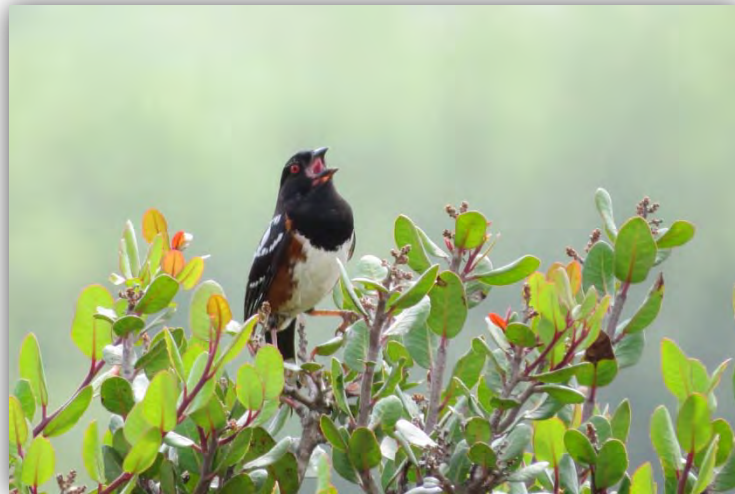


# Canyon Sewer Cleaning Program and Long Term Sewer Maintenance Program Progress Report

City of San Diego  
Public Utilities Department



## 2014 Annual Report July 1, 2013 – June 30, 2014





Cover: Top: Spotted Towhee singing on lemonadeberry (Paver), Bottom: Sewer Repair and Manhole

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### ACRONYMS AND ABBREVIATIONS

ACOE	Army Corps of Engineers
BMP	Best Management Practices
CDFW	California Department of Fish and Wildlife
CIP	Capital Improvement Project
DSD	Development Services Department
MEAP	Long Term Maintenance and Emergency Access Plan
MHPA	Multiple Habitat Planning Area
OSCAC	Open Space Canyons Advisory Committee
PEIR	Programmatic Environmental Impact Report
PEP	Plant establishment period
Program	Canyon Sewer Cleaning Program and the Long-term Canyon Sewer Maintenance Program
Public Utilities	City of San Diego Public Utilities Department
ROF	Redirection of Flow
SCR	Substantial Conformance Review
WWC	Wastewater Collection Division

## EXECUTIVE SUMMARY

In response to an Administrative Order from the U.S. Environmental Protection Agency, in an effort to reduce sewer spills and beach closures, and under the direction of Council Policies 400-13 and 400-14, the City of San Diego's Public Utilities Department (Public Utilities) has adopted the Canyon Sewer Cleaning Program and the Long-term Canyon Sewer Maintenance Program (Program) to access, clean, and repair miles of sewer infrastructure located in canyons and other environmentally sensitive areas.

A Programmatic Environmental Impact Report (PEIR) was prepared to study the Program and in July 2004 the City of San Diego approved Coastal Development Permit No. 13506 and Site Development Permit No. 13507 for the Program.

The objectives of the Program are:

- To complete the inspection and cleaning of City of San Diego sewer infrastructure located in canyons and other environmentally sensitive areas.
- To identify and implement efficient, effective, and environmentally sensitive means to accomplish the necessary canyon sewer cleaning activities.
- To provide for long-term maintenance of canyon sewer infrastructure, recognizing that availability of access to the infrastructure is essential for an effective long-term program, in accordance with Council Policy 400-13.
- To evaluate and pursue options to redirect sewage flows out of canyons and into street sewer lines or other accessible areas, where feasible and appropriate pursuant to Council Policy 400-14.

This annual report, as required by the site development permit condition 27, provides a Progress Report to the Open Space Canyons Advisory Committee (OSCAC) on the Program for the year from July 1, 2013 through June 30, 2014. This report provides the status of all Program activities within the reporting year, including habitat mitigation, long term access planning and implementation, construction and emergency projects, and 25 month revegetation and restoration projects.

## LONG TERM ACCESS PROJECTS

Long Term Sewer Access Projects provide access paths to sewer infrastructure for ongoing maintenance, inspections, and cleaning. One of the first steps in determining whether an access path is needed is to prepare a redirection of flow (ROF) study. A ROF study evaluates the economic feasibility of removing all or part of the sewer from an environmentally sensitive area or canyon versus providing access to the sewer if it remains in place.

When redirection of flow is found to be infeasible from all or portions of environmentally sensitive areas/canyons, Public Utilities staff develop a Long Term Maintenance and Emergency Access Plan (MEAP) in accordance with Policy 400-13. Public Utilities staff prepares and submits a Substantial Conformance Review (SCR) packages to the Development Services Department (DSD) for a determination whether the proposed mitigation, restoration, and access planning for individual canyon areas or project is in conformance with the PEIR and Program master permits. Project specific design plans are then prepared as necessary to provide specific direction on access improvements and construction that include additional information necessary to obtain regulatory agency permits. Separate permits or clearances are obtained from the regulatory agencies prior to implementation of long term access projects.

The following canyons are in various stages of long term access planning and implementation:

- 32<sup>nd</sup> Street – Sewer access paths located in upland areas have had wood chips installed and are currently being used by the Wastewater Collection (WWC) Division. Public Utilities staff received regulatory agency permit approval to construct access path improvements at streambed crossings; however, Public Utilities is currently analyzing an alternate path alignment to avoid wetland impacts to streambeds. Public Utilities is working with Real Estate Assets Department to acquire an easement to build a portion of the upland access path on private property. The new access paths will be constructed by the WWC Division.
- Alvarado – The long term sewer access plan has been approved in concept and the detailed access path design for this project is complete. Public Utilities staff is working on the environmental permits, property acquisition, and developing contract documents.
- Black Mountain – Implementation of long term sewer access for this canyon has been completed. Public Utilities staff are working with the Park and Recreation Department on finalizing a Memorandum of Understanding for the ongoing maintenance and use of access paths.
- Park Mesa – City forces completed construction of the long term access path in the summer of 2011. The project required easement acquisition from four

property owners. All easements have been acquired. This access project is complete and the WWC Division will continue to maintain the path for ongoing sewer inspections, cleaning and maintenance.

- Rancho Mission – Public Utilities reassessed the canyon access plan, identified an alternative access using existing paths, and eliminated the need for one stream crossing. Access path improvements on the east side of Margerum Avenue were completed by City forces in November 2011. Environmental permits were obtained from the regulatory agencies in 2013 to construct an improved streambed crossing. The design and construction of the streambed crossing on the west side of Margerum Avenue was completed in November of 2013.



*Rancho Mission – Improved Streambed Crossing*

- Tecolote East – Design drawings have been prepared that include numerous streambed crossing improvements. Public Utilities staff has started on the resource agency permit applications and developing contract documents for constructing the access path improvements. Improvements will be necessary to provide access to the manholes located in the streambed areas.
- Norfolk Canyon – Public Utilities staff is awaiting final regulatory agency approvals for the upsizing of one pipe culvert along the existing access path. Following the receipt of the permits, City crews shall initiate this work.
- Home Avenue Trunk Sewer – Public Utilities staff is in the process of completing the SCR submittal, including the Long Term Access Plan, MEAP, and environmental studies.
- Lopez Manhole 13 – A partial implementation of the long term access project in Lopez Canyon occurred during this reporting period. A manhole that had been

previously inaccessible for cleaning was accessed in the Fall of 2013. City crews tracked over low growing vegetation to gain access to the manhole. No grading, filling, or permanent improvements will be made to the new sewer access path.



*Lopez Canyon –Towing Cleaning Equipment to Manhole 13*

- South Chollas – Public Utilities completed the Long Term Access plan, MEAP, and all preliminary environmental studies. Staff has submitted the SCR package to the DSD for approval. Following approval, paths located in upland areas will be constructed by City forces. Detailed design drawings will be prepared for the streambed crossing improvements.
- North, Central, and Southern Tecolote Canyon – A Long Term Access Plan Technical Memorandum for all three sections of Tecolote Canyon was completed in 2013 and incorporated into a planning study and scope of a larger Capital Improvement Projects (CIP) project. The Technical Memorandum includes the design criteria of all access paths and streambed crossing improvements. The design criteria will be included in the design of the CIP Project when it moves forward.
- VanNuys Canyon – A new ROF Study and Access Recommendation have been completed and the project will be proceeding with long term access design.
- Mt. Elbrus – In November, 2011, WWC installed a prefabricated fiberglass bridge in Mt. Elbrus Canyon as partial long term access implementation. Public Utilities staff is currently designing three additional stream crossing improvements and is starting on agency permits for anticipated construction in 2015.





*Mt. Elbrus Canyon- Long Term Access Area In Design*

- Manning Canyon – Public Utilities is beginning the process for the SCR submittal, including the Long Term Access Plan, MEAP, erosion control plan and environmental studies.
- Interstate (I)-15 & Balboa – Public Utilities is beginning a ROF study to determine if canyon sewer facilities can be abandoned and if sewer flows can be redirected to Right-Of-Way areas.

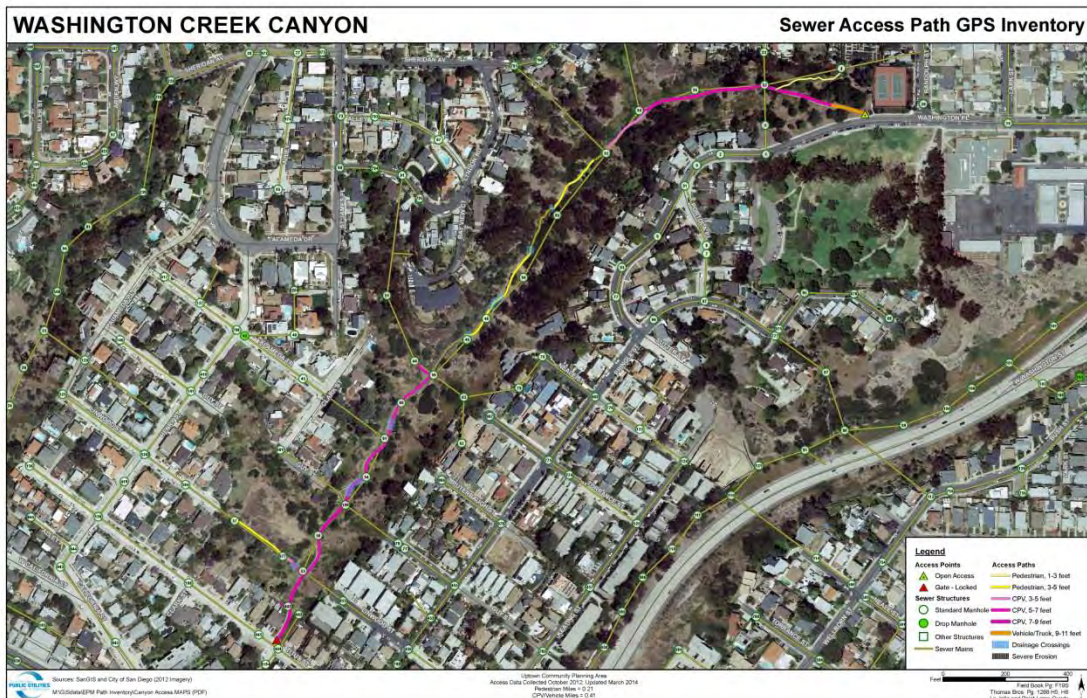
## MAINTENANCE, MONITORING, AND MAPPING

Wastewater Collection Division staff coordinated closely with Environmental Staff (Environmental Section) in ensuring daily activities were in compliance with the Program’s master permit, agency permits, and environmental regulations.

Environmental training is provided to all Public Utilities staff working in canyons/environmentally sensitive areas. Crews are directed to contact staff in the Environmental Section for guidance and support for work that may impact sensitive resources.

The Environmental Section reviews daily field work reports, facilitates monthly meetings to discuss and review all work in canyons, obtains permits, and provides daily support to field crews. Work conducted in canyons/environmentally sensitive areas is monitored by the Environmental Section. Bird nesting surveys, vegetation and sensitive species mapping, jurisdictional delineations and other biological surveys are completed by the Environmental Section for daily WWC operation and maintenance of sewer lines in canyons.

Public Utilities has increased its efforts to inventory and map existing access to sewers in canyons. This inventory provides information on existing access conditions, identifies access needs and areas of concern), and facilitates ongoing maintenance. To date, 165 miles of pedestrian and vehicular paths have been mapped with the GPS data for 136 canyon areas. Vehicle access path data is updated quarterly and is available on SanGIS.



Access Path Inventory Map for Washington Creek Canyon

## CONSTRUCTION AND EMERGENCY PROJECTS

During this reporting period seven CIP projects were completed or are still in construction: GJs 616, 672A, 693, 703A, 787, and GJ 799 Alvarado TS PH IIIA. Planning and permitting is complete or in process for a number of additional projects that are anticipated once contracting is complete or funding is available. These include Group Jobs 833, 836, 965, 966, Sewer Rehabs AG-1, AB-1 and Z-1, Skylark Canyon sewer, Rose Canyon TS Joint Repair, Tecolote Canyon and Manning Canyon sewer abandonment projects. These jobs are managed by the Engineering and Capital Projects, Public Works Department.

Since July of 2013, emergency projects and/or pipeline/manhole repair projects occurred in the following canyons or environmentally sensitive areas:

### **Emergencies**

- Buchanan Canyon Sewer Blockage (blocked pipe, pipe repair, access)
- Camino Del Rio South (blocked pipe, buried manhole, cleaning)
- Tecolote North Pipe Repair (pipe repair and protection)
- Spruce Mh 220 (manhole replacement)
- Siesta Drive (pipe repair)
- El Camino Real (sewer spill)

### **Other construction projects**

- I-15 Buried Manhole 9 (manhole locate and raise)
- Loma Pass Buried Manhole (manhole locate and raise)
- Market Street MH (manhole locate and raise)
- San Diego River West (temp access, manhole raise, cleaning)
- Famosa Slough Pipe Repair (spot repair)
- Spruce Canyon Pipe Repair (pipe repair)
- Manning Canyon Sewer Repair (pipe repair)
- Camino Del Rio North Mh Replacement (manhole maintenance)
- Switzer Canyon MH 152 Access (access creation, cleaning)
- Washington Creek Access Path (path improvements)
- Switzer Sinkhole Repairs (access path maintenance)
- Ash Street and Granada Repair (pipe repair)
- 28<sup>th</sup> Street Access (path maintenance)
- Sweetwater MH 3 Repair (manhole maintenance)
- Juniper Street Spot Repair (pipe repair)
- Tecolote North Access (path maintenance)
- Pump Station 77 Force Main Inspection (pipeline inspection)
- Old Town McCoy House Sewer Repair (pipe repair)
- Otay Valley Trunk Sewer Pipe Protection (pipe protection)
- Mission Gorge Trunk Sewer Pipe Protection (pipe protection)

Public Utilities crews completed access path maintenance in multiple canyon areas to facilitate access for cleaning, inspections and maintenance. Path maintenance is usually limited to trimming or mowing vegetation that has grown on the pathways. Maintenance on the access path precedes manhole cleaning and maintenance.

Public Utilities staff manages emergency and non-CIP construction projects. Environmental review, monitoring, and reporting are done in adherence with the Program. Biological assessments have been prepared and permits have been obtained as necessary for these emergency and construction projects. Following construction, revegetation and/or restoration has been implemented in accordance with the Program.



*Spruce Canyon Pipe Repair*



*San Diego River West Manhole Raise and Cleaning*



*Buchanan Emergency Sewer Blockage Emergency Access and Repair*

## 25 MONTH REVEGETATION AND RESTORATION PROJECTS

Conditions of the Master permit require effective erosion control of access paths and restoration of temporarily impacted areas outside of permanent access paths following construction. Each impact area is monitored and maintained for a period of no less than 25 months.

