**
EP-BIO-6	MM-NOI-1
Health and Safety/Hazards (HAZ)	
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	

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.

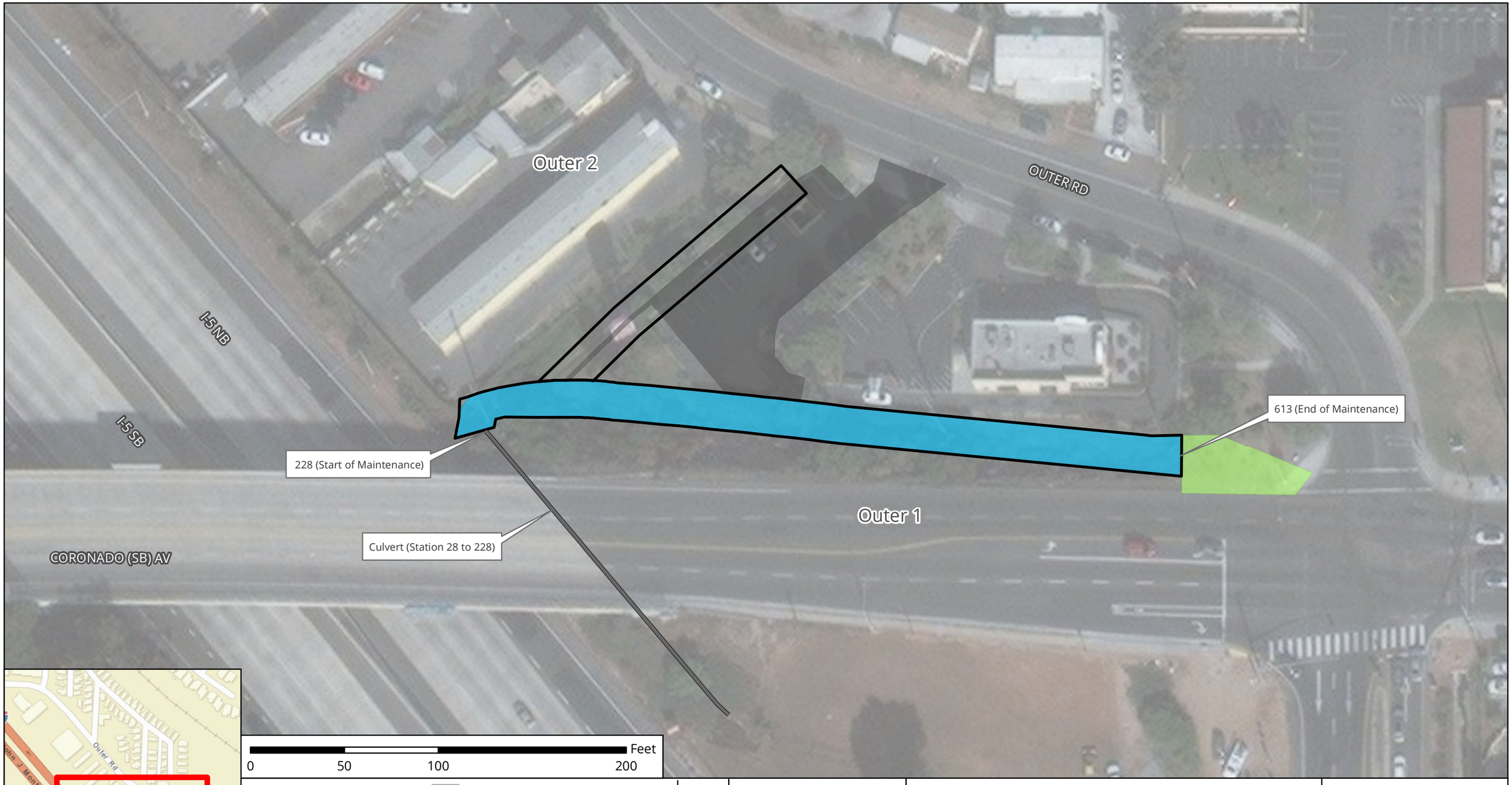
Facility Group	Nestor Creek - Outer
Segment Name	Outer 1
Facility No.	5-22-110
Facility Location	From the west of Outer Road to inlet of culvert that is 200 feet long and discharges into the California Department of Transportation's Interstate 5 (I-5) northbound on-ramp
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Trim vegetation from Station 228 to Station 613
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	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 385 feet Top width: 20–50 feet Bottom width: 4–14 feet Depth: 3–4 feet

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

Authorized Facility Maintenance Area	Length: Channel: 385 feet Width: 20–25 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, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Fuel-powered hand tools used to trim vegetation 2. Bobcat/skid-steer and/or Gradall/excavator enter or are lowered into channel at access/loading areas 3. Gradall/excavator stationed within access/loading area scoops material and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor stationed at upstream end of access/loading area used to power wash culverts in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	Yes; coordinate with private property owner and the City of San Diego
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: No 2. Adjacent to maintenance area: No 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

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

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



0 50 100 200 Feet

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

N

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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: Nestor Creek - Outer
Segment Name: Outer 1
Facility No: 5-22-110
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Outer Segment 2 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Nestor Creek unnamed tributary
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 176 feet
Top-of-Bank Width	Approximately 2 feet
Bottom Facility Width	Approximately 1 feet
Facility Depth	Approximately 2 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at sediment, debris and overhanging vegetation upstream of Outer 1 and Outer 2 junction

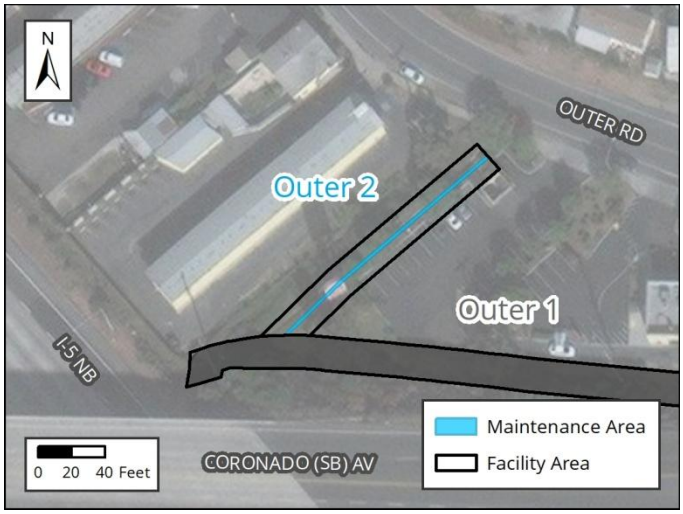


Figure 2: Vicinity Map of Outer Segment 2

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	Approximately 2 inches of accumulated sediment, debris was observed in the segment including vegetation hanging down into ditch					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	5	6	7	9	10	11
Hydraulic Capacity of Facility						
Current Capacity	4.7 cfs					
Proposed MWMP Maintained Capacity	5 cfs					
Maintenance Recommendation	Remove accumulated sediment and debris and removal of overhanging vegetation from bottom and sides of concrete ditch from Station 0 to Station 176					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland • 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. 1969–1974 earthen channel
Potential Historical Resources Constraint Identified	Yes

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-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	

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.