Revegetation sites include all areas required for permanent access to utilities including the access paths, turn-arounds, and work areas around manholes. When new access paths and permanent access areas are created, revegetation is required. The goal of revegetation is successful erosion control. Maintenance and monitoring of revegetation areas may include hydroseeding or hand-seeding, weeding, mulching or installing wood chips on the path, installation of temporary Best Management Practices (BMPs), site monitoring or a combination of the above treatments.

Restoration sites are areas impacted outside of permanent access areas. Restoration areas are typically staging areas, emergency access or work areas, pipeline repair areas, unauthorized impact areas, or areas disturbed as a result of temporary widening of pathways. The goal of habitat restoration is re-establishment of native habitat. Restoration areas shall obtain native plant coverage equal to the native species present in the adjacent area or 30% coverage, whichever is greater. Restoration areas shall support no more than 1% perennial weeds and no more than 10% annual weeds during the 25 month maintenance period. Maintenance and monitoring of restoration areas may include hydroseeding or hand-seeding, installation of container plants, weeding, installation of temporary BMPs, temporary irrigation, site monitoring or a combination of the above treatments.

Seed and plant material used for revegetation and restoration efforts is from locations within 25 miles of the coastline in San Diego County. Maintenance and monitoring of all sites continues for 25 months or until successful erosion control is achieved on the paths and/or restoration goals are met outside of the paths.

During this reporting year, ten (10) sewer revegetation projects were completed. In addition to eleven (11) ongoing projects, nine (9) additional sites were installed and maintenance and monitoring of these sites was initiated.

Updates on the status of the revegetation and restoration projects are a regular agenda item at OSCAC's meetings. See Attachment A for the July 2014 Revegetation and Restoration Projects Status update table.



*Pump Station 77 Forcemain Restoration Area*



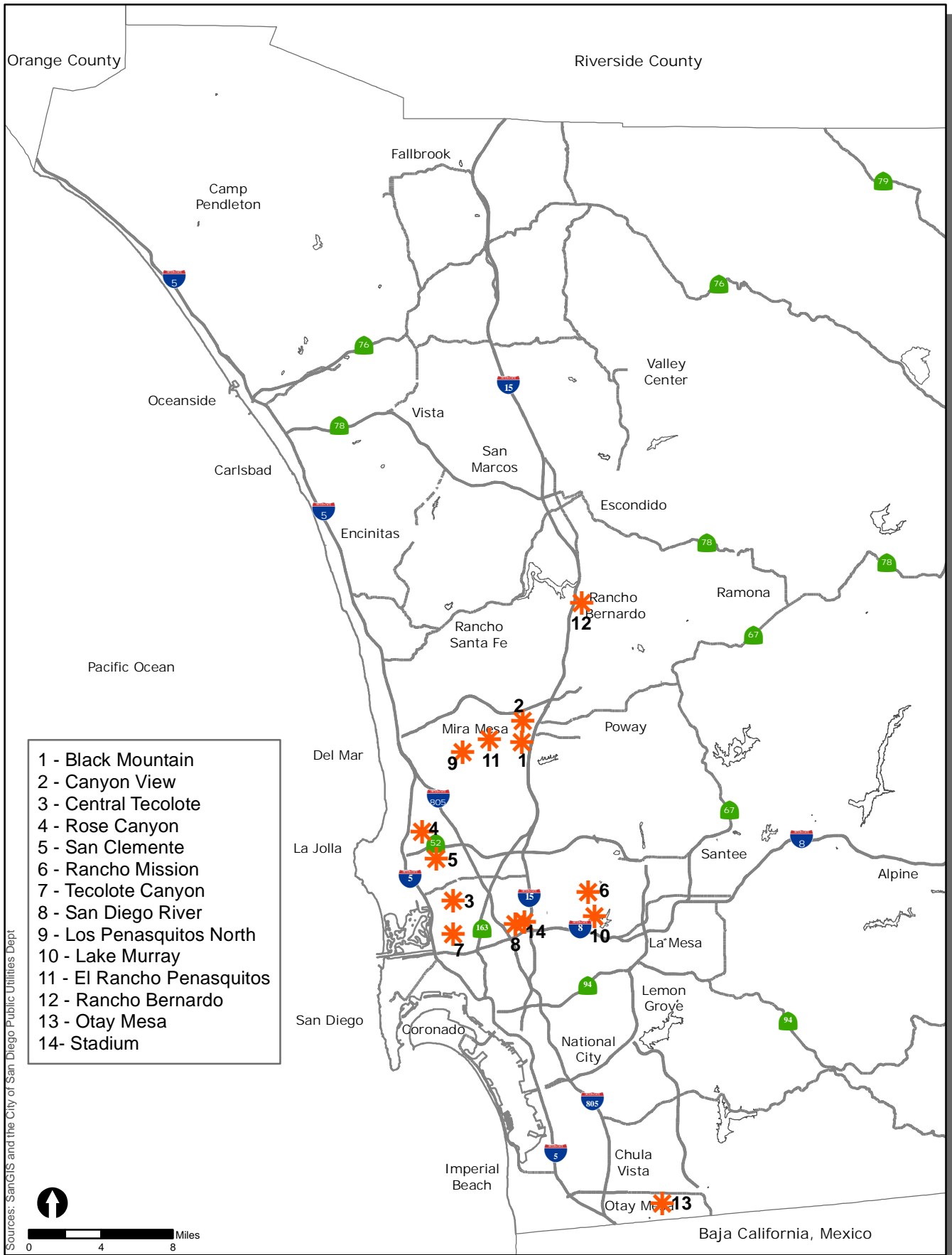
*Spruce MH 220 Replacement Revegetation (erosion control) Project*

## MITIGATION PROJECTS

In accordance with applicable local, state, and federal regulations, restoration, revegetation, or mitigation is required for significant biological impacts resulting from the Program, such as the creation of access paths through environmentally sensitive areas, emergency repairs, and pipeline repair projects. In order to mitigate these impacts, Public Utilities staff has identified and implemented a number of habitat mitigation projects located within various watersheds where past, current, or future impacts have or may occur. These mitigation sites are designed and built to accommodate numerous Public Utilities projects. Allocation of mitigation is completed as each project is planned, permitted and constructed. Post construction adjustments are made to mitigation assignments based on actual project impacts. Project impacts and mitigation assignments are tracked internally within the Canyon Database. A summary of acreages available, assigned and the balance is included as Attachment B. A more detailed summary of assignments is included as Attachment C.

The location of these projects is shown in Figure A. The status of each habitat mitigation project is summarized below.





**PUD Mitigation Sites  
Overview Map**

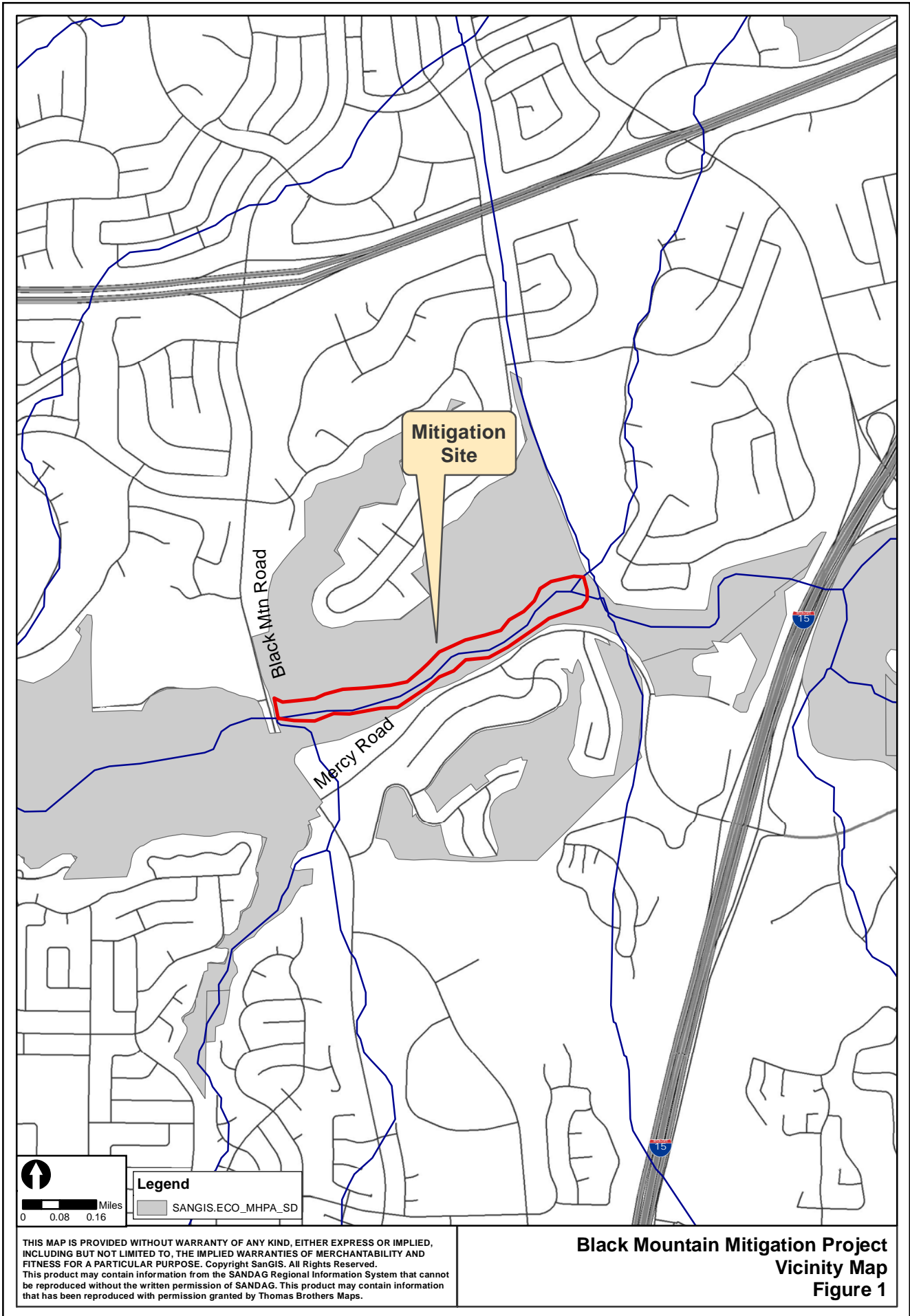
**FIGURE  
A**

## Black Mountain Wetland Mitigation Project

This project is currently on hold pending discussions between Park and Recreation Department and Public Utilities. If the project is determined feasible, Public Utilities will proceed with resource agency submittals and approvals to implement this project to serve the mitigation needs of the Public Utilities for impacts within the Los Penasquitos Canyon Preserve. This project would be located west of I-15, east of Black Mountain Road, and north of Mercy Road in Los Penasquitos Canyon (Figure 1). The project area currently supports a large area of invasive non-native plant species that has little value for wildlife. The site currently supports eucalyptus (*Eucalyptus* spp.), Canary Island date palm (*Phoenix canariensis*), Mexican fan palm (*Washingtonia robusta*), Brazilian pepper tree (*Schinus terebinthifolius*), pampas grass (*Cortaderia selloana*), and tamarisk (*Tamarix parviflora*). The goal of the project would be to eradicate all non-native plant species and create native wetland habitat in areas of disturbed uplands. Project components would include weed removal, grading, installation of a temporary irrigation system, planting, seeding, and a 5 year maintenance and monitoring period. Anticipated mitigation credits would be 1.17 acres of wetland creation and 0.79 acres of wetland enhancement.



*Black Mountain Mitigation Project Site*



**Legend**  
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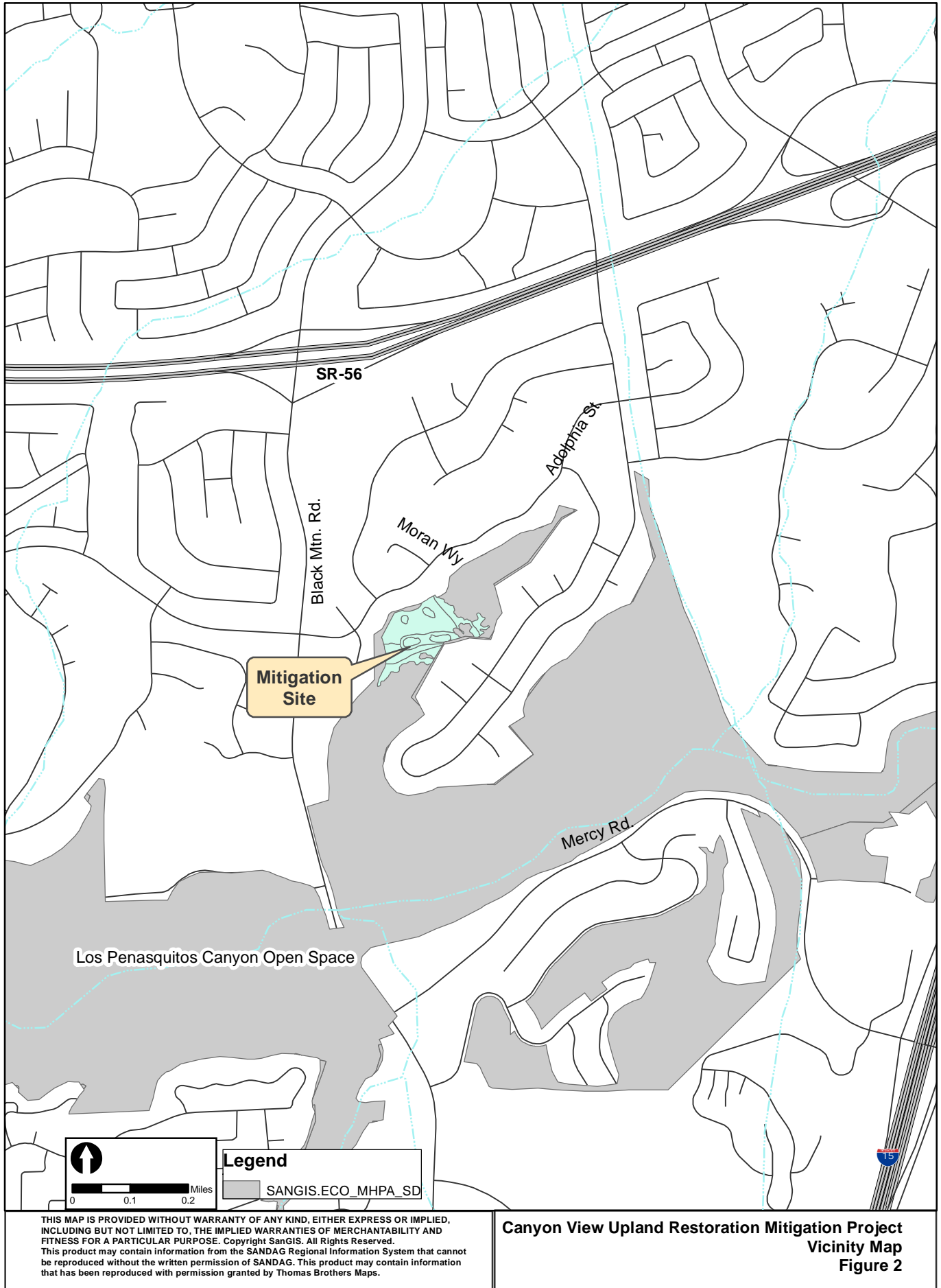
**Black Mountain Mitigation Project  
Vicinity Map  
Figure 1**

## Canyon View Upland Restoration Mitigation Project

Construction began in September 2011 for this project, located east of Black Mountain Road and south of Adolphia Street in Los Penasquitos Canyon (Figure 2). The project involves the restoration of approximately 0.9 acres of native grassland and 6.79 acres of Diegan coastal sage scrub habitat, located on City of San Diego owned parcels within Los Penasquitos Canyon. The project serves to mitigate impacts associated with Public Utilities projects located in Los Penasquitos Canyon Preserve. Exotic species removed from the site include: mustard (*Brassica* sp.), artichoke thistle (*Cynara cardunculus*), tocalote (*Centaurea melitensis*), and many non-native grass species. The project is using recycled water for temporary irrigation during the plant establishment phase. Coastal California gnatcatchers (*Polioptila californica californica*) have been observed foraging onsite within the Diegan coastal sage scrub habitat. The site is currently in year 2 of the 5 year maintenance and monitoring period. The site will be maintained and monitored for the 5-year period until agency sign off. The goal of the project is to restore low quality non-native uplands into high quality native habitats.