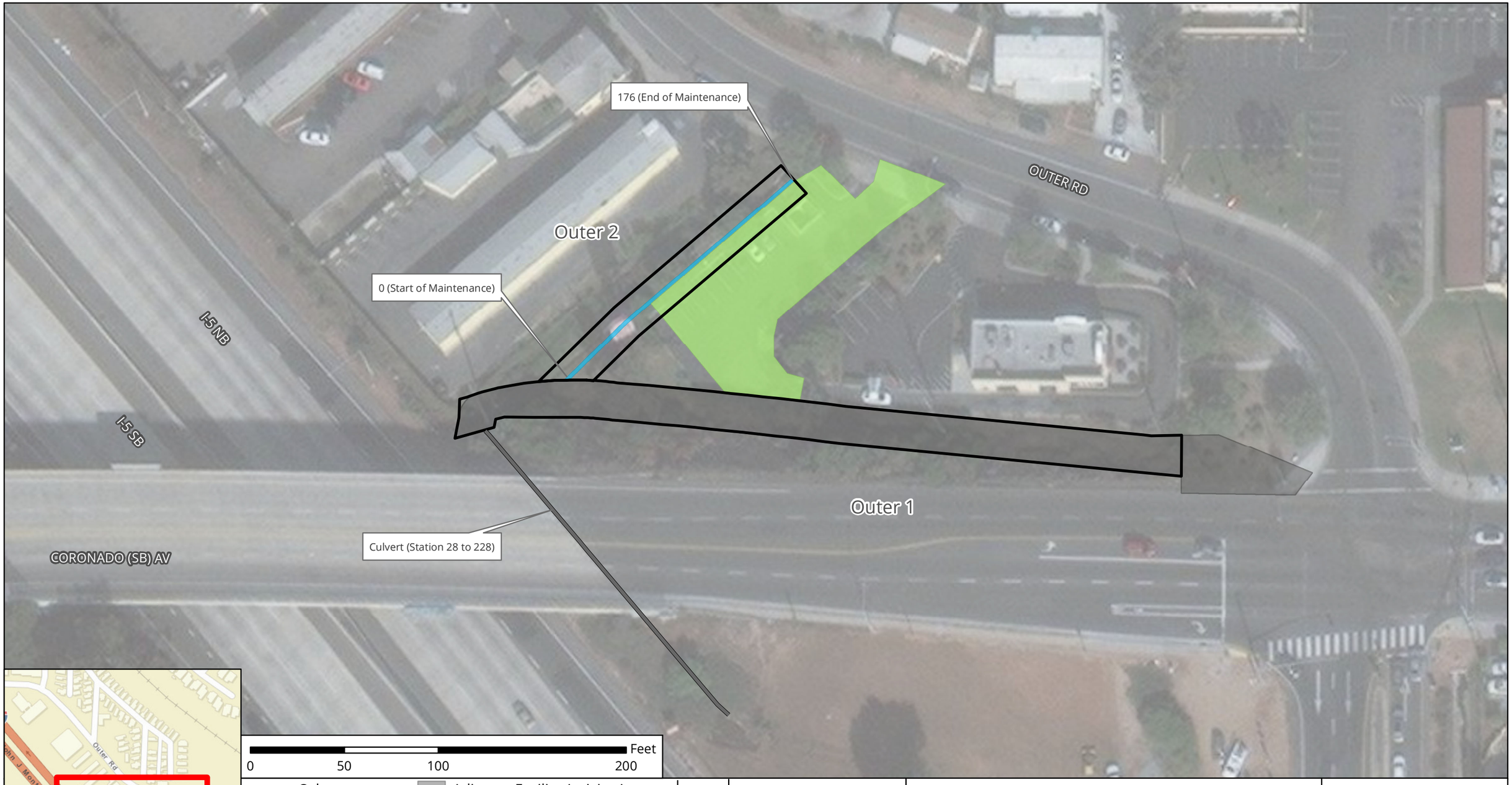
Facility Group	Nestor Creek - Outer
Segment Name	Outer 2
Facility No.	5-22-112
Facility Location	From a drop inlet on Outer Road to the downstream end of Outer 2 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and debris and removal of overhanging vegetation from bottom and sides of concrete ditch from Station 0 to Station 176
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 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-Builts?	None
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 176 feet Top width: 2 feet Bottom width: 1 feet Depth: 2 feet

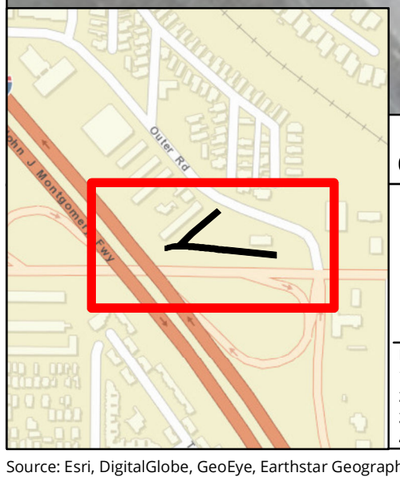
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 176 feet Width: 2 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 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator stationed within access/loading area in parking lot scoops material from ditch and loads dump truck 2. Crew may also remove material by hand or by vactor 3. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
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: No 2. Adjacent to maintenance area: No 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
BMP Installation	See Water Pollution Control Plan

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

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





0 50 100 200 Feet

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

N

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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: Nestor Creek - Nestor
Segment Name: Outer 2
Facility No: 5-22-112
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Tijuana River - Pilot & Smuggler's Facility Group

Segment Names (Facility numbers):

Pilot Channel 1 (6-01-020)

Smuggler's Gulch 1 (6-01-100)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Tijuana River
Watershed (Number)	Tijuana River (6)
Hydrologic Subarea	911.11
Drainage Name (Number)	Tijuana River (01)
Facility Group Name	Tijuana River - Pilot & Smuggler's
Segment Name (Facility Number)	Pilot Channel 1 (6-01-020) Smuggler's Gulch 1 (6-01-100)
Substrate	Pilot Channel 1 / Earthen Smuggler's Gulch 1 / Earthen
Location	About 100 feet east to 5,300 feet west of Hollister Street
MMP Map No(s).	138a, 138b, 138c, 138, 139
Facility Inspection No.	138a, 138b, 138c, 138, 139
Other Former Names	None

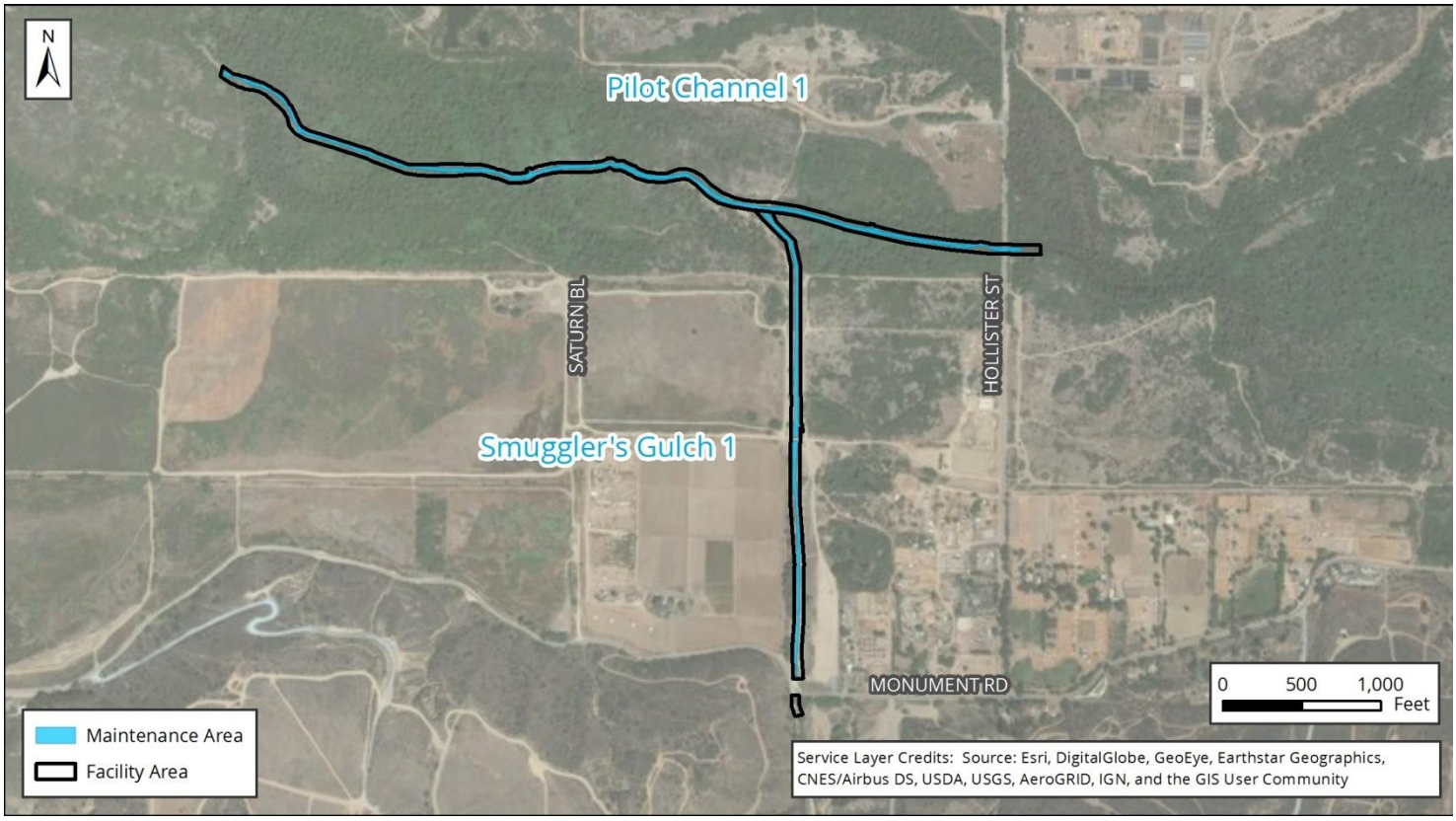


Figure 1: Vicinity Map of Tijuana River - Pilot & Smuggler's Facility Group

Water Quality Resource Summary

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

Tijuana River Watershed Management Area; Hydrologic Subarea 911.11	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Sediment