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Diegan Coastal Sage Scrub (Tier II)	6.49	1.62	4.87
Native Grassland (Tier I)	0.89	.02	0.87





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Canyon View Upland Restoration Mitigation Project  
Vicinity Map  
Figure 2

## Central Tecolote Enhancement Mitigation Project

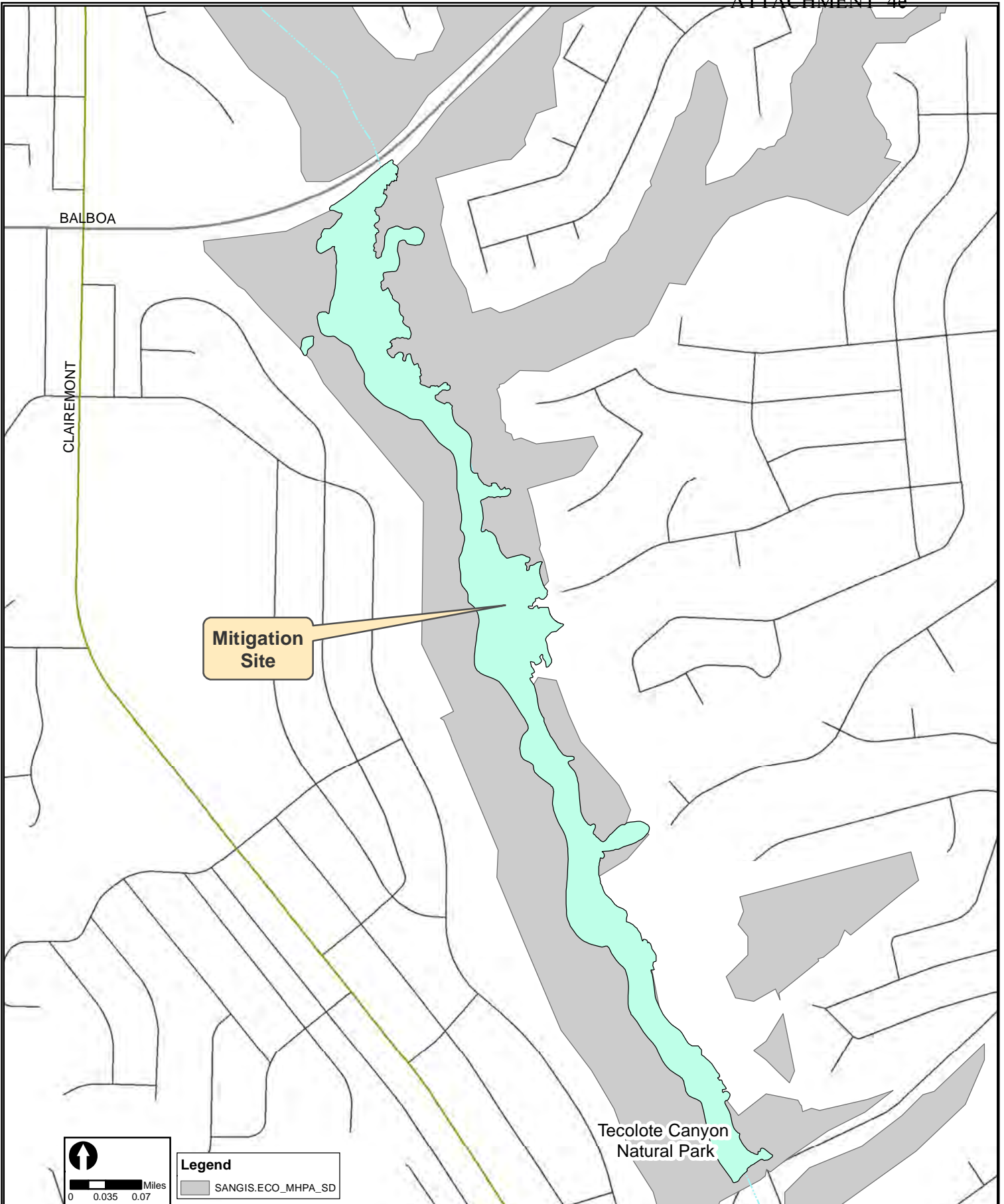
This project is currently in year 3 of the 5-year maintenance and monitoring period. This project is located south of Balboa Avenue and north of Mt. Acadia Boulevard in Tecolote Canyon (Figure 3). The project consists of riparian enhancement and native grassland/coastal sage scrub restoration in addition to a weed management area that encompasses Tecolote Creek.

Exotic species removed from the site include: Brazilian pepper tree, pampas grass, Mexican fan palm, Canary Island date palm, eucalyptus, fennel (*Foeniculum vulgare*), mustard, and yellow sweetclover (*Melilotus indicus*). Maintenance activities completed this year include weed and trash removal, plant replacement, additional seeding, and site protection repair. The site will be maintained and monitored for a minimum 5-year period to ensure successful establishment of native species and until agency sign off.

Coastal California gnatcatchers have been observed foraging onsite within the Diegan coastal sage scrub habitat. Vandalized bat boxes have been re-installed to provide roosting opportunities along the creek. Motion detector cameras have captured wildlife usage of the site.

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Oak Riparian Forest	7.95	2.43	5.52
Diegan Coastal Sage Scrub (Tier II)	1.69	0.61	1.08
Native Grassland (Tier I)	1.36	0.10	1.26





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**Central Tecolote Mitigation  
Vicinity Map  
Figure 3**

## Rose Canyon Mitigation Project

The Rose Canyon Mitigation Project is located in the Rose Canyon Open Space Park, starting approximately one half mile west of Genesee Avenue and continuing another one half mile further west into the park (Figure 4).

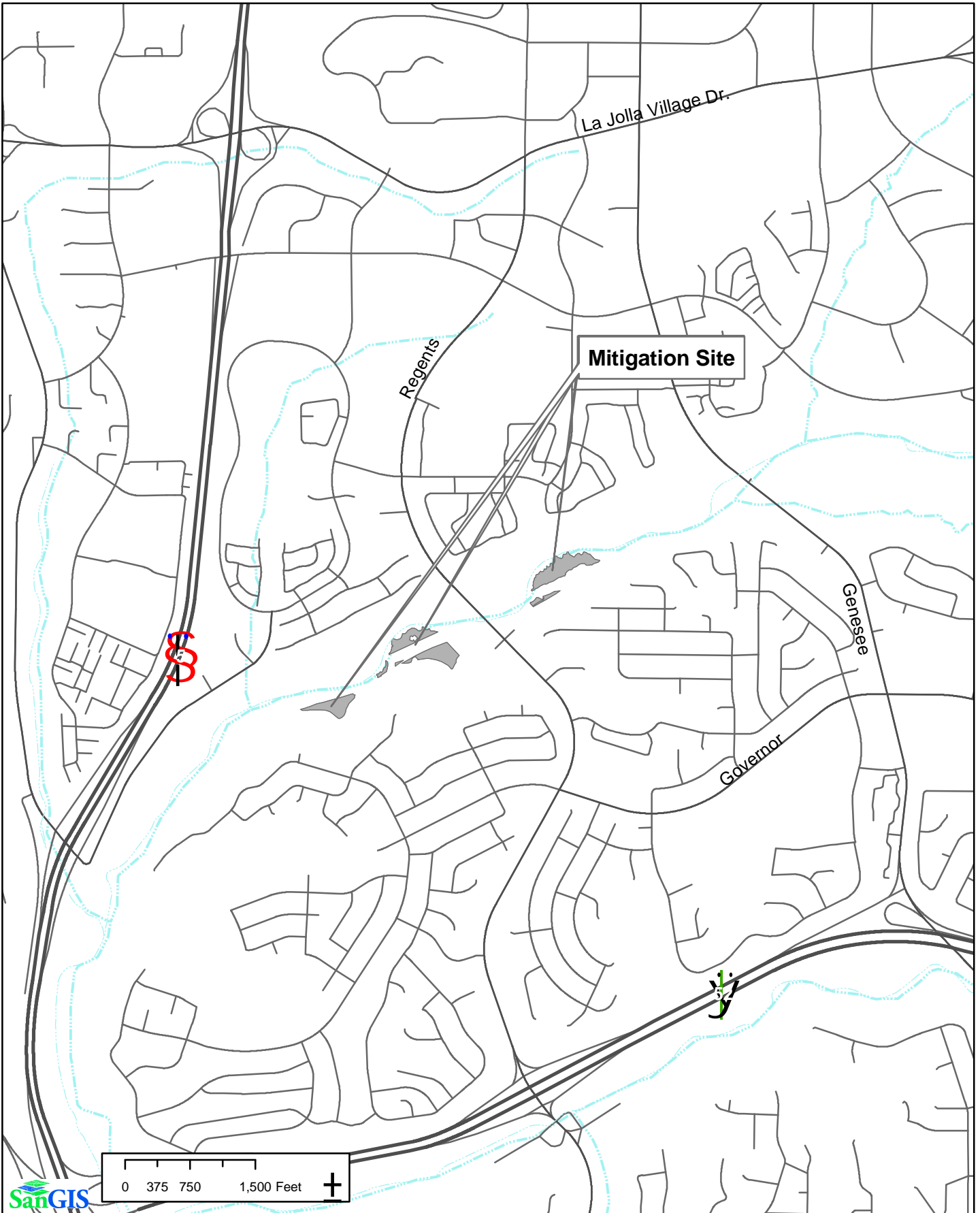
Approximately 4.36 acres of oak riparian forest, southern cottonwood-willow riparian forest, and mule fat scrub were created adjacent to Rose Creek. Approximately 3.67 acres of Diegan coastal sage scrub habitat was planted on the upland areas.

Construction was initiated in September 2007 and included clearing of non-native vegetation, grading, installation of a temporary irrigation system, planting, hydroseeding, fencing, and sign installation. The initial revegetation installation was accepted in March 2008, when the site entered the 120-day plant establishment period (PEP). The project entered the 5-year maintenance period on July 15, 2008. The project has completed 5-year of maintenance and is awaiting Corps regulatory sign-off. Vegetative cover at the site is very high, uplands habitat exceeds 80% cover and has a high diversity of species that includes California sagebrush (*Artimisia californica*), white sage (*Salvia apiana*), coyote bush (*Baccharis pilularis*), and San Diego goldenbush (*Isocoma menziessii*). The wetland creation habitat exceeds 100% cover in sections of the project area with canopy height reaching 10 to 15 feet; a number of cottonwood (*Populus* spp.) and willow (*Salix* spp.) recruits were recently observed on the site. Available mitigation acreage below reflects actual acreage of habitats restored at the end of the year 5 maintenance period.

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Riparian Forest- creation	5.05	3.44	1.87
Riparian Forest – enhancement	0.61	0.35	0.26
Diegan Coastal Sage Scrub	4.75	2.95	1.80
Native Grassland	0.28	0.20	0.08







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Rose Canyon Mitigation Site  
Vicinity Map

Figure 4

## San Clemente Canyon Mitigation Project

The San Clemente Canyon Mitigation Project provides mitigation for impacts associated with Public Utilities projects within San Clemente Canyon/Marian Bear Memorial Park and surrounding watershed. The project is located at two sites within the park, one just east of the Regents East parking area and the other approximately three-fourths of a mile east of the Genesee parking area (Figure 5).

The project includes the creation of 2.86 acres of wetland habitat (southern willow riparian forest and oak riparian forest) and 2.81 acres upland habitat (Diegan coastal sage scrub and oak woodland).

Construction was initiated in October 2007. The site reached its 5-year maintenance and monitoring period in September 2013 and is currently awaiting regulatory sign-off from the Army Corps of Engineers (ACOE). The upland and wetland planting areas for the project have shown steady establishment of target species with vegetative cover in portions of the wetland habitat over 100% cover. The wetlands support a willow over story and a well developed understory including species such as California rose (*Rosa californica*) and San Diego marsh elder (*Iva hayesiana*). Available mitigation acreage below reflects actual acreage of habitats restored at the end of the year 5 maintenance period.

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Riparian Forest	2.86	2.06	0.80
Diegan Coastal Sage Scrub	2.42	1.67	0.75
Oak Woodland	0.39	0.39	0





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**San Clemente Mitigation Project  
Vicinity Map  
Figure 5**

## Rancho Mission Canyon Wetland Enhancement Project

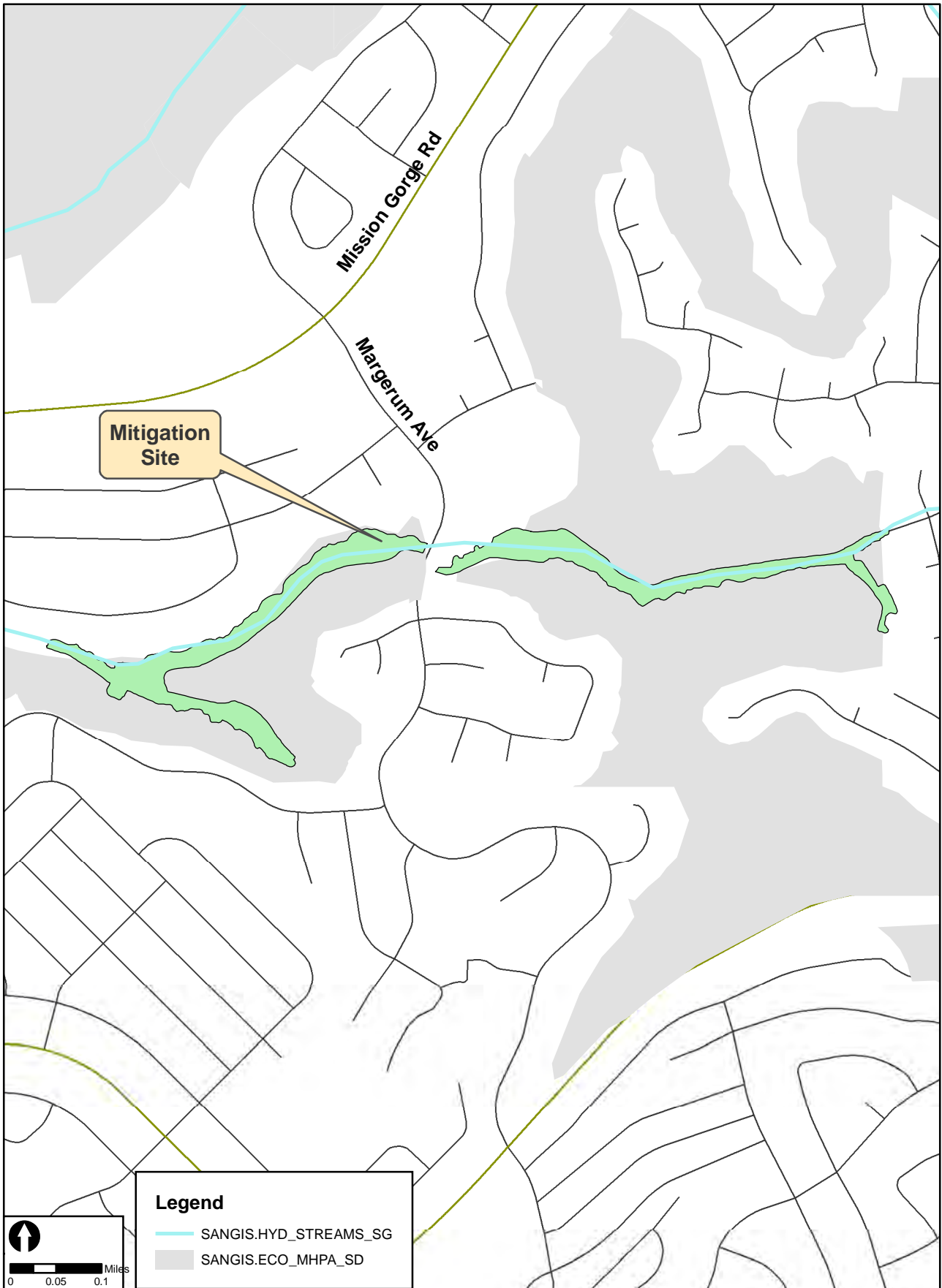
The Rancho Mission Canyon Wetland Enhancement Project is located in the City's Rancho Mission Canyon Open Space Park, south of Mission Gorge Road, north of Navajo Road, and on either side of Margerum Way in the Allied Gardens Community of the Navajo Community Planning Area (Figure 6).