Tijuana River - Pilot & Smuggler's	
Beneficial Uses	• 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	Ammonia as Nitrogen, Benthic Community Effects, Cadmium, Eutrophic, Indicator Bacteria, Low Dissolved Oxygen, Pesticides, Phosphorus, Sedimentation/Siltation, Selenium, Solids, Surfactants (MBAS), Synthetic Organics, Total Nitrogen as N, Toxicity, Trace Elements, Trash

Tijuana River Estuary (First downstream water body)	
Beneficial Uses	• 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) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Eutrophic, Indicator Bacteria, Lead, Low Dissolved Oxygen, Nickel, Pesticides, Thallium, Trash, Turbidity

Pilot Channel Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of the Tijuana River, upstream of the Tijuana River Estuary
Tributaries (listed from downstream to upstream)	Tijuana River Unnamed Tributary
Facility Length	Approximately 5,550 feet
Top-of-Bank Width	Approximately 23 feet
Bottom Facility Width	Approximately 15 feet
Facility Depth	Approximately 5 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	DEF-CER

Figure 1: September 2012, looking south at the confluence point with the Smuggler's Gulch tributary

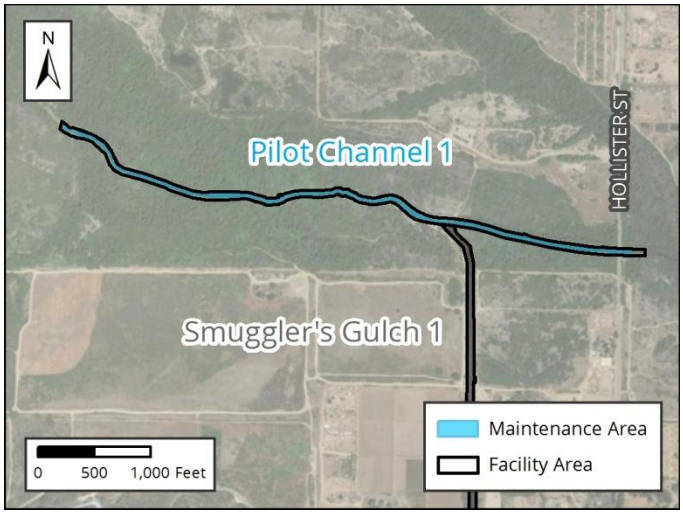


Figure 2: Vicinity Map of Pilot Channel Segment 1

Facility Maintenance History

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

History of Maintenance	1993: Emergency Pilot Channel construction 2004 & 2009: Emergency excavation of sediment and vegetation September 2012 – March 2019: Routine 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	IP USACE File #SPL-2009-00719-RRS (expires October 2027)
401	RWQCB 401 Cert No. R9-2016-0028 (expires October 2027)
1602	CDFW SAA No. 1600-2011-0271-R5 (expires November 2021)
Mitigation for Previous Impacts	Tijuana River Emergency Channel Maintenance Wetland Mitigation Project (11.02 acres) Tijuana Wetlands Enhancement Project (8.62 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 vegetation was observed to range from light to dense and sediment deposition was estimated to be 3 to 4.5 feet. Ponded water was present. 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])	705	3,248	7,612	15,819	37,163	66,894

Hydraulic Capacity of Facility	
Current Capacity	10 cfs
Proposed MWMP Maintained Capacity	200 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 93 to Station 14956
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Natural flood channel
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Eucalyptus woodland • Natural flood channel • Ornamental plantings • Riparian forest (southern willow forest) • Riparian scrub (mulefat scrub)
Habitat and Wildlife	The vegetation contained within and adjacent to 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 channel is located entirely within the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Yes, maintenance area is the in-channel component of Tijuana Wetlands Enhancement Mitigation Project

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	P-37-025924; Hollister Street Bridge
Potential Historical Resources Constraint Identified	Yes

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-1	MM-HR-1
EP-HAZ-3	MM-HR-2
Land Use (LU)	**Noise (NOI)**
EP-LU-1	MM-NOI-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	

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.

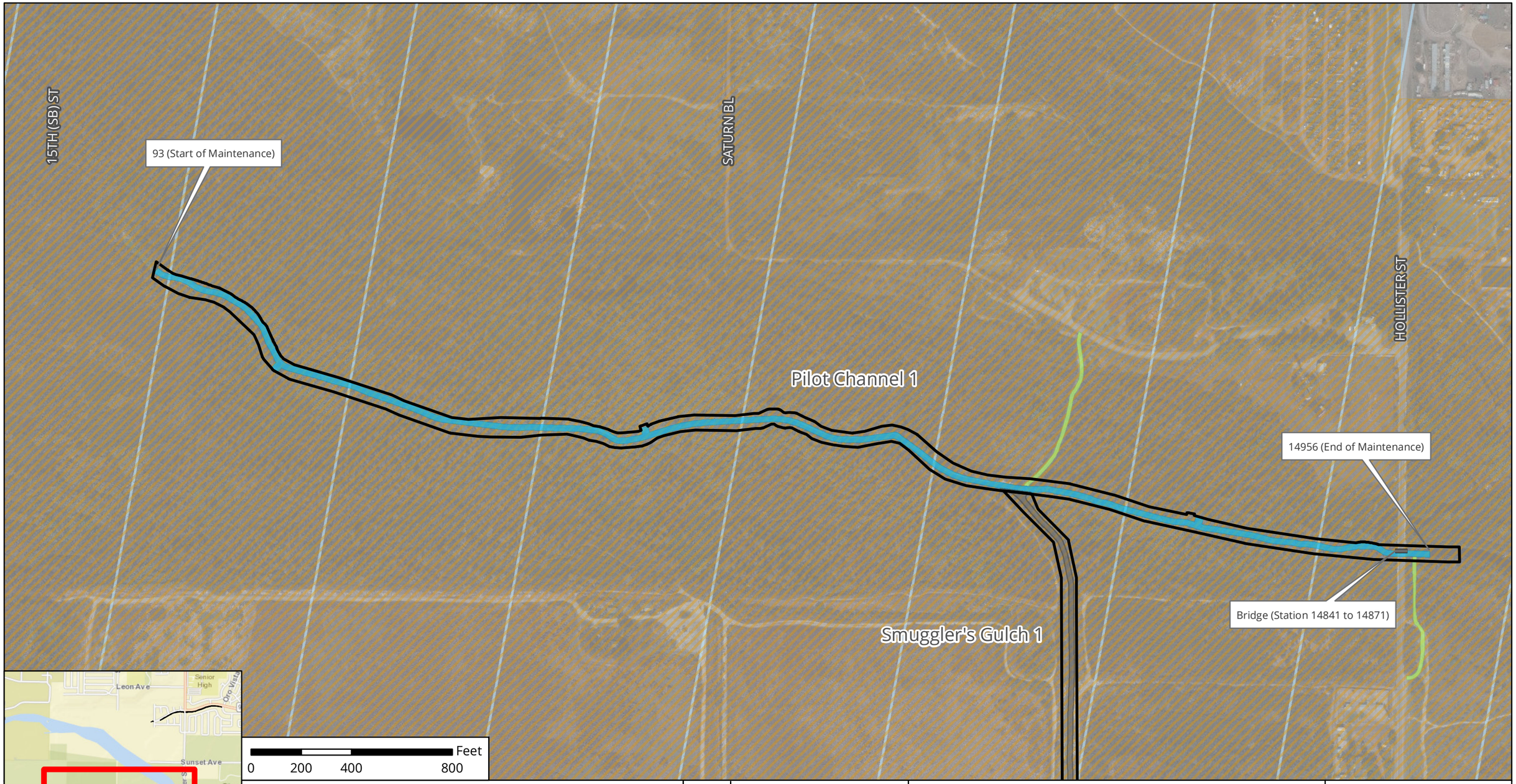
Facility Group	Tijuana River - Pilot & Smuggler's
Segment Name	Pilot Channel 1
Facility No.	6-01-020
Facility Location	From 100 feet east of Hollister Street to 5,300 feet west of Hollister Street
Coastal Zone	DEF-CER
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 93 to Station 14956
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	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 5,550 feet Top width: 23 feet Bottom width: 15 feet Depth: 5 feet

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

Authorized Facility Maintenance Area	Length: Channel: 5,550 feet Width: 23 Three turnarounds 20'x30' each feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B 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, critically silenced pump, Ditch Witch/trencher, rock truck, water truck, fuel truck, vactor, material screen/aggregate separator, fuel-powered hand tools, chipper, sweeper
Schedule	Up to approximately 60–90 working days, plus 30–45 days if pre-maintenance pumping required, plus 90 days for stockpile management
Maintenance Crew	Approximately 15 people
Routine Maintenance Procedures	West of Hollister Bridge: (Use Smuggler's Gulch Methodology). East of Hollister Bridge: 1. Equipment uses access road east of Hollister Street/south of Hollister Bridge 2. Long-reach excavator at access/loading area scoops material from channel and loads dump truck. 3. Dump truck hauls material to stockpiling area 4. At stockpiling areas, bulldozer/track-steer manages stockpiles, backhoe sorts material (waste, tires, vegetation, trash), loader places material in dump truck 5. 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 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 2. Conduct daily surveys for light-footed Ridgway's rail 3. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary
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	Complete comprehensive trip log manifest if transporting 9 or more waste tires

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



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.

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Map A: General Site Plan
Facility Group Name: Tijuana River - Pilot & Smuggler's
Segment Name: Pilot 1
Facility No: 6-01-020
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Smuggler's Gulch Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Smuggler's Gulch, immediately upstream of the Tijuana River
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 4,028 feet
Top-of-Bank Width	Approximately 48–54 feet
Bottom Facility Width	Approximately 17–20 feet
Facility Depth	Approximately 15 feet
Adjacent Land Use	Agriculture, Open Space, Transportation
As-Built Drawing Number	None
Coastal Zone	CST-APP, DEF-CER

Figure 1: September 2012, looking south (upstream) from atop the Disney Crossing. Vegetation is very thick on the side slopes, while the streambed is mainly unvegetated.

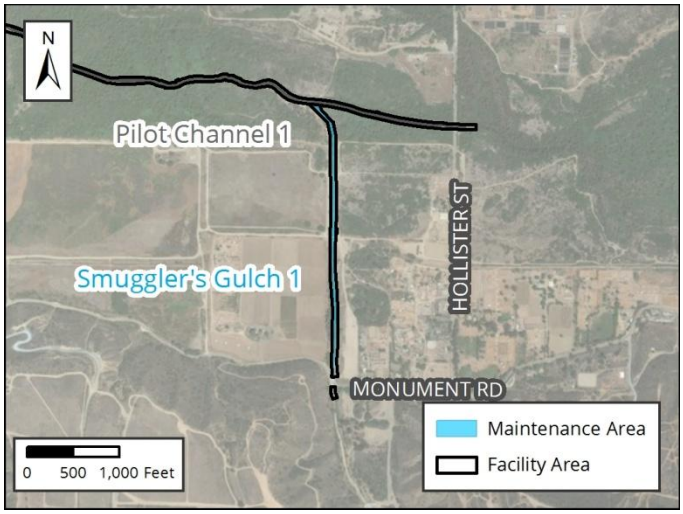


Figure 2: Vicinity Map of Smuggler's Gulch Segment 1

Facility Maintenance History

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

History of Maintenance	1993: Emergency Pilot Channel construction 2004 & 2009: Emergency excavation of sediment and vegetation September 2012 – March 2019: Routine 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	IP USACE File #SPL-2009-00719-RRS (expires October 2027)
401	RWQCB 401 Cert No. R9-2016-0028 (expires October 2027)
1602	CDFW SAA No. 1600-2011-0271-R5 (expires November 2021)
Mitigation for Previous Impacts	Tijuana Wetlands Enhancement Project (8.62 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 vegetation was observed to be dense and sediment deposition was estimated to be 2 feet. A large amount of trash and debris was noted as well. 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])	653	1,479	1,668	2,520	3,081	3,626

Hydraulic Capacity of Facility

Current Capacity	653 cfs
Proposed MWMP Maintained Capacity	900 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 1000 to Station 2530 and Station 2550 to Station 4046. Remove accumulated sediment and debris from culverts Station 2530 to Station 2550. Repair/replace concrete grout near the outlet of the 52-inch CMP culvert at Station 4046.
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Developed concrete-lined channel • Natural flood channel • Riparian scrub
Adjacent Vegetation	• Agricultural land • Coastal sage scrub • Developed land • Disturbed land • Disturbed riparian scrub • Eucalyptus woodland • Natural flood channel • Ornamental plantings • Riparian forest (southern willow forest) • Riparian scrub (mulefat scrub)
Habitat and Wildlife	The vegetation contained within and adjacent to 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, coastal California gnatcatcher, and Ridgeway's rail)
MHPA	The channel is located entirely within the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Yes, maintenance area is the in-channel component of Tijuana Wetlands Enhancement Mitigation Project

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-37-002611; P-37-010669; P-37-013486; P-37-013527
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric lithic scatter; Prehistoric habitation site; Prehistoric shell and lithic scatter; Prehistoric shell and lithic scatter

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

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	**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	

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.

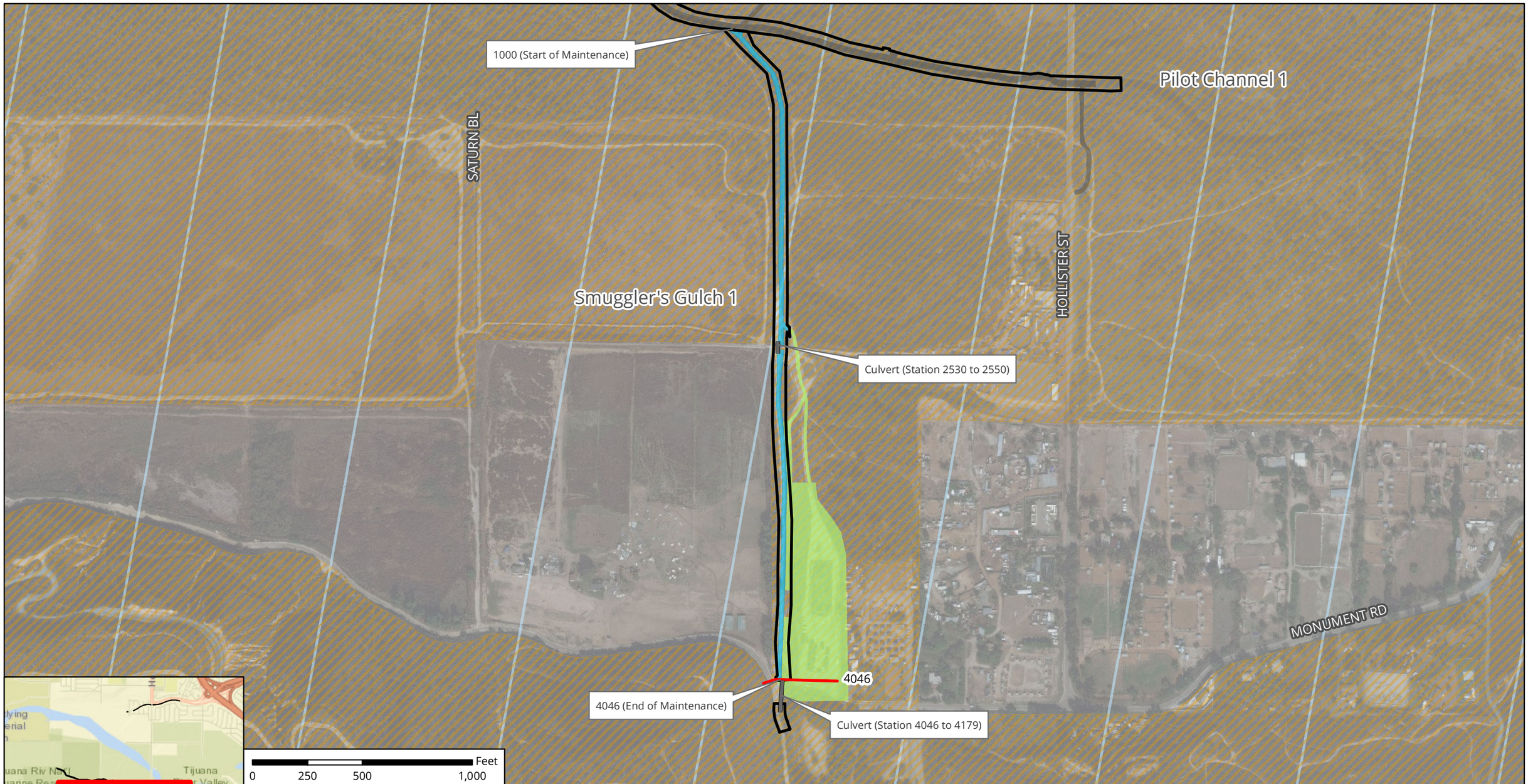
Facility Group	Tijuana River - Pilot & Smuggler's
Segment Name	Smuggler's Gulch 1
Facility No.	6-01-100
Facility Location	From 2,500 feet north of the international border to Tijuana River Pilot - Pilot 1 segment
Coastal Zone	CST-APP, DEF-CER
MWMP Proposed Maintenance	Maintenance of earthen channel and concrete culverts per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 1000 to Station 2530 and Station 2550 to Station 4046. Remove accumulated sediment and debris from culverts Station 2530 to Station 2550. Repair/replace concrete grout near the outlet of the 52-inch CMP culvert at Station 4046.
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 Temporary stockpiling 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 channel
Existing Plans and/or As-Builts?	None