The Rancho Mission Mitigation Project includes the enhancement of 7.59 acres of wetlands and restoration of 1.53 acres (75% mitigation credit) of wetland transitional habitats. Non-native vegetation was removed from the canyon, followed by revegetation with native southern willow scrub and wetland transitional species. The total area of habitat enhancement runs the entire canyon bottom and encompasses more than 13.5 acres. Exotic species targeted for eradication include: salt cedar (*Tamarix* sp.), myoporum (*Myoporum laetum*), Brazilian pepper tree, pampas grass, Mexican fan palm, and eucalyptus.

The site completed the 5-year long-term maintenance and monitoring period in March 2013. The site currently supports target native cover of approximately 95%, exceeding the year 5 goal of 90%. Regulatory sign-off and approval for the project was received in the summer of 2013. A few individuals of non-native plants were observed during the annual monitoring but are being treated by Park and Recreation as part of long term management of the site.

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Southern Willow Scrub	8.74	2.13	6.61





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**Rancho Mission Mitigation  
Vicinity Map  
Figure 6**

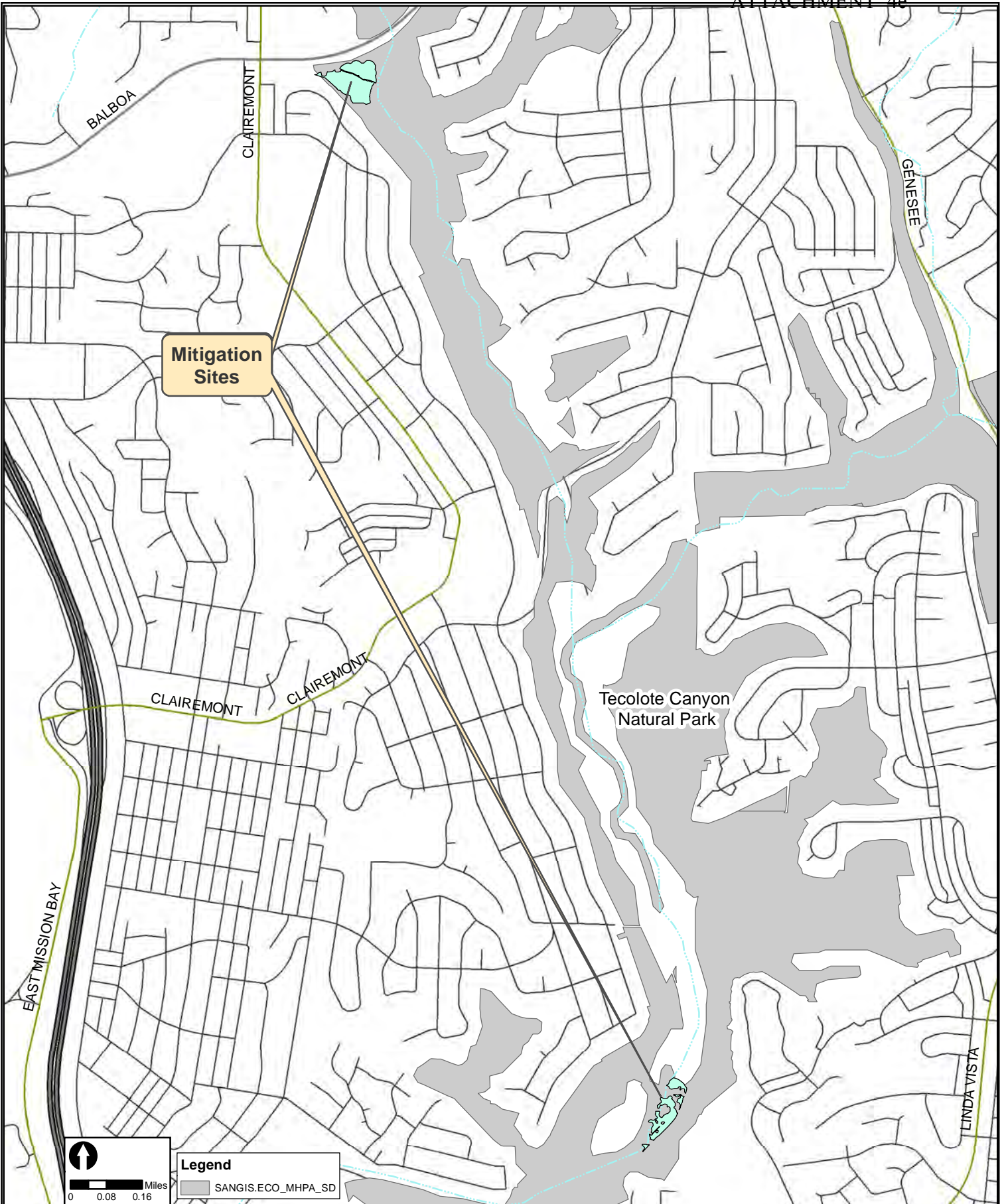
## Tecolote Canyon Mitigation Project

The Tecolote Canyon Mitigation Project provides mitigation for impacts associated with projects within Tecolote, Mt. Elbrus, East Clairemont, and Manning Canyons. The Balboa site is located south of Balboa Avenue, and the Grove site is located south of the Tecolote Golf Course and north of the University of San Diego (Figure 7).

The project includes the creation of 1.61 acres of wetland habitat (southern willow scrub, southern cottonwood willow riparian forest, and oak riparian forest) and restoration of 3.37 acres upland habitat (Diegan coastal sage scrub & native grassland). Construction was initiated in February 2007 and the 5-year maintenance and monitoring period began in January 2008. The 5-year success criteria of 80% coverage of wetland vegetation transects has been met and 75% coverage of upland vegetation transects has been exceeded for the project. The site completed its 5-year maintenance and monitoring in the early part of 2013 and has received regulatory sign-off. A qualitative review of the site in spring of 2014 estimated vegetative cover to be approximately 95% the Diegan coastal sage scrub habitats, and 80% in the riparian areas. The site appeared dry during the annual monitoring with minimal plant mortality. Remnant signs and posts were observed and will be removed in the fall of 2014 after nesting season has concluded.

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Riparian Forest	1.19	0.98	0.21
Southern Willow Scrub	0.42	0.42	0
Diegan Coastal Sage Scrub/Native Grassland	3.37	3.35	0.02





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**Tecolote Canyon Mitigation  
Vicinity Map  
Figure 7**

## San Diego River Wetland Creation Project

The San Diego River Wetland Creation Project is located on a Public Utilities owned parcel located immediately adjacent to the San Diego River, north of Camino Del Rio North, west of I-15, and east of Mission Center Parkway in the Mission Valley Community of the City of San Diego (Figure 8).

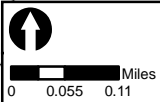
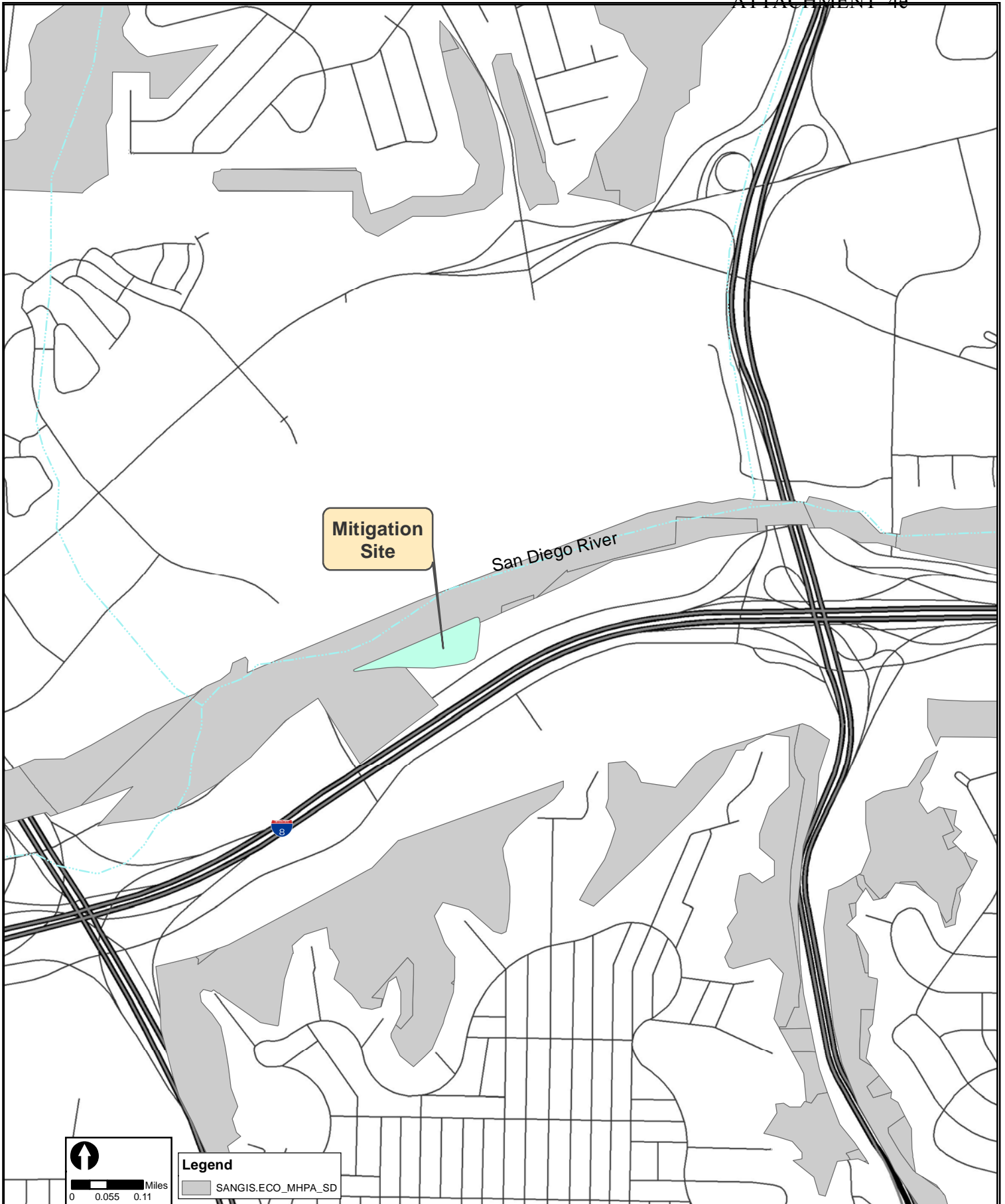
The site includes the creation of 3.43 acres of native riparian habitat and approximately 2 acres of Diegan coastal sage scrub habitat. The project site was graded in the fall of 2005 to create a basin along the southern bank of the San Diego River. The long-term maintenance, monitoring, and reporting program started June 14, 2006 and the site successfully completed 5-years of maintenance and monitoring in June of 2011. Native vegetation has established well with some wetland trees exceeding 20 feet in height. The wetland basin receives flows from the San Diego River during high water events (rainfall) which contributes nutrients and provides the necessary hydrology. Wildlife is using the site with numerous songbirds and animal tracks observed in the wetland area. Least Bell's vireo (*Vireo bellii pusillus*) were heard calling from the adjacent wetlands. A Multiple Habitat Planning Area (MHPA) boundary line adjustment was approved and finalized in 2012 which added the entire mitigation site into the MHPA.

During the most recent monitoring visit a transient trail and trash were observed along the northern edge of the site in the San Diego River. This trash will be removed following the end of the nesting season.

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Southern Cottonwood Willow Riparian Forest	3.43	2.18	1.25







**Legend**  
SANGIS.ECO\_MHPA\_SD

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**San Diego River Mitigation Project  
Vicinity Map  
Figure 8**

## Los Peñasquitos North Wetland Creation Project

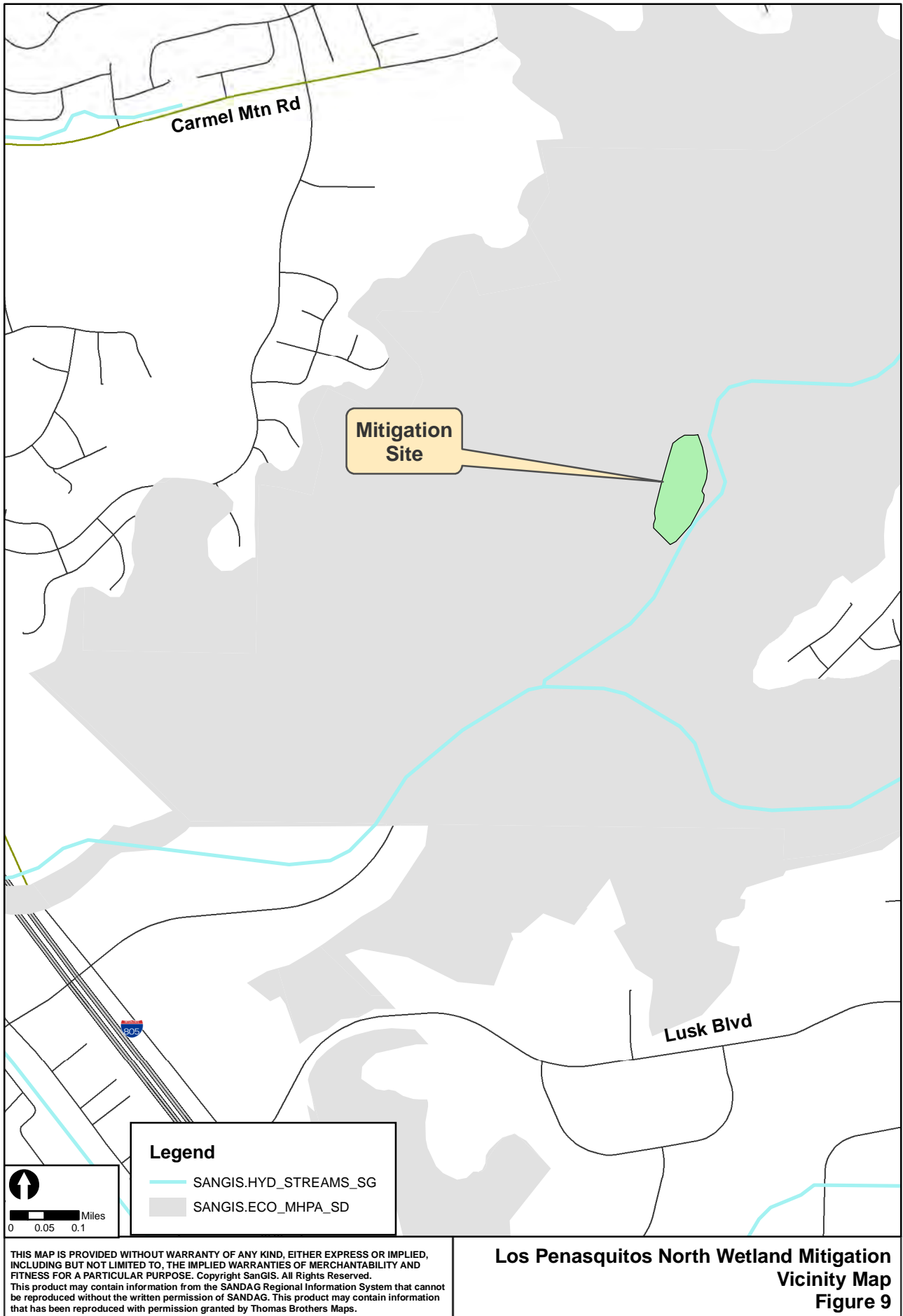
The Los Peñasquitos North Wetland Creation Project is located in the City of San Diego's Los Peñasquitos Canyon Preserve in the community of Peñasquitos, just north of the Los Peñasquitos Creek (Figure 9).

The project includes the creation of 3.8 acres of wetland habitat, including 3.15 acres of southern willow scrub, 0.43 acres of cottonwood/sycamore woodland, and 0.22 acres of freshwater marsh. The site also includes one acre of Diegan coastal sage scrub habitat to serve as a buffer on the north edge of the site. Regulatory sign-off and approval for the project was received in the spring of 2012.

The site was assessed in May 2014 and appeared in good condition. Some willow die back was observed and can be expected in drought conditions. The site has trended towards lower growing marsh with continued deer (*Odocoileus* spp.) grazing keeping willow heights low. No trash or debris or unauthorized trails were observed onsite. A few pampas grass individuals were observed but have been treated with herbicide. The site meets the 5<sup>th</sup> year success standard with over 90% target vegetative cover. Vegetation within the wetland habitat is predominately spiny rush (*Juncus acutus*), deer grass (*Muhlenbergia rigens*) and various species of willows.

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Riparian Scrub/Riparian Woodland/Freshwater Marsh	3.8	3.6	0.2
Diegan Coastal Sage Scrub	1.03	1.03	0





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**Los Penasquitos North Wetland Mitigation  
Vicinity Map  
Figure 9**

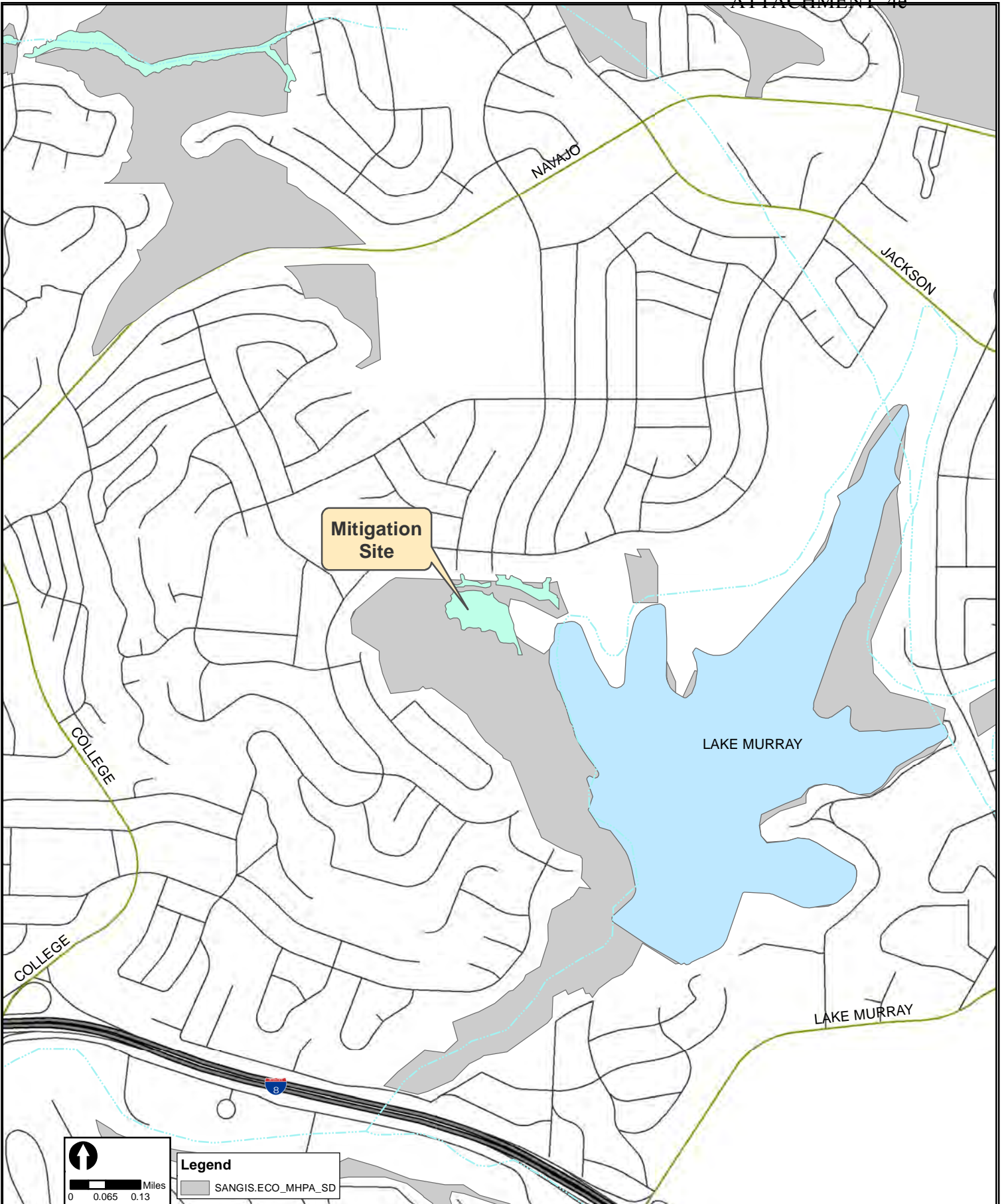
## Lake Murray Mitigation Project

The Lake Murray Mitigation Project is in the City of San Diego's Mission Trails Regional Park. It is located in the area just west of Lake Murray in the Del Cerro neighborhood of the Navajo Community (Figure 10). The mitigation site includes 2.5 acres of wetland enhancement (southern willow scrub habitat) and just over 5.2 acres of upland restoration area (Diegan coastal sage scrub). Official sign-off was received from all of the regulatory agencies by December 2011.

The annual assessment survey was conducted March 25, 2014 to assess the current condition of the mitigation site. Fifth year success criteria required an average combined cover of 90% for the upland restoration and wetland enhancement areas. The wetland enhancement area exceeds 100% native cover throughout most of the defined enhancement site. The wetland over story continues to mature, increasing in density and height with species such as Fremont cottonwood (*Populus fremontii*), Western sycamore (*Platanus racemosa*), and various types of willows reaching heights of 20 to 30 feet. The understory is diverse with species such as spiny rush, spike sedge (*Carex nardina*) evening primrose (*Oenothera elata*), San Diego marsh elder, and broad-leaved cattail (*Typha latifolia*). The upland restoration site has a mixture of Diegan coastal sage scrub and non-native grasslands. Species found within the Diegan coastal sage scrub include California sagebrush, lemonade berry (*Rhus integrifolia*), flattop buckwheat (*Erigeron fasciculatum*), laurel sumac (*Malosoma laurina*), fascicled tarweed (*Hemizonia fasciculata*), coast prickly-pear (*Opuntia littoralis*), and black sage (*Salvia mellifera*). A coyote (*Canas latrans*) and numerous California ground squirrels (*Otospermophilus beecheyi*) were observed using the upland site. A number of bird species were observed within the mitigation site, including California quail (*Callipepla californica*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculatus*), lesser goldfinch (*Spinus psaltria*), mourning dove (*Zenaida macroura*), common yellowthroat (*Geothlypis trichas*), yellow-rumped warbler (*Dendroica coronata*), and Bewick's wren (*Thryomanes bewickii*).

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Southern Willow Scrub	2.5	1.56	0.94
Diegan Coastal Sage Scrub	5.2	4.99	0.21





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**Lake Murray Mitigation Project  
Vicinity Map  
Figure10**

## El Rancho Peñasquitos Wetland Enhancement Project

The mitigation site is located along Los Peñasquitos Canyon approximately 0.5 mile west of Black Mountain Road in the vicinity of the historically designated Johnson Taylor Adobe of Rancho de los Peñasquitos (City of San Diego HRB Site #75). The site is within the MHPA on County and City of San Diego Open Space Land.

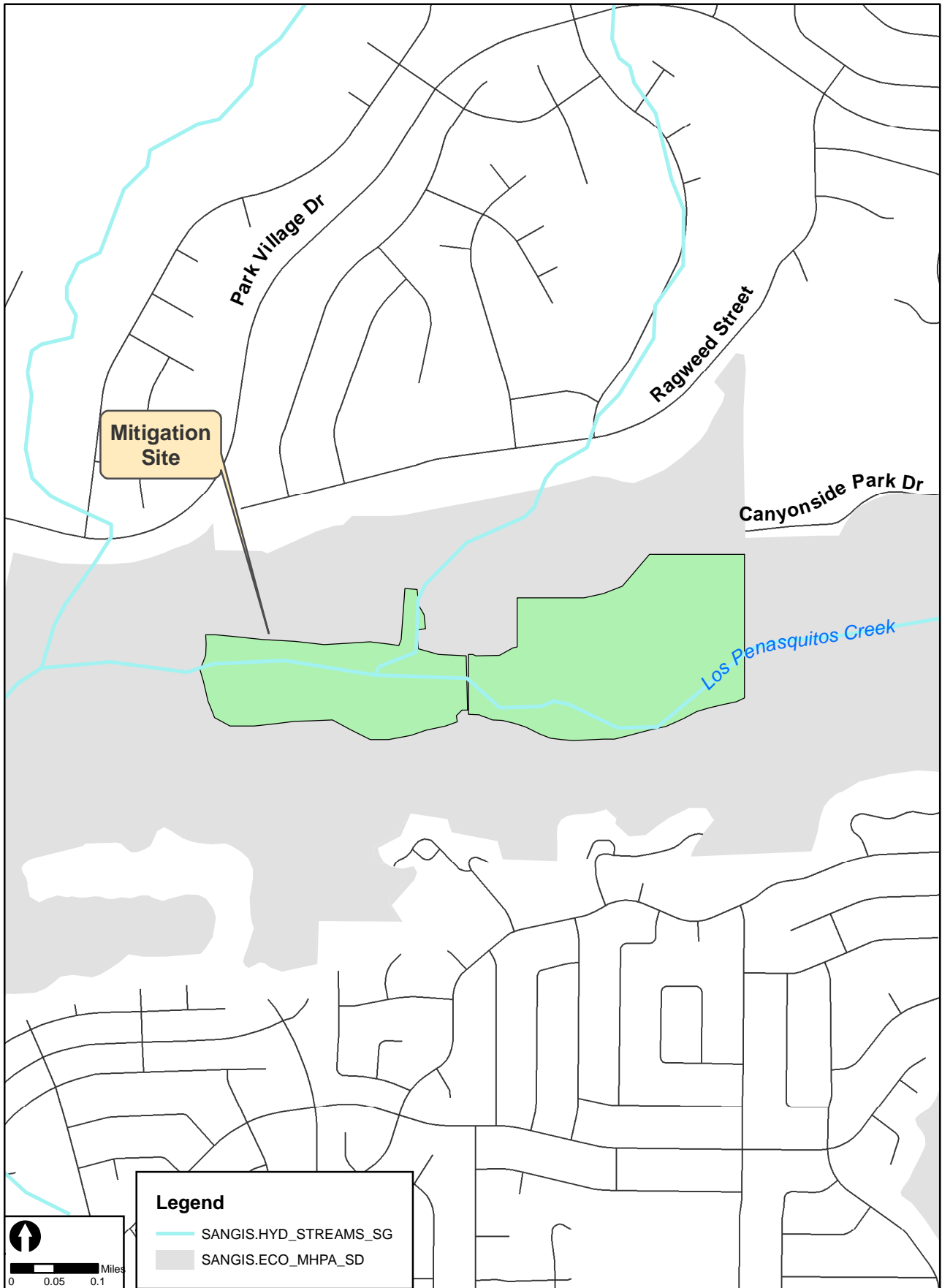
The El Rancho Project included enhancement of 5.53 acres of southern cottonwood willow riparian forest, by eradicating targeted non-native species. Project efforts began March 26, 2006 and regulatory sign-off was received in early 2010. This project treated 6,720 non-native plants, targeted species included Canary Island date palm, Mexican Fan Palm, Eucalyptus, Peruvian pepper tree (*Schinus terebinthifolius*), Brazilian pepper tree, and edible fig (*Ficus carica*).

The El Rancho Peñasquitos Wetland Enhancement Project has met the success criteria outlined in the Conceptual Mitigation Plan. During a site assessment in April 2014 a few non-native plants were observed within the project boundaries. Many of the larger treated plants have begun to deteriorate and decompose, allowing for the establishment of native species in their direct vicinity. Park and Recreation has taken over long term management of the site and manages the land consistent with the Multiple Species Conservation Plan which includes targeting the treatment or removal of invasive exotics as part of routine park management. Additional treatment of targeted species that have germinated or re-sprouted will continue.



Multiple species of birds were observed during the spring survey and included: Anna's hummingbird (*Calypte anna*), California towhee, mourning dove, bushtit (*Psaltriparus minimus*), Nuttall's woodpecker (*Picoides nuttallii*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), western scrub jay (*Aphelocoma coerulescens*), common raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), hooded oriole (*Icterus cucullatus*), northern mocking bird (*Mimus polyglottos*), tree swallow (*Tachycineta bicolor*), and European starling (*Sturnus vulgaris*).

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Riparian Forest	5.53	3.75	1.78



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**El Rancho Penasquitos Mitigation  
Vicinity Map  
Figure 11**

## Rancho Bernardo Mitigation Project

A conceptual mitigation plan has been prepared and approved by the ACOE and CDFW. The project would be located east of I-15, west of Cotorro Road and south of Escala Drive in Rancho Bernardo Canyon (Figure 12).