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

Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 4,028 feet Top width: 48–54 feet Bottom width: 17–20 feet Depth: 15 feet
Authorized Facility Maintenance Area	Length: Channel: 3,026 feet; Culvert: 20 feet Width: 20 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and B 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, critically silenced pump, Ditch Witch/trencher, rock truck, water truck, fuel truck, vactor, material screen/aggregate separator, fuel-powered hand tools, sweeper
Schedule	Up to approximately 60–90 working days, plus 30–45 days if pre-maintenance pumping required, plus 90 days for stockpile management
Maintenance Crew	Approximately 15 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, Gradall/excavator, bulldozer/track-steer, and rock truck enter or are lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area or in the channel 3. Bobcat/skid-steer enters culverts under Disney Bridge and pushes material to Gradall/excavator 4. Gradall/excavator scoops material from channel and loads rock truck 5. Rock truck hauls material to stockpiling area 6. At stockpiling areas: bulldozer/track-steer manages stockpiles, backhoe sorts material (waste tires, vegetation, trash), loader places material in dump truck 7. Dump truck hauls material to appropriate disposal facility 8. Vactor stationed on Monument Road flushes and vacuums material from culverts beneath road and hauls to appropriate disposal facility
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 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 2. Conduct daily surveys for light-footed Ridgway's rail 3. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary
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	Complete comprehensive trip log manifest if transporting 9 or more waste tires

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



Culvert
Station
Facility Area
Multi-Habitat Planning Area
Coastal Zone
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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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: Tijuana River - Pilot & Smuggler's
Segment Name: Smuggler's Gulch 1
Facility No: 6-01-100
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

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

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Map B: General Site Plan
Facility Group Name: Tijuana River - Pilot & Smuggler's
Segment Name: Smuggler's Gulch 1
Facility No: 6-01-100
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Facility Maintenance Plan

Tijuana River - Tocayo Facility Group

Segment Names (Facility numbers):

- Tocayo 1 (6-02-115) (See Appendix A-5)
- Tocayo 2 (6-02-118)

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Overview

Watershed Management Area (WMA)	Tijuana River
Watershed (Number)	Tijuana River (6)
Hydrologic Subarea	911.11
Drainage Name (Number)	Tijuana River Unnamed Tributary (02)
Facility Group Name	Tijuana River - Tocayo
Segment Name (Facility Number)	Tocayo 1 (6-02-115) (See Appendix A-5) Tocayo 2 (6-02-118)
Substrate	Tocayo 1 / Earthen Tocayo 2 / Concrete
Location	About 1,300 feet east of Saturn Boulevard, and southwest of the intersection of Oro Vista Road and Tocayo Avenue
MMP Map No(s).	136, 137
Facility Inspection No.	136, 137
Other Former Names	Tocayo Channel

Figure 1: Vicinity Map of Tijuana River - Tocayo Facility Group

Water Quality Resource Summary

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

Tijuana River Watershed Management Area; Hydrologic Subarea 911.11	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Sediment

Tijuana River - Tocayo	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Tijuana River (First downstream water body)	
Beneficial Uses	• 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	Ammonia as Nitrogen, Benthic Community Effects, Cadmium, Eutrophic, Indicator Bacteria, Low Dissolved Oxygen, Pesticides, Phosphorus, Sedimentation/Siltation, Selenium, Solids, Surfactants (MBAS), Synthetic Organics, Total Nitrogen as N, Toxicity, Trace Elements, Trash

Tocayo Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, immediately upstream of Tijuana River unnamed tributary (Tocayo Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 2,855 feet
Top-of-Bank Width	Approximately 20–38 feet
Bottom Facility Width	Approximately 6–20 feet
Facility Depth	Approximately 6–7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	17042-D & 20960-D
Coastal Zone	N-APP-2

Figure 1: April 2017, looking upstream at vegetation

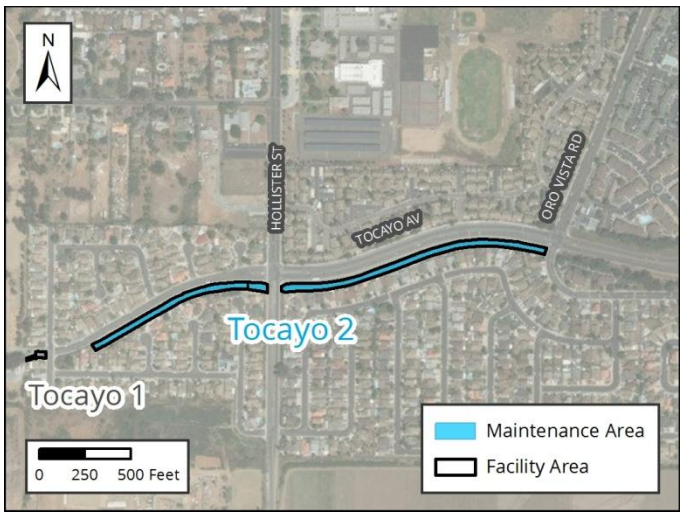

Figure 2: Vicinity Map of Tocayo Segment 2

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 January 2015 and May 2017: Minor maintenance conducted April 2017 – 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	The vegetation was observed to vary from fairly clean concrete to patches of low grasses and a small stand of trees located near the Hollister Street bridge					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	684	875	1,023	1,227	1,375	1,523
Hydraulic Capacity of Facility						
Current Capacity	180 cfs					
Proposed MWMP Maintained Capacity	220 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 1702 to Station 2725 and Station 2804 to Station 4279. Remove accumulated sediment and debris in culverts from Station 1424 to Station 1702 and Station 2725 to Station 2804. A maintenance area from Station 1414 to Station 1424 has been identified for maintenance of the culvert at Station 1424.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the ornamental vegetation 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 more than 1,000 feet 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 Constraint Identified	None

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)**
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	

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	Tijuana River - Tocayo
Segment Name	Tocayo 2
Facility No.	6-02-118
Facility Location	From west of Oro Vista Road to upstream end of Tocayo 1 segment
Coastal Zone	N-APP-2
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 1702 to Station 2725 and Station 2804 to Station 4279. Remove accumulated sediment and debris in culverts from Station 1424 to Station 1702 and Station 2725 to Station 2804. A maintenance area from Station 1414 to Station 1424 has been identified for maintenance of the culvert at Station 1424.
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-Builts?	Yes; 17042-D & 20960-D
Substrate Detail	Concrete bottom and banks

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

Facility Dimensions (Approximate)	Length: 2,855 feet Top width: 20–38 feet Bottom width: 6–20 feet Depth: 6–7 feet
Authorized Facility Maintenance Area	Length: Channel: 2,498 feet; Culvert: 367 feet Width: 20–38 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B 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 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	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 dispose 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 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

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

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

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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Tijuana River - Tocayo
Segment Name: Tocayo 2
Facility No: 6-02-118
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Tijuana River - Smythe Facility Group

Segment Names (Facility numbers):

- Via Encantadoras 1 (6-03-135)
- Via Encantadoras 2 (6-03-138)
- Via Encantadoras 3 (6-03-143)
- Smythe 1 (6-03-147)
- Via de la Bandola 1 (6-03-150)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Tijuana River
Watershed (Number)	Tijuana River (6)
Hydrologic Subarea	911.11
Drainage Name (Number)	Tijuana River Unnamed Tributary (03)
Facility Group Name	Tijuana River - Smythe
Segment Name (Facility Number)	Via Encantadoras 1 (6-03-135) Via Encantadoras 2 (6-03-138) Via Encantadoras 3 (6-03-143 Smythe 1 (6-03-147) Via de la Bandola 1 (6-03-150)
Substrate	Via Encantadoras 1 / Earthen Via Encantadoras 2 / Concrete Via Encantadoras 3 / Earthen and concrete Smythe 1 / Earthen Via de la Bandola 1 / Concrete
Location	About 150 feet south of State Route 905, 650 feet east of Dairy Mart Road, and 100 feet northeast of Interstate 5 (I-5)
MMP Map No(s).	129, 130, 130a
Facility Inspection No.	129, 130, 130a
Other Former Names	Smythe Channel

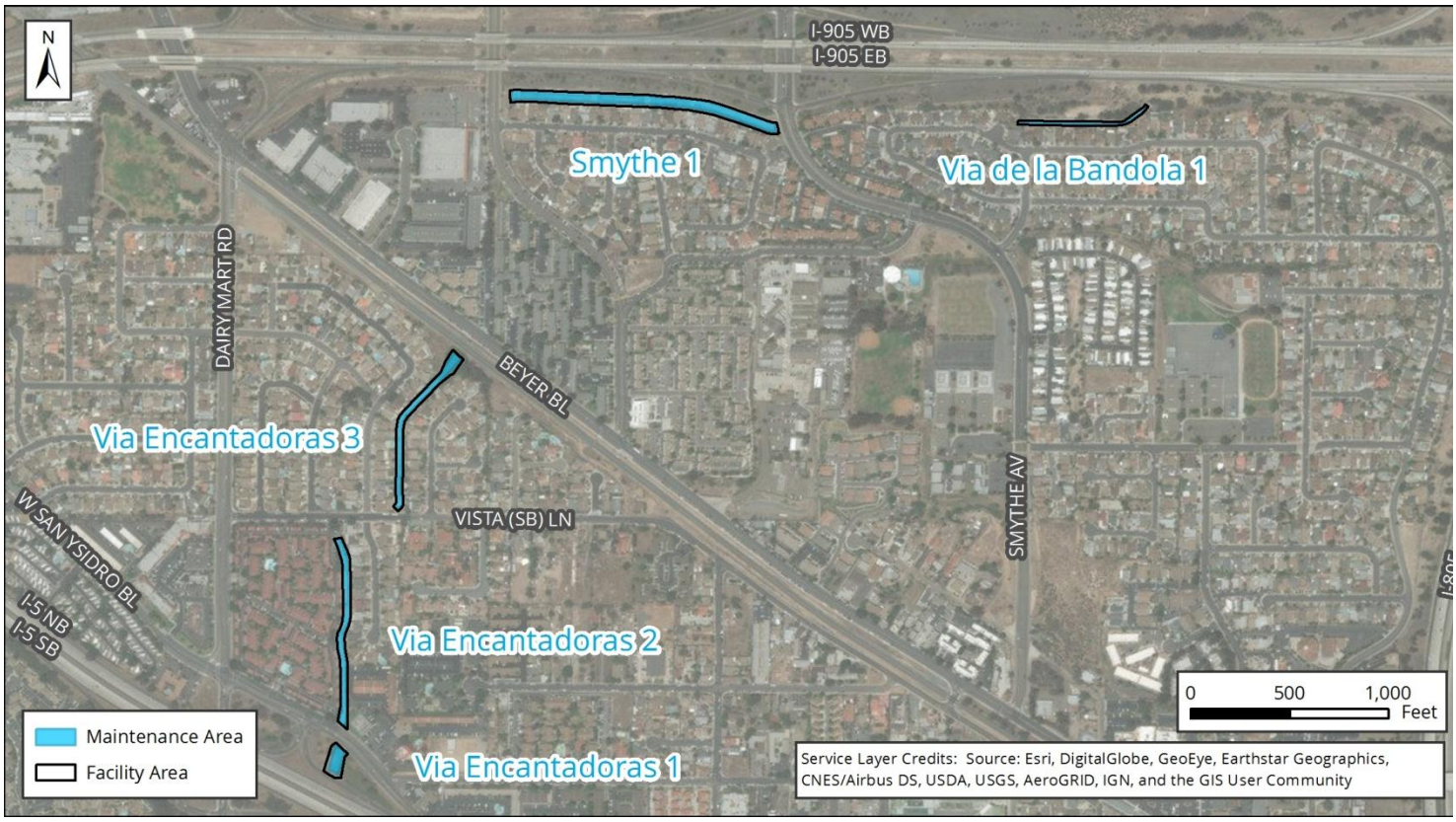

Figure 1: Vicinity Map of Tijuana River - Smythe Facility Group

Water Quality Resource Summary

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

Tijuana River Watershed Management Area; Hydrologic Subarea 911.11	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Sediment

Tijuana River - Smythe	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Tijuana River (First downstream water body)	
Beneficial Uses	• 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	Ammonia as Nitrogen, Benthic Community Effects, Cadmium, Eutrophic, Indicator Bacteria, Low Dissolved Oxygen, Pesticides, Phosphorus, Sedimentation/Siltation, Selenium, Solids, Surfactants (MBAS), Synthetic Organics, Total Nitrogen as N, Toxicity, Trace Elements, Trash

Via Encantadoras Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River
Tributaries (listed from downstream to upstream)	Tijuana River Unnamed Tributary
Facility Length	Approximately 248 feet
Top-of-Bank Width	Approximately 70 feet
Bottom Facility Width	Approximately 48 feet
Facility Depth	Approximately 4–5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Transportation
As-Built Drawing Number	19218-D, 11-086034, 16916-D, & 14427-D
Coastal Zone	No

Figure 1: April 2015, looking downstream at entrance to quadruple 12-foot-wide by 4-foot-high RCB culvert beneath Interstate 5

Figure 2: Vicinity Map of Via Encantadoras Segment 1

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 vegetation was observed to be dense with no 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])	657	854	1,051	1,116	1,182	1,314
Hydraulic Capacity of Facility						
Current Capacity	1,182 cfs					
Proposed MWMP Maintained Capacity	1,314 cfs					
Maintenance Recommendation	Trim the vegetation from channel bottom from Station 310 to Station 430. Remove sediment and debris in culvert from Station 430 to Station 558.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Disturbed riparian forest (southern willow forest) • Freshwater marsh
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo) at the upstream end, the channel extents and area of vegetation present are limited such that it is unlikely for riparian species to use the channel for nesting or foraging. However, raptors could use the 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 320 feet 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 Constraint Identified	None

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)**
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	

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	Tijuana River - Smythe
Segment Name	Via Encantadoras 1
Facility No.	6-03-135
Facility Location	From outlet of culvert beneath West San Ysidro Boulevard to inlet of RCB culvert beneath Interstate 5 (I-5)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Trim the vegetation from channel bottom from Station 310 to Station 430. Remove sediment and debris in culvert from Station 430 to Station 558.
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	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 19218-D, 11-086034, 16916-D, & 14427-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 248 feet Top width: 70 feet Bottom width: 48 feet Depth: 4–5 feet

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

Authorized Facility Maintenance Area	Length: Channel: 120 feet; Culvert: 128 feet Width: 52 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B 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, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	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
Traffic Control	Yes; coordinate with City of San Diego and Caltrans
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 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

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

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

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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Tijuana River - Smythe
Segment Name: Via Encantadoras 1
Facility No: 6-03-135
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Via Encantadoras Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River unnamed tributary (Via Encantadoras Segment 1)
Tributaries (listed from downstream to upstream)	Tijuana River Unnamed Tributary
Facility Length	Approximately 955 feet
Top-of-Bank Width	Approximately 16–50 feet
Bottom Facility Width	Approximately 10–50 feet
Facility Depth	Approximately 5–10 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Single-Family Residential, Transportation
As-Built Drawing Number	19218-D, 11-086034, 16916-D, & 14427-D
Coastal Zone	No

Figure 1: April 2015, looking downstream at entrance to quadruple 12-foot-wide by 4-foot-high RCB culvert beneath West San Ysidro Boulevard

Figure 2: Vicinity Map of Via Encantadoras Segment 2

Facility Maintenance History

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

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: Nov-Dec 2014 Emergency Maintenance
Past Regulatory Approvals	
CEQA	MMP PEIR No. 42891; Emergency Exemption NOE No. 400792
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum); SDP Emergency Authorization No. 400792
404	Exempt Activity
401	None
1602	Op Law
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 April 2015, the channel was observed to be relatively clean with very little evidence of vegetation or 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])	657	854	1,051	1,116	1,182	1,314

Hydraulic Capacity of Facility

Current Capacity	1,182 cfs
Proposed MWMP Maintained Capacity	1,314 cfs
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change. Due to recommended maintenance downstream within Via Encantadoras 1, the conveyance capacity in Via Encantadoras 2 improves.
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Developed concrete-lined channel • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Disturbed riparian forest (southern willow forest) • Eucalyptus woodland • Freshwater marsh • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo) at the upstream end, 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 nearest MHPA boundary is located approximately 580 feet 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 Constraint Identified	None

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	

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	Tijuana River - Smythe
Segment Name	Via Encantadoras 2
Facility No.	6-03-138
Facility Location	From outlet of culvert that crosses beneath Vista Lane to inlet of culvert beneath West San Ysidro Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change. Due to recommended maintenance downstream within Via Encantadoras 1, the conveyance capacity in Via Encantadoras 2 improves.
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-Builts?	Yes; 19218-D, 11-086034, 16916-D, & 14427-D
Substrate Detail	Concrete bottom and banks

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

Facility Dimensions (Approximate)	Length: 955 feet Top width: 16–50 feet Bottom width: 10–50 feet Depth: 5–10 feet
Authorized Facility Maintenance Area	Length: Channel: 955 feet Width: 16–50 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B 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 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to loader 3. Loader scoops material from channel and loads dump truck at access/loading area 4. 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, limited suitable habitat present 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 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

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

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

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.