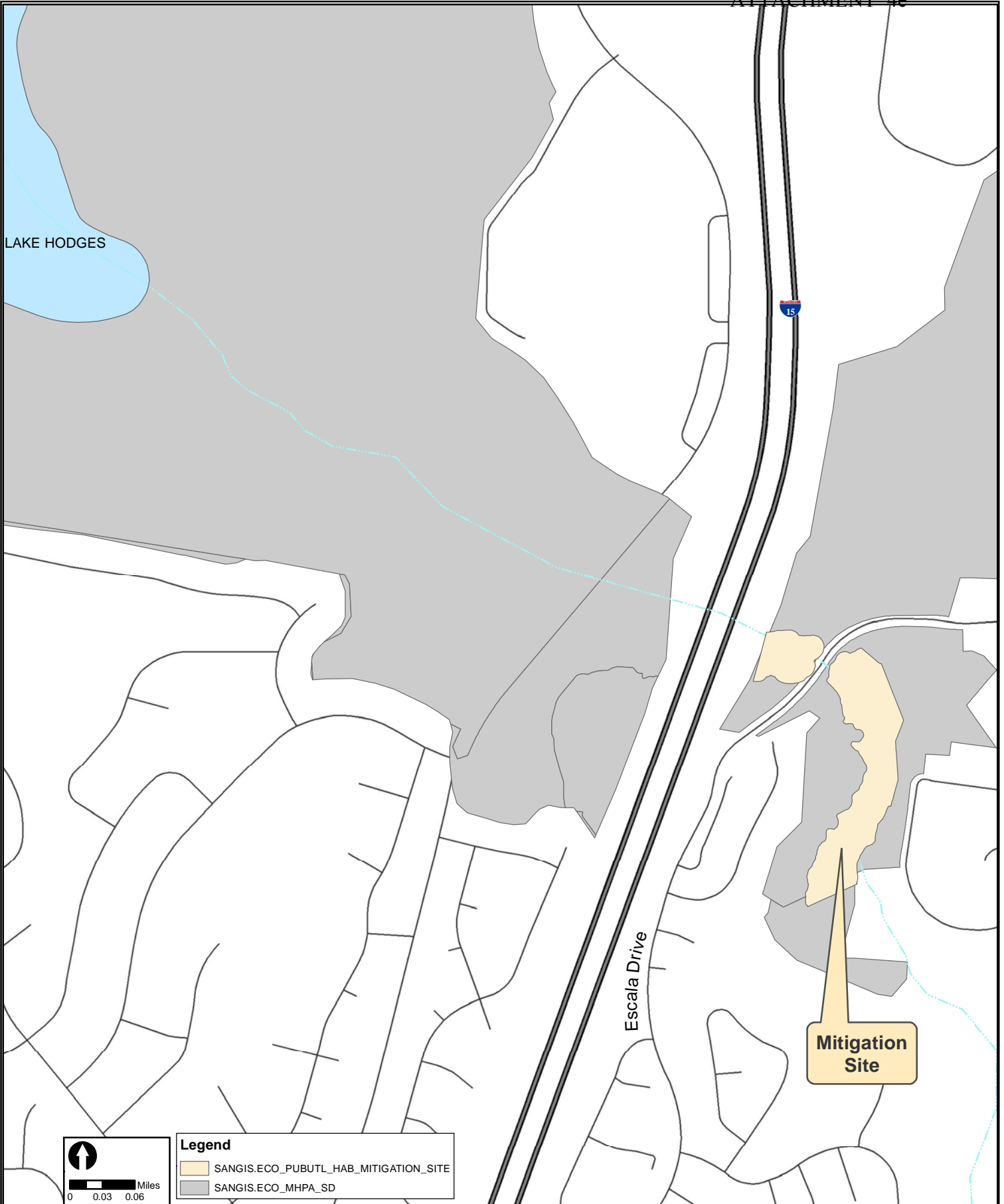
The project area currently supports a large area of non-native plant species that have little value for wildlife. The site currently supports California fan palms (*Washingtonia filifera*), pampas grass, castor bean (*Ricinus communis L.*), and tree tobacco (*Nicotiana glauca*). The goal of the mitigation project will be to eradicate all non-native plant species and establish native wetland habitat.

Public Utilities has postponed the implementation of this project and will reassess mitigation needs for this watershed on an annual basis. It is expected that the San Diego Association of Governments San Dieguito Wetland Mitigation Bank will be constructed and that credits will be purchased to satisfy wetland mitigation obligations for Public Utilities.



*Rancho Bernardo Mitigation Project Site*





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**Rancho Bernardo Mitigation Project  
Vicinity Map  
Figure 12**

## Otay Mesa Upland Mitigation Bank

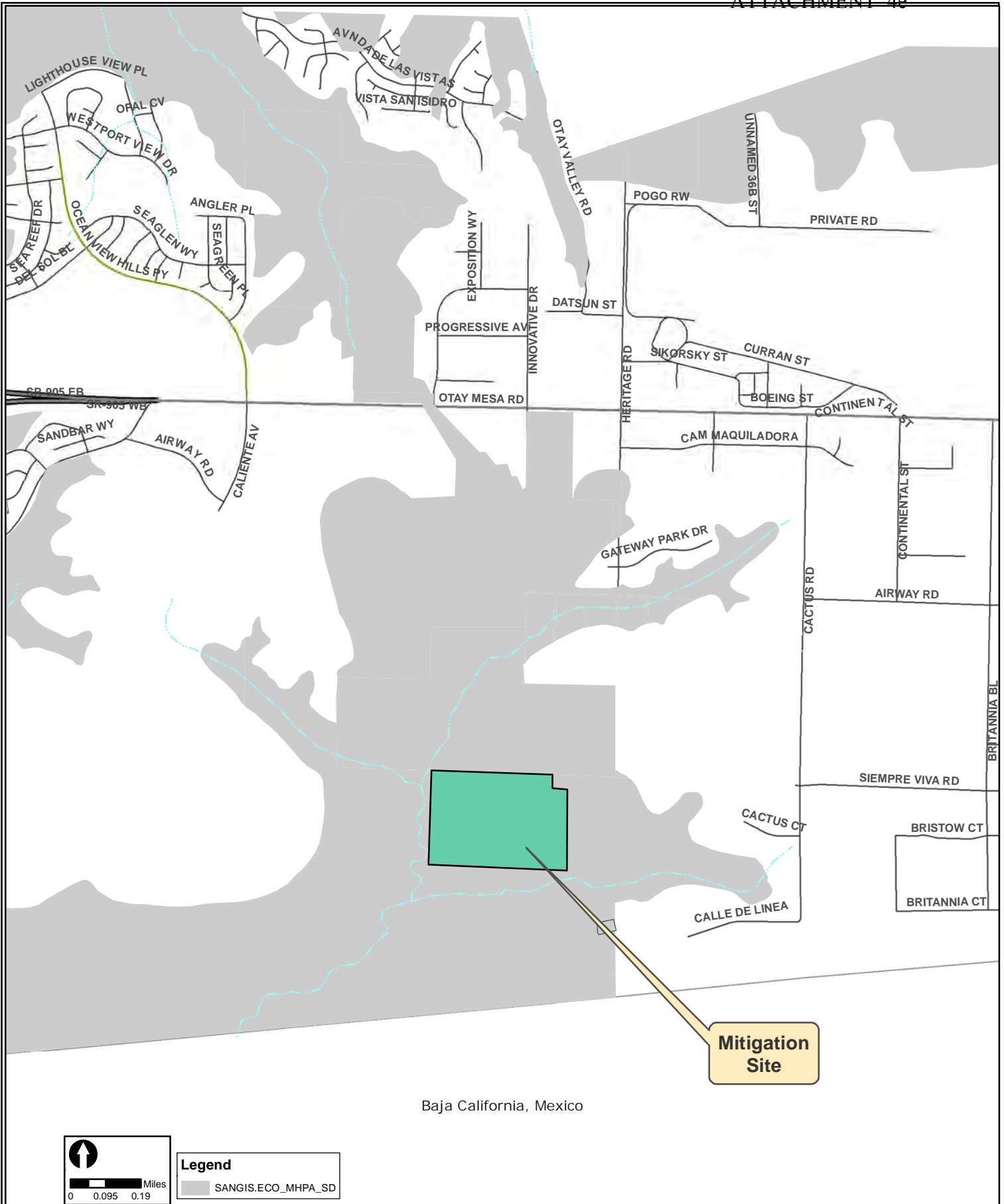
The Otay Mesa Mitigation Bank is located in the Otay Mesa community of the City of San Diego and occurs within the MHPA. The mitigation site is located on undeveloped land that is surrounded by other City of San Diego Park and Recreation Open Space lands and federal land holdings along the U.S /Mexico border. Five habitat types are found onsite and include maritime succulent scrub, non-native grasslands, ruderal, disturbed habitat, and vernal pool. Over 3,200 linear feet of fencing was installed at the site in February 2014 to reduce unauthorized off-road vehicle activity and protect sensitive habitat.

Sensitive plant species present onsite include San Diego button-celery (*Eryngium aristulatum* var. *parishii*), variegated dudleya (*Dudleya variegata*), snake cholla (*Opuntia parryi serpentina*), San Diego barrel cactus (*Ferocactus viridescens*), San Diego bur-sage (*Ambrosia chenopodiifolia*), south coast saltbush (*Atriplex pacifica*), and San Diego county viguiera (*Viguiera laciniata*). Notable animal species observed within the site include two pairs of coastal California gnatcatcher, burrowing owl (*Athene cunicularia*), northern harrier (*Circus cyaneus*), black tailed jackrabbit (*Lepus californicus*), orange-throated whiptail (*Aspidoscelis hyperythra*), coyotes, and bobcat (*Lynx rufus*).

Mitigation Credits			
Habitat Type	Acres	Assigned	Balance
Maritime Succulent Scrub (Tier I)	45.43	33.94	11.49



*San Diego Barrel Cactus*



Baja California, Mexico



**Legend**  
 SANGIS.ECO\_MHPA\_SD

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**Otay Mesa Upland Mitigation Bank  
 Vicinity Map  
 Figure 13**

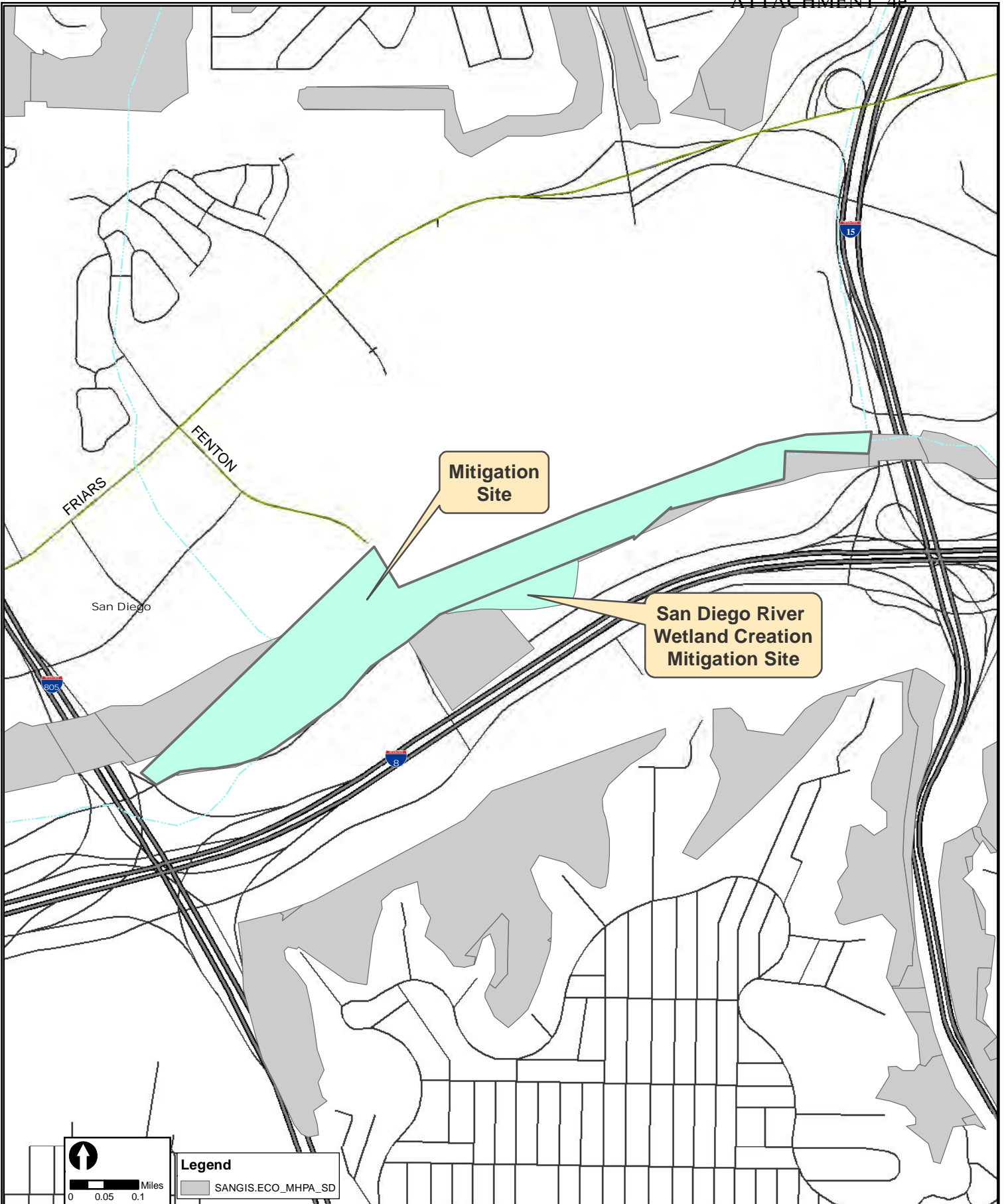
## Stadium Wetland Mitigation Project

A conceptual mitigation plan has been prepared for this project and submitted to the resource agencies for their review. Pending approval by the resource agencies, work at the site is proposed to begin in the fall of 2015.

The Stadium Wetland Mitigation Project is located within the floodplain of the San Diego River between I-15 and I-805. The site is approximately 65 acres and currently dominated by a high number of non-native species including giant reed (*Arrundo donax*), Peruvian pepper tree, Brazilian pepper tree, pampas grass, Canary Island date palm, eucalyptus. This project proposes to restore native habitat to the area by removing targeted non-native species, installing native plants, and maintaining and monitoring the site for a minimum of 5-years.

This site has the potential to provide high quality habitat for a number of regionally sensitive species including least Bell's Vireo, southwestern willow flycatcher (*Empidonax traillii extimus*), western pond turtle (*Actinemys marmorata*), yellow billed cuckoo (*Coccyzus americanus*), and two-striped garter snake (*Thamnophis hammondi*), and also improve water quality, and functionality of the San Diego River.





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**Stadium Wetland Mitigation Project  
Vicinity Map  
Figure 14**

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ATTACHMENT A –  
25 MONTH REVEGETATION AND RESTORATION PROJECTS STATUS TABLE



**Canyon Restoration/Revegetation Projects (2010-2014)  
July 2014**




<b>Active Projects</b>								
<b>Canyon/Project</b>	<b>Reveg or Restoration*</b>	<b>Size (acre)</b>	<b>Start of 25 Months</b>	<b>Seeding Date</b>	<b>Planting Date</b>	<b>End of 25 Months</b>	<b>PM</b>	<b>Status</b>
Mission Center Canyon	Restoration	0.22	4/29/2011	10/1/2011	N/A	5/29/2014	Tran	Additional maintenance being conducted – new completion date is 10/2014
Euclid and Menlo Restoration	Restoration	0.20	11/16/2011	9/10/2011	11/17/2011	12/16/2013	Smith	Additional maintenance was conducted. Site met success standards; requesting sign-off
Lakeside Ave Emergency (Water)	Revegetation	0.30	4/15/2012	4/9/2012	06/14/2012	07/14/2014	Paver	In 25 Month Maintenance
Alta View Water Emergency (Water)	Restoration	0.04	7/13/2012	7/13/2012	N/A	08/13/2014	Adleberg	25 months Monitoring
Buchanan Canyon MH 31	Revegetation	0.03	9/2012	9/7/2012	N/A	10/2014	Adleberg	25 months Monitoring
Imperial and Woodman	Revegetation	0.05	9/2012	N/A	N/A	10/2014	Adleberg	25 months Monitoring
Casita Way Sewer Repairs	Restoration	<0.01	11/4/2012	11/14/2012	N/A	12/14/2014	Smith	25 Month Monitoring
Mission Ave Spot Repair	Revegetation	0.01	11/21/2012	11/21/2012	N/A	12/21/2014	Adleberg	25 Month Monitoring
Manzanita/Lex Water Break (Water)	Restoration	0.10	11/29/2012	8/22/2012	11/29/2012	12/29/2014	Paver	25 Months Maintenance by D&D
Manzanita Sewer Emergency	Revegetation	0.02	11/29/2012	8/22/2012	N/A	12/29/2014	Paver	25 Month Monitoring
Middle Rose MH 160 and Lower MH9	Restoration	0.04	12/5/2012	11/30/2012	12/5/2012	1/5/2015	Van Every	Planted and maintained by Merkel. In 25 month maintenance period.
Stevenson MH 257 Emergency	Revegetation	0.08	12/6/2012	12/6/2012	N/A	1/6/2015	Paver	25 Month Monitoring
Fay Ave/Draper Street	Revegetation	<0.01	6/1/2013	N/A	N/A	7/1/2015	Adleberg	25 Month Monitoring
Ocean Blvd	Restoration	0.01	2/15/2013	N/A	N/A	3/15/2015	Paver	25 Month Monitoring
Wellington Spot Repairs	Revegetation	<0.01	10/14/2013	N/A	N/A	11/14/2015	Paver	25 Month Monitoring
Mission Gorge Pipe Protection	Restoration	0.07	11/1/2013	N/A	N/A	12/1/2015	Balo	25 Month Monitoring
Otay Pipe Protection	Restoration	0.29	11/2013	11/2013	N/A	11/2015	Lavan	25 month monitoring period
Famosa Slough Pipe Repair	Revegetation	<0.01	11/15/2013	N/A	N/A	12/15/2015	Paver	25 Month Monitoring
Spruce Mh 220 Emergency	Revegetation	<0.01	11/25/2013	1/11/2014	N/A	12/25/2015	Paver	25 Month Monitoring
Rancho Mission LT Streambed	Reveg/Rest	0.21	3/2014	3/19/2014	TBD	4/2016	VanEvery	Construction Complete, hydroseeding pending
Hawk Street Slope Repair (Water)	Revegetation	0.06	1/24/2014	2/20/2014	N/A	3/2016	Smith	25 Month Monitoring
Buchanan Emergency	Reveg/Rest	0.8	TBD	2/2014	TBD	TBD	Adleberg	Hydroseeding Complete. Plant in Fall 2014
PS 77 Force Main Inspection	Restoration	0.387	2/15/2014	10/23/2013	N/A	3/15/2016	Smith	25 Month Maintenance and Monitoring
36 inch Water Pipe Repair Blck Mtn (Water)	Reveg	0.14	5/13/2014	5/13/2014	N/A	6/13/2016	Paver	Construction Complete. Seeding TBD
Manzanita Water Break II (Water)	Restoration	0.05	6/19/2014	7/8/2014	6/19/2014	7/19/2016	Paver	25 Month Monitoring
Washington Creek Path Maint	Revegetation	0.037	5/27/2014	N/A	N/A	6/27/2016	Lavan	25 Month Monitoring