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Map A: General Site Plan
Facility Group Name: Tijuana River - Smythe
Segment Name: Via Encantadoras 2
Facility No: 6-03-138
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Via Encantadoras Segment 3 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 1876-2612: Concrete bottom and banks Stations 2612-2762: Earthen bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River unnamed tributary (Via Encantadoras Segment 2)
Tributaries (listed from downstream to upstream)	Tijuana River Unnamed Tributary
Facility Length	Approximately 886 feet
Top-of-Bank Width	Approximately 30–100 feet
Bottom Facility Width	Approximately 8–55 feet
Facility Depth	Approximately 5–15 feet
Adjacent Land Use	Multi-Family Residential, Single-Family Residential, Transportation
As-Built Drawing Number	19218-D, 11-086034, 16916-D, & 14427-D
Coastal Zone	No

Figure 1: April 2015, entrance to double-barrel 72-inch-diameter RCP culvert under Vista Lane

Figure 2: Vicinity Map of Via Encantadoras Segment 3

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

Facility Maintenance History

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

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: Nov-Dec 2014 Emergency Maintenance
Past Regulatory Approvals	
CEQA	MMP PEIR No. 42891; Emergency Exemption NOE No. 400792
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum); SDP Emergency Authorization No. 400792
404	Exempt Activity
401	None
1602	Op Law
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 April 2015, the channel was observed to be relatively clean with patches of vegetation, sediment, and debris					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	610	793	976	1,037	1,098	1,220
Hydraulic Capacity of Facility						
Current Capacity	610 cfs					
Proposed MWMP Maintained Capacity	610 cfs					
Maintenance Recommendation	Remove accumulated sediment and vegetation from bottom and sides of segment from Station 1876 to Station 2762					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Developed concrete-lined channel • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo) at the upstream end, 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. However, raptors could use the 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 more than 1,000 feet 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 Constraint Identified	None

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)	**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	

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.

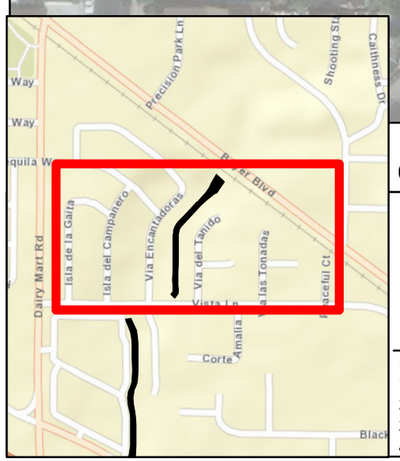
Facility Group	Tijuana River - Smythe
Segment Name	Via Encantadoras 3
Facility No.	6-03-143
Facility Location	From outlet of culvert that crosses beneath the San Diego Metropolitan Transit Development Board railroad tracks south of Beyer Boulevard to inlet of culvert beneath Vista Lane
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment and vegetation from bottom and sides of segment from Station 1876 to Station 2762
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	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 19218-D, 11-086034, 16916-D, & 14427-D
Substrate Detail[3]	Stations 1876-2612: Concrete bottom and banks Stations 2612-2762: Earthen bottom and banks

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

Facility Dimensions (Approximate)	Length: 886 feet Top width: 30–100 feet Bottom width: 8–55 feet Depth: 5–15 feet
Authorized Facility Maintenance Area	Length: Channel: 886 feet Width: 30–100 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B 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 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, bulldozer/track-steer, loader, and dump truck enter or are lowered into channel at access/loading area from Vista Lane 2. Bobcat/skid-steer or bulldozer/track-steer pushes material to loader 3. Loader scoops material from channel and loads dump truck at access/loading area 4. 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[4]: 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 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

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

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

Facility Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

The City of SAN DIEGO

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: Tijuana River - Smythe
Segment Name: Via Encantadoras 3
Facility No: 6-03-143
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Smythe Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River unnamed tributary (Via Encantadoras Segment 3)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,355 feet
Top-of-Bank Width	Approximately 47–60 feet
Bottom Facility Width	Approximately 20–30 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Industrial, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	19218-D, 11-086034, 16916-D, & 14427-D
Coastal Zone	No

Figure 1: April 2015, looking upstream at channel

Figure 2: Vicinity Map of Smythe Segment 1

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 and vegetation 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	RGP 63 USACE File #SPL-2015-00942-RAG
401	RGP 63 Verification No. R9-2016-0014;820683;lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	Smythe Channel and Via de la Bandola Permittee Responsible Mitigation Project (3.11 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 vegetation was observed to vary from light to dense with 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])	550	715	880	935	990	1,100
Hydraulic Capacity of Facility						
Current Capacity	<550 cfs					
Proposed MWMP Maintained Capacity	935 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom and sides of segment from Station 4122 to Station 5477					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Natural flood channel • Riparian scrub (southern willow scrub)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	The facility contains suitable habitat for sensitive bird species, such as least Bell's vireo. Although this habitat is present, the channel is relatively isolated from other riparian areas, resulting in a low potential for sensitive species to occur.
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-37-031491
Resource Identified Adjacent to APE	None
Resource Type	Historic path of Otay Mesa Road

Historical Resources	
Resource Identified in APE	P-37-031491; Historic path of Otay Mesa Road
Potential Historical Resources Constraint Identified	Yes

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-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	DELETE
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

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	Tijuana River - Smythe
Segment Name	Smythe 1
Facility No.	6-03-147
Facility Location	From outlet of a culvert after it crosses beneath Smythe Avenue to 200 feet northeast of the intersection of Del Sur Boulevard and Shooting Star Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom and sides of segment from Station 4122 to Station 5477
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	Yes; see Appendix A-4
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; 19218-D, 11-086034, 16916-D, & 14427-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 1,355 feet Top width: 47–60 feet Bottom width: 20–30 feet Depth: 7 feet

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

Authorized Facility Maintenance Area	Length: Channel: 1,355 feet Width: 60 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B 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, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer and/or Gradall/excavator enters 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 5. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
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 2. Adjacent to maintenance area: No 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 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary
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

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

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 Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

The City of SAN DIEGO

Notes:
1. In-stream post-maintenance erosion control measures 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: Tijuana River - Smythe
Segment Name: Smythe 1
Facility No: 6-03-147
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Via de la Bandola Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River unnamed tributary (Via Encantadoras Segment 3)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,986 feet
Top-of-Bank Width	Approximately 24–36 feet
Bottom Facility Width	Approximately 6 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Single-Family Residential, Transportation
As-Built Drawing Number	17307-D & 14427-D
Coastal Zone	No

Figure 1: December 2014, looking upstream at dense vegetation, and sediment and debris within ditch

Figure 2: Vicinity Map of Via de la Bandola Segment 1

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 and vegetation 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	RGP 63 USACE File #SPL-2015-00850-RAG
401	RGP 63 Verification No. R9-2015-0187
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	Smythe Channel and Via de la Bandola Permittee Responsible Mitigation Project (0.67 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 December 2014, the amount of vegetation was observed to be dense with many large trees. Sediment deposition was estimated to be 2 feet. Current condition: relatively clean, leaf debris.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	550	715	880	935	990	1,100

Hydraulic Capacity of Facility

Current Capacity	295 cfs
Proposed MWMP Maintained Capacity	295 cfs
Maintenance Recommendation	Remove accumulated sediment and vegetation from bottom and sides of concrete ditch from Station 1418 to Station 2134. Remove accumulated sediment and debris in the culvert from Station 148 to Station 1418.
In-Stream Post-Maintenance Erosion Control Recommendation	None

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

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	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • 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/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 Constraint Identified	None

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	

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	Tijuana River - Smythe
Segment Name	Via de la Bandola 1
Facility No.	6-03-150
Facility Location	From 150 feet south of State Route 905 to 150 feet north of the intersection of Via de la Bandola and Via de La Melodia
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and vegetation from bottom and sides of concrete ditch from Station 1418 to Station 2134. Remove accumulated sediment and debris in the culvert from Station 148 to Station 1418.
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?	Yes; 17307-D & 14427-D
Substrate Detail	Concrete bottom and banks

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

Facility Dimensions (Approximate)	Length: 1,986 feet Top width: 24–36 feet Bottom width: 6 feet Depth: 6 feet
Authorized Facility Maintenance Area	Length: Ditch: 716 feet; Culvert: 1,270 feet Width: 24–36 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B 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 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	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 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 ditch in accordance with Flow Management section, below, and Water Pollution Control Plan
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 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

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

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	80-inch pipe at upstream end of segment

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.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Tijuana River - Smythe
Segment Name: Via de la Bandola 1
Facility No: 6-03-150
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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

Tijuana River - La Media Facility Group

Segment Name (Facility number):

La Media 1 (6-06-011)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Tijuana River
Watershed (Number)	Tijuana River (6)
Hydrologic Subarea	911.12
Drainage Name (Number)	Tijuana River Unnamed Tributary (06)
Facility Group Name	Tijuana River - La Media
Segment Name (Facility Number)	La Media 1 (6-06-011)
Substrate	La Media 1 / Earthen
Location	About 270 feet north of the intersection of La Media Road and Airway Road
MMP Map No(s).	124
Facility Inspection No.	124
Other Former Names	Airway and La Media, Airway

Figure 1: Vicinity Map of Tijuana River - La Media Facility Group

Water Quality Resource Summary

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

Tijuana River Watershed Management Area; Hydrologic Subarea 911.12	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Sediment

Tijuana River - La Media	
Beneficial Uses	• 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

Tijuana River (First downstream water body)	
Beneficial Uses	• 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	Ammonia as Nitrogen, Benthic Community Effects, Cadmium, Eutrophic, Indicator Bacteria, Low Dissolved Oxygen, Pesticides, Phosphorus, Sedimentation/Siltation, Selenium, Solids, Surfactants (MBAS), Synthetic Organics, Total Nitrogen as N, Toxicity, Trace Elements, Trash

La Media Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, immediately upstream of Tijuana River unnamed tributary as it flows to Mexico
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 273 feet
Top-of-Bank Width	Approximately 8–26 feet
Bottom Facility Width	Approximately 2–22 feet
Facility Depth	Approximately 2.5 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	23787-D & 28063-D
Coastal Zone	No

Figure 1: April 2017, looking upstream at conservation area from Airway Road

Figure 2: Vicinity Map of La Media Segment 1

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 vegetation was observed to be dense and the sediment deposition was estimated to be 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])	1,351	1,952	2,252	2,702	3,153	3,453
Hydraulic Capacity of Facility						
Current Capacity	19 cfs					
Proposed MWMP Maintained Capacity	19 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from north side of culvert at Airway Road and extending 4.5 feet upstream. Remove accumulated sediment and debris in culvert from Station 4030 to Station 4080.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

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

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	• Freshwater marsh
Adjacent Vegetation	• Developed land • Disturbed freshwater marsh • Disturbed land • Freshwater marsh • Ornamental plantings • Riparian forest (southern willow forest) • Riparian scrub (southern willow scrub)
Habitat and Wildlife	There is limited suitable habitat for sensitive species use within the facility itself, but suitable riparian habitat for least Bell's vireo is present adjacent to the channel
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 5 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	P-37-007208
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric lithic scatter

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

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	**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	

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	Tijuana River - La Media
Segment Name	La Media 1
Facility No.	6-06-011
Facility Location	From 270 feet northwest of the intersection of La Media Road and Airway Road to a privately maintained ditch
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel transition to Airway Road inlet per Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from north side of culvert at Airway Road and extending 4.5 feet upstream. Remove accumulated sediment and debris in culvert from Station 4030 to Station 4080.
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	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 23787-D & 28063-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 273 feet Top width: 8–26 feet Bottom width: 2–22 feet Depth: 2.5 feet

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

Authorized Facility Maintenance Area	Length: Channel: 4.5 feet; Culvert: 50 feet Width: 26 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B 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, vactor, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator and backhoe stationed above channel at access/loading area 2. Gradall/excavator and backhoe scoop material in front of culvert/pipes and load dump truck 3. Dump truck hauls material to legal disposal site 4. Vactor used to flush culverts in accordance with Flow Management section and Water Pollution Control Plan
Traffic Control	Yes; coordinate with the City of San Diego
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
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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
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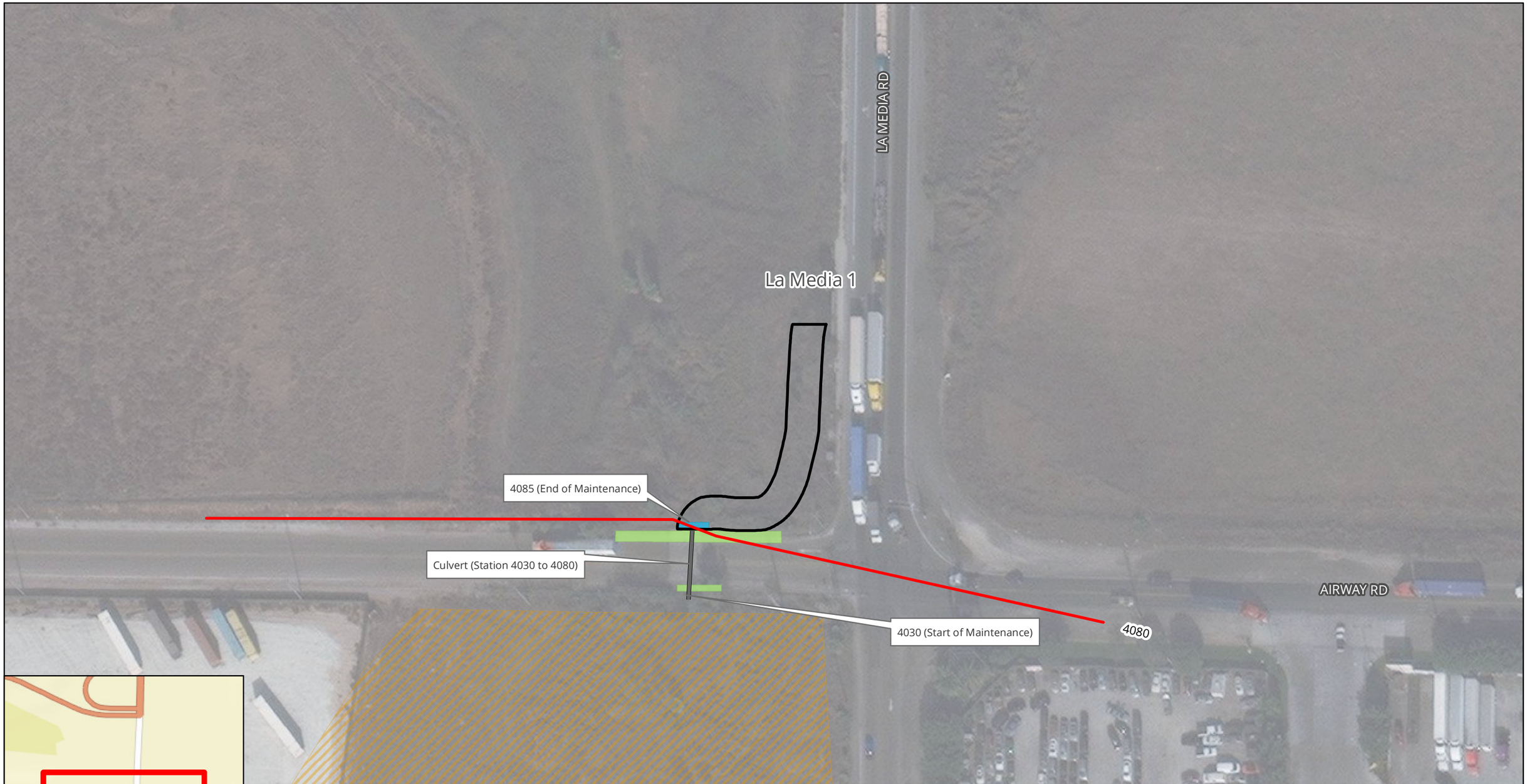
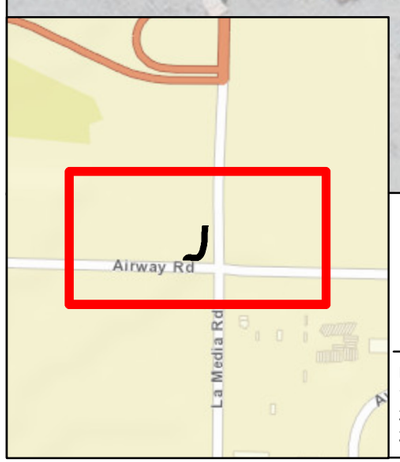
Other Notes	None





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

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Notes:
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November 2019

Map A: General Site Plan
Facility Group Name: Tijuana River - La Media
Segment Name: La Media 1
Facility No: 6-06-011
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

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