Canyon/Project	Revegetation or Restoration	Project Initiation	Project Completion	PM
Rose (MH 476)	Revegetation/Restoration	11/2008	6/28/2014	Paver
Rose Sinkhole	Revegetation/Restoration	5/23/2011	6/28/2014	Paver
Hotel Circle South Emergency	Restoration	11/9/2011	6/28/2014	Paver
Chollas YMCA	Revegetation	1/18/2012	6/28/2014	Paver
Keighley Street	Revegetation	12/9/2011	2/2014	Balo
Nobel Drive Sewer Repair	Restoration	2/25/2013	2/2014	Paver
Lexington Water Emer (Water)	Restoration	1/2011	1/2014	Balo
Dulzura Flume (Water)	Restoration	9/10/2013	1/2014	Balo
Upas Street	Revegetation	9/29/2011	1/2014	Smith
Dwane and Elaine	Restoration	6/29/2011	9/2013	Smith
Admiral Baker	Revegetation	7/21/2011	9/2013	Balo
East Tecolote	Restoration	11/24/2010	7/2013	White
Carmel Valley Rd (Water)	Revegetation	5/20/2011	7/2013	Balo
Central Tecolote MH 159	Revegetation	5/9/2011	7/2013	Balo
Plaza Ridge (Water)	Revegetation	1/19/2011	5/2013	Smith
33 <sup>rd</sup> and Maple	Revegetation	3/16/2011	5/2013	Smith
Lake Murray (Water)	Restoration	1/2011	3/2013	Balo
San Clemente Emergency	Revegetation	1/2011	3/2013	Balo
San Clemente MH 4 Access	Revegetation	2/2011	3/2013	Balo
Menlo and Redwood	Restoration	11/2010	3/2013	Smith
Rancho Mission Slope	Restoration	6/10/2010	10/2012	Balo
Lake Hodges	Restoration	7/1/2010	10/2012	Domasco
Oklahoma Street	Restoration	5/3/2010	8/2012	Domasco
Lopez MH 102	Restoration	5/2010	8/2012	Domasco
Valeta Street	Revegetation	5/3/2010	8/2012	Santos
PS 30	Restoration	4/20/2010	5/20/2012	Van Every
South Juniper	Reveg/Rest	11/2009	2/9/2012	Domasco
Tecolote MH 346	Restoration	9/2009	11/2011	Domasco
San Pasqual Pipe Repair	Erosion Control	4/5/2007	9/18/2011	Balo
7 <sup>th</sup> and Brookes	Reveg/Rest	11/2008	9/18/2011	Domasco
Washington Creek	Erosion Control	2/1/2008	4/30/2011	Balo
Switzer	Reveg/Rest	11/2008	4/30/2011	Domasco
Mt Ashmun	Reveg/Restoration	10/2009	4/30/2011	Domasco
Lexington (Jaimes Way)	Reveg/Restoration	1/2009	4/30/2011	Balo
Dakota	Reveg/Rest	9/2008	11/26/2010	Domasco
Miramar TS	Reveg/Rest	10/28/2007	9/26/2010	White
Buchanan/Maryland St	Restoration	1/15/2008	4/22/2010	White
Fairmount and Home	Reveg/Rest	5/31/05	4/22/2010	White
Norfolk	Reveg/Rest	10/19/07	4/22/2010	Balo
Juniper and 28 <sup>th</sup>	Reveg	2/15/2008	4/22/2010	Balo



ATTACHMENT B –  
MITIGATION SUMMARY TABLE



## Mitigation Site Usage Report

Wednesday, July 23, 2014  
2:06:39 PM

Mitigation Site Name	Mitigation Type	Site Size (Acres)	Acres Used	Balance (Acres)
Camino del Rio North - San Diego River Creation	Wetland Creation	3.43	2.1742	1.2558
Canyon View (Penasquitos Upland)	Upland Restoration	7.38	1.641	5.739
Central Tecolote Enhancement/Mitigation	Upland Restoration	3.05	0.717	2.333
Central Tecolote Enhancement/Mitigation	Wetland Enhancement	7.95	2.4286	5.5214
El Cuervo Norte	Wetland Creation	0.72	0.637	0.083
El Cuervo Norte	Wetland Enhancement	0.68	0.669	0.011
El Rancho (Penasquitos Enhancement)	Wetland Enhancement	5.53	3.7548	1.7752
Lake Murray	Wetland Enhancement	2.5	1.5624	0.9376
Lake Murray	Upland Restoration	5.2	4.9936	0.2064
Los Penasquitos North	Upland Restoration	1.03	1.03	0
Los Penasquitos North	Wetland Creation	3.8	3.5974	0.2026
Marron Valley Cornerstone Lands Conservation Ba	Upland Bank	7.545	6.883	0.662
Otay Mesa Mitigation Bank	Upland Bank	13.24	1.754	11.486
Penasquitos Eucalyptus Removal	Wetland Enhancement	0.31	0.31	0
Rancho Mission Enhancement	Wetland Enhancement	8.74	2.1326	6.6074
Rose Canyon Wetland and Upland	Wetland Enhancement	0.61	0.35	0.26
Rose Canyon Wetland and Upland	Upland Restoration	5.03	3.148	1.882
Rose Canyon Wetland and Upland	Wetland Creation	5.05	3.4398	1.6102
San Clemente Wetland and Upland	Wetland Creation	2.86	2.064	0.796
San Clemente Wetland and Upland	Upland Restoration	2.81	2.088	0.722
Tecolote - Tree of Heaven removal	Wetland Enhancement	0.25	0.25	0
Tecolote Canyon Wetland and Upland	Wetland Creation	1.61	1.396	0.214
Tecolote Canyon Wetland and Upland	Upland Restoration	3.37	3.3548	0.0152
<b>TOTALS</b>		<b>92.695</b>	<b>50.3752</b>	<b>42.3198</b>

Page 1 of 1

ATTACHMENT C –  
MITIGATION ASSIGNMENT SUMMARY TABLE



City of San Diego  
Public Utilities Department  
Mitigation Projects

ATTACHMENT 4e



## Camino del Rio North - San Diego River Creation

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>wetland</b>					
<b>15 West and Elanus</b>	Wetland Creation	SWS	0.05	Off-site in watershed	12/19/2003
<b>32nd Street - Huckleberry LT</b>	Wetland Creation	DWET	0.04	Off-site out of watershed	1/1/2010
<b>32nd Street - Huckleberry LT</b>	Wetland Creation	NVC	0.009	Off-site out of watershed	1/1/2010
<b>54th &amp; Maisel</b>	Wetland Creation	FM	0.008	Off-site in watershed	7/2/2001
<b>60th Street Pipe Relocation/Permanent Access</b>	Wetland Creation	DWET	0.005	Off-site in watershed	
<b>Alvarado Court Emergency Sewer Repair</b>	Wetland Creation	SWS	0.016	Off-site in watershed	10/5/1998
<b>Alvarado Court Emergency Sewer Repair</b>	Wetland Creation	FM	0.08	Off-site in watershed	10/5/1998
<b>Alvarado Court Sewer Crossing</b>	Wetland Creation	NVC	0.002	Off-site in watershed	
<b>Alvarado Court Sewer Crossing</b>	Wetland Creation	SWS	0.005	Off-site in watershed	
<b>Alvarado LT</b>	Wetland Creation	MFS	0.01	Off-site in watershed	
<b>Alvarado LT</b>	Wetland Creation	DWET	0.01	Off-site in watershed	
<b>Alvarado Trunk Sewer</b>	Wetland Creation	DWET	0.022	Off-site in watershed	
<b>Buchanan</b>	Wetland Creation	SWS	0.0108	Off-site in watershed	3/11/2002
<b>Buchanan</b>	Wetland Creation	DWET	0.322	Off-site in watershed	3/11/2002
<b>Buchanan Group Job 689</b>	Wetland Creation	NVC	0.009	Off-site in watershed	
<b>Buchanan LT</b>	Wetland Creation	DWET	0.06	Off-site in watershed	1/1/2004
<b>Buchanan Sewer Blockage Emergency</b>	Wetland Creation	SWS	0.011	Off-site in watershed	12/2/2013
<b>Chocolate Access MH 273 to 267</b>	Wetland Creation	EW	0.0064	Off-site out of watershed	
<b>Chollas Dam Vegetation Removal</b>	Wetland Creation	FM	0.022	Off-site out of watershed	1/22/2013
<b>Chollas Exposed Water Main Repair</b>	Wetland Creation	RS	0.014	Off-site out of watershed	8/30/2011

# Camino del Rio North - San Diego River Creation

ATTACHMENT 4e

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>Dove Canyon Emergency Repair</b>	Wetland Creation	NVC	0.001	Off-site in watershed	10/22/2010
<b>Elanus &amp; Murray Canyons (I-15 &amp; Clairemont Mesa Bl</b>	Wetland Creation	SWS	0.007	Off-site in watershed	12/11/2002
<b>Elanus (I-15 &amp; Clairemont Mesa Blvd) LT</b>	Wetland Creation	EW	0.005	Off-site in watershed	
<b>Euclid &amp; Menlo (3343 Menlo Ave Spalsh Apron</b>	Wetland Creation	NVC	0.004	Off-site out of watershed	3/8/2004
<b>Euclid &amp; Menlo (47th &amp; Thorn Sewer Maint &amp; Emerg)</b>	Wetland Creation	DWET	0.08	Off-site out of watershed	2/1/2004
<b>Federal &amp; Chollas</b>	Wetland Creation	DWET	0.0008	Off-site out of watershed	10/22/2002
<b>Fox Canyon (University &amp; 49th) Emergency Repair</b>	Wetland Creation	NVC	0.002	Off-site out of watershed	10/29/2007
<b>Hopkins</b>	Wetland Creation	DWET	0.02	Off-site out of watershed	3/17/2004
<b>Hopkins (Calle Abajo Emergency)</b>	Wetland Creation	NVC	0.002	Off-site out of watershed	4/3/2002
<b>Huckleberry (32nd St Canyon Emergency Maintenance)</b>	Wetland Creation	DWET	0.04	Off-site out of watershed	7/21/2003
<b>I-15 &amp; Adams</b>	Wetland Creation	EW	0.004	Off-site in watershed	5/6/2004
<b>Junipero Serra (Jackson/Mission Gorge Emergency)</b>	Wetland Creation	SWS	0.01	Off-site in watershed	11/13/2002
<b>Junipero Serra (Mission Gorge Emergency Repair)</b>	Wetland Creation	SWS	0.03	Off-site in watershed	12/11/2001
<b>Junipero Serra (Superior Ready Mix Emergency Repai</b>	Wetland Creation	SWS	0.3	Off-site in watershed	1/26/2002
<b>Junipero Serra (Superior Ready Mix Emergency Repai</b>	Wetland Creation	SCWRF	0.09	Off-site in watershed	1/26/2002
<b>Lake Murray Emergency Cleaning</b>	Wetland Creation	SWS	0.01	Off-site in watershed	12/1/2002
<b>Lake Murray Trunk Sewer and Permanent Access Path</b>	Wetland Creation	FM	0.07	Off-site in watershed	
<b>Lake Murray Trunk Sewer and Permanent Access Path</b>	Wetland Creation	SWS	0.2	Off-site in watershed	
<b>Lexington Long-Term Access</b>	Wetland Creation	NVC	0.08	Off-site out of watershed	
<b>Market &amp; Euclid (MH 88 Repair at Encanto Creek)</b>	Wetland Creation	SWS	0.003	Off-site out of watershed	10/22/2009
<b>Mission Center Canyon B</b>	Wetland Creation	NVC	0.035	Off-site in watershed	1/1/2011
<b>Mission Center Canyon B</b>	Wetland Creation	EW	0.02	Off-site in watershed	1/1/2011
<b>Mission Center Canyon B</b>	Wetland Creation	DWET	0.014	Off-site in watershed	1/1/2011
<b>Mission Center Canyon B</b>	Wetland Creation	RS	0.025	Off-site in watershed	1/1/2011

# Camino del Rio North - San Diego River Creation

ATTACHMENT 4e

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Mission Center Canyon Emergency Sewer Repair	Wetland Creation	FM	0.023	Off-site in watershed	3/10/2010
Mission Center Canyon Emergency Sewer Repair	Wetland Creation	SWS	0.004	Off-site in watershed	3/10/2010
Mission Center Rd. (Kearny Mesa)	Wetland Creation	SWS	0.007	Off-site in watershed	1/13/2002
Murphy Canyon TS Access and Repair	Wetland Creation	FM	0.051	Off-site in watershed	
Norfolk (Fairmont & Montezuma)	Wetland Creation	SWS	0.003	Off-site in watershed	4/22/2002
Norfolk LT	Wetland Creation	NVC	0.005	Off-site in watershed	7/1/2004
Otay Valley TS Pipe Protection	Wetland Creation	NVC	0.018	Off-site out of watershed	9/16/2013
Presidio (Palm Cyn) GJ665	Wetland Creation	NVC	0.0137	Off-site in watershed	
Presidio (Palm Cyn) GJ665	Wetland Creation	RS	0.165	Off-site in watershed	
Rancho Mission (Mission Gorge Canyon, Conestoga Co	Wetland Creation	DWET	0.005	Off-site in watershed	2/7/2002
Rancho Mission LT	Wetland Creation	SWS	0.007	Off-site in watershed	11/12/2013
Rancho Mission LT	Wetland Creation	NVC	0.007	Off-site in watershed	11/12/2013
San Diego Mission Rd Emergency	Wetland Creation	SWS	0.01	Off-site in watershed	7/9/2011
San Diego Mission Rd Emergency	Wetland Creation	FM	0.01	Off-site in watershed	7/9/2011
Shepherd	Wetland Creation	SWS	0.01	Off-site in watershed	2/1/2003
Shepherd LT	Wetland Creation	RS	0.02	Off-site in watershed	
Shepherd LT	Wetland Creation	DWET	0.015	Off-site in watershed	
Shepherd LT	Wetland Creation	RW	0.03	Off-site in watershed	
South Chollas LTA	Wetland Creation	MFS	0.0015	Off-site out of watershed	
Valencia Canyon Emergency Repair & Maintenance	Wetland Creation	MFS	0.004	Off-site out of watershed	1/25/2003

Total Mitigation Acres: 2.1742 acres

## Canyon View (Penasquitos Upland)

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
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**upland**

# Canyon View (Penasquitos Upland)

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Black Mtn Access Rd Repair	Upland Restoration	DCSS	0.19	In-canyon	
Lopez Canyon LT	Upland Restoration	NNG	0.013	In-canyon	
Lopez Canyon LT	Upland Restoration	DCSS	0.3	In-canyon	
Lopez Emergency Cleaning	Upland Restoration	NNG	0.05	In-canyon	2/13/2005
Lopez Emergency Cleaning	Upland Restoration	SOC	0.02	In-canyon	2/13/2005
Lopez Emergency Cleaning	Upland Restoration	SMC	0.01	In-canyon	2/13/2005
Lopez Emergency Cleaning	Upland Restoration	DCSS	0.51	In-canyon	2/13/2005
Lopez MH 102 Emergency	Upland Restoration	DCSS	0.022	In-canyon	12/18/2009
Penasquitos Lagoon Mh 190 Access	Upland Restoration	DCSS	0.006	Off-site in watershed	11/20/2013
Penasquitos Views Trunk Sewer	Upland Restoration	DCSS	0.52	In-canyon	
<b>Total Mitigation Acres:</b>			<b>1.641 acres</b>		

# Central Tecolote Enhancement/Mitigation

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>upland</b>					
East Tecolote Canyon Pipe Encasemt Protection Proj	Upland Restoration	NNG	0.02	In-canyon	10/4/2010
East Tecolote Canyon Pipe Encasemt Protection Proj	Upland Restoration	NG	0.002	In-canyon	10/4/2010
East Tecolote Canyon Pipe Encasemt Protection Proj	Upland Restoration	CLOW	0.022	In-canyon	10/4/2010
Tecolote LT	Upland Restoration	MSS	0.02	In-canyon	
Tecolote LT	Upland Restoration	CLOW	0.06	In-canyon	
Tecolote LT	Upland Restoration	POS	0.09	In-canyon	
Tecolote LT	Upland Restoration	DCSS	0.453	In-canyon	
Tecolote LT	Upland Restoration	SMC	0.05	In-canyon	
Tecolote LT	Upland Restoration	SOC	0	In-canyon	
<b>Total Mitigation Acres:</b>			<b>0.717 acres</b>		

# Central Tecolote Enhancement/Mitigation

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>wetland</b>					
<b>East Tecolote (East Clairemont)</b>	Wetland Enhancement	SWS	0.0001	In-canyon	1/8/2002
<b>East Tecolote (East Clairemont)</b>	Wetland Enhancement	SRF	0.008	In-canyon	1/8/2002
<b>East Tecolote (East Clairemont) LT</b>	Wetland Enhancement	FM	0.014	In-canyon	
<b>East Tecolote (East Clairemont) LT</b>	Wetland Enhancement	SRF	0.458	In-canyon	
<b>East Tecolote (East Clairemont) LT</b>	Wetland Enhancement	SWS	0.039	In-canyon	
<b>East Tecolote Canyon Pipe Encasemt Protection Proj</b>	Wetland Enhancement	SRF	0.06	In-canyon	10/4/2010
<b>East Tecolote Canyon Pipe Encasemt Protection Proj</b>	Wetland Enhancement	SWS	0.036	In-canyon	10/4/2010
<b>East Tecolote Canyon Pipe Encasemt Protection Proj</b>	Wetland Enhancement	OW	0.023	In-canyon	10/4/2010
<b>East Tecolote Emergency MH 218</b>	Wetland Enhancement	SRF	0.096	In-canyon	2/8/2010
<b>East Tecolote Manholes 223 and 224 Emergency</b>	Wetland Enhancement	OW	0.015	In-canyon	12/16/2009
<b>East Tecolote Manholes 223 and 224 Emergency</b>	Wetland Enhancement	FM	0.039	In-canyon	12/16/2009
<b>East Tecolote Manholes 223 and 224 Emergency</b>	Wetland Enhancement	SWS	0.033	In-canyon	12/16/2009
<b>East Tecolote Manholes 223 and 224 Emergency</b>	Wetland Enhancement	SRF	0.068	In-canyon	12/16/2009
<b>Park Mesa Way</b>	Wetland Enhancement	SWS	0.15	In-canyon	1/13/2000
<b>Tecolote (including Mt. Elbrus)</b>	Wetland Enhancement	SWS	0.13	In-canyon	11/18/2002
<b>Tecolote (including Mt. Elbrus)</b>	Wetland Enhancement	SCLORF	0.4	In-canyon	11/18/2002
<b>Tecolote Emergency Pipe Repair (Crossing)</b>	Wetland Enhancement	EW	0.002	In-canyon	12/13/2004
<b>Tecolote Emergency Pipe Repair (Crossing)</b>	Wetland Enhancement	SWS	0.008	In-canyon	12/13/2004
<b>Tecolote Emergency Pipe Repair (Crossing)</b>	Wetland Enhancement	SCLORF	0.004	In-canyon	12/13/2004
<b>Tecolote LT</b>	Wetland Enhancement	SWS	0.03	In-canyon	
<b>Tecolote LT</b>	Wetland Enhancement	MFS	0.01	In-canyon	
<b>Tecolote LT</b>	Wetland Enhancement	NVC	0.02	In-canyon	
<b>Tecolote LT</b>	Wetland Enhancement	SRF	0.682	In-canyon	

# Central Tecolote Enhancement/Mitigation

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>Tecolote MH 101 Emergency</b>	Wetland Enhancement	MFS	0.0005	In-canyon	4/5/2010
<b>Tecolote Mt. Ashmun Pipe Protection Emergency</b>	Wetland Enhancement	NVC	0.001	In-canyon	1/17/2008
<b>Tecolote Mt. Ashmun Pipe Protection Emergency</b>	Wetland Enhancement	NVC	0.007	In-canyon	1/17/2008
<b>Tecolote Mt. Ashmun Pipe Protection Emergency</b>	Wetland Enhancement	RF	0.02	In-canyon	1/17/2008
<b>Tecolote Mt. Ashmun Pipe Protection Erosion Contro</b>	Wetland Enhancement	SWS	0.001	In-canyon	9/9/2009
<b>Tecolote Mt. Ashmun Pipe Protection Erosion Contro</b>	Wetland Enhancement	RF	0.004	In-canyon	9/9/2009
<b>Tecolote Pipe Repair Near Manhole 346</b>	Wetland Enhancement	SRF	0.07	In-canyon	8/17/2009
<b>Total Mitigation Acres:</b>			<b>2.4286 acres</b>		

## El Cuervo Norte

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>wetland</b>					
<b>Acuna</b>	Wetland Creation	SWS	0.08	Off-site in watershed	3/11/2002
<b>Acuna</b>	Wetland Creation	MFS	0.002	Off-site in watershed	3/11/2002
<b>Acuna</b>	Wetland Enhancement	SWS	0.08	Off-site in watershed	3/11/2002
<b>Acuna</b>	Wetland Enhancement	MFS	0.002	Off-site in watershed	3/11/2002
<b>Acuna</b>	Wetland Creation	DWET	0.04	Off-site in watershed	3/11/2002
<b>Acuna</b>	Wetland Enhancement	DWET	0.04	Off-site in watershed	3/11/2002
<b>Acuna Street Emergency</b>	Wetland Enhancement	SWS	0.04	Off-site in watershed	7/6/1998
<b>Acuna Street Emergency</b>	Wetland Creation	SWS	0.04	Off-site in watershed	7/6/1998
<b>Penasquitos Bluffs (Finger Canyon Emergency)</b>	Wetland Enhancement	CVFM	0.06	In-canyon	11/1/2000
<b>Penasquitos Bluffs (Finger Canyon Emergency)</b>	Wetland Creation	CVFM	0.06	Off-site in watershed	11/1/2000
<b>Penasquitos Bluffs (Finger Canyon Emergency)</b>	Wetland Enhancement	SWS	0.02	In-canyon	11/1/2000
<b>Penasquitos Bluffs (Finger Canyon Emergency)</b>	Wetland Creation	SWS	0.02	Off-site in watershed	11/1/2000
<b>San Clemente (Emergency Repairs Combined)</b>	Wetland Enhancement	RW	0.104	Off-site in watershed	9/1/2001



Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
San Clemente (Emergency Repairs Combined)	Wetland Creation	MFS	0.02	Off-site in watershed	9/1/2001
San Clemente (Emergency Repairs Combined)	Wetland Enhancement	SWS	0.003	Off-site in watershed	9/1/2001
San Clemente (Emergency Repairs Combined)	Wetland Enhancement	MFS	0.02	Off-site in watershed	9/1/2001
San Clemente (Emergency Repairs Combined)	Wetland Creation	RW	0.052	Off-site in watershed	9/1/2001
San Clemente (Emergency Repairs Combined)	Wetland Creation	SWS	0.003	Off-site in watershed	9/1/2001
Stevenson	Wetland Creation	MFS	0.02	Off-site in watershed	8/8/2001
Stevenson	Wetland Enhancement	MFS	0.02	Off-site in watershed	8/8/2001
Stevenson	Wetland Enhancement	SWS	0.28	Off-site in watershed	8/8/2001
Stevenson	Wetland Creation	SWS	0.28	Off-site in watershed	8/8/2001
Torreyana Sewer Repair	Wetland Creation	NVC	0.02	Off-site in watershed	10/1/2001

Total Mitigation Acres: 1.306 acres

## El Rancho (Penasquitos Enhancement)

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>wetland</b>					
Acuna LT	Wetland Enhancement	DWET	0.01	Off-site in watershed	2/1/2005
Balboa Terrace Trunk Sewer Replacement	Wetland Enhancement	MFS	0.022	Off-site in watershed	9/16/2012
Balboa Terrace Trunk Sewer Replacement	Wetland Enhancement	SWS	0.064	Off-site in watershed	9/16/2012
Balboa Terrace Trunk Sewer Replacement	Wetland Enhancement	SCLORF	0.006	Off-site in watershed	9/16/2012
Balboa Terrace Trunk Sewer Replacement	Wetland Enhancement	FM	0.04	Off-site in watershed	9/16/2012
Balboa Terrace Trunk Sewer Replacement	Wetland Enhancement	DWET	0.107	Off-site in watershed	9/16/2012
Balboa Terrace Trunk Sewer Replacement	Wetland Enhancement	NVC	0.014	Off-site in watershed	9/16/2012
Black Mountain Road Finger Canyon	Wetland Enhancement	FM	0.006	In-canyon	4/4/2003
Carmel Valley Rd Emergency Water Break	Wetland Enhancement	RS	0.052	Off-site in watershed	10/22/2010
Carmel Valley Rd Emergency Water Break	Wetland Enhancement	SWS	0.016	Off-site in watershed	10/22/2010

# El Rancho (Penasquitos Enhancement)

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>Carroll and Mesa Rim</b>	Wetland Enhancement	SCLORF	0.2	Off-site in watershed	6/2/2003
<b>Carroll and Mesa Rim</b>	Wetland Enhancement	SWS	0.15	Off-site in watershed	6/2/2003
<b>Carroll Canyon Emergency Sewer Repair</b>	Wetland Enhancement	SAWRF	0.06	Off-site in watershed	2/26/2010
<b>Carroll Canyon Emergency Sewer Repair</b>	Wetland Enhancement	NVC	0.04	Off-site in watershed	2/26/2010
<b>Gesner/Huron</b>	Wetland Enhancement	RW	0.11	Off-site in watershed	8/1/1998
<b>I-5/SR-52 Maintenance Project</b>	Wetland Enhancement	SWS	0.03	Off-site in watershed	
<b>Lopez Canyon LT</b>	Wetland Enhancement	RW	0.01	In-canyon	
<b>Lopez Canyon LT</b>	Wetland Enhancement	SWS	0.03	In-canyon	
<b>Lopez Canyon LT</b>	Wetland Enhancement	NVC	0.01	In-canyon	
<b>Lopez Canyon LT MH 13 Access</b>	Wetland Enhancement	AM	0.3	In-canyon	9/26/2013
<b>Lopez Emergency Cleaning</b>	Wetland Enhancement	MFS	0.04	In-canyon	2/13/2005
<b>Lopez Emergency Cleaning</b>	Wetland Enhancement	SWS	0.08	In-canyon	2/13/2005
<b>Lopez Emergency Cleaning</b>	Wetland Enhancement	RF	0.008	In-canyon	2/13/2005
<b>Lopez Emergency Cleaning</b>	Wetland Enhancement	EW	0.001	In-canyon	2/13/2005
<b>Lower Rose Canyon Emergency Repairs (MH 15)</b>	Wetland Enhancement	SWS	0.32	Off-site in watershed	2/8/2005
<b>Middle Rose Cyn MH 160 Emergency</b>	Wetland Enhancement	SWS	0.02	Off-site in watershed	11/17/2011
<b>Monte Verde Sewer Improvements</b>	Wetland Enhancement	SRF	0.08	Off-site in watershed	1/1/2010
<b>Old Rose Canyon Sewer Relocation Project</b>	Wetland Enhancement	SWS	0.04	Off-site in watershed	2/8/2011
<b>Old Rose Canyon Sewer Relocation Project</b>	Wetland Enhancement	MFS	0.007	Off-site in watershed	2/8/2011
<b>Old Rose Canyon Sewer Relocation Project</b>	Wetland Enhancement	FM	0.002	Off-site in watershed	2/8/2011
<b>Park Mesa LT</b>	Wetland Enhancement	SWS	0.035	Off-site in watershed	1/11/2011
<b>Penasquitos Bluffs LT</b>	Wetland Enhancement	FM	0.014	Off-site in watershed	
<b>Penasquitos Bluffs LT</b>	Wetland Enhancement	AM	0.014	Off-site in watershed	
<b>Penasquitos Bluffs LT</b>	Wetland Enhancement	SWS	0.01	Off-site in watershed	

# El Rancho (Penasquitos Enhancement)

<b>Impact Project</b>	<b>Mitigation Type</b>	<b>Habitat Type</b>	<b>Acreage</b>	<b>Location</b>	<b>Impact Date</b>
<b>Penasquitos Preserve (East of Black Mountain Road)</b>	Wetland Enhancement	SCWRF	0.18	In-canyon	10/16/2003
<b>Penasquitos Preserve LT</b>	Wetland Enhancement	RW	0.012	In-canyon	
<b>Penasquitos Preserve LT</b>	Wetland Enhancement	SCLORF	0.106	In-canyon	
<b>Penasquitos Preserve LT</b>	Wetland Enhancement	SCWRF	0.24	In-canyon	
<b>Penasquitos Preserve LT</b>	Wetland Enhancement	MFS	0.032	In-canyon	
<b>Penasquitos Preserve LT</b>	Wetland Enhancement	FM	0.045	In-canyon	
<b>Penasquitos Preserve LT</b>	Wetland Enhancement	NVC	0.005	In-canyon	
<b>Penasquitos View Emergency</b>	Wetland Enhancement	CAM	0.002	In-canyon	8/18/2004
<b>Rose Canyon ER Repairs between 9/01 and 5/03</b>	Wetland Enhancement	SWS	0.03	Off-site in watershed	9/1/2001
<b>Rose Canyon ER Repairs between 9/01 and 5/03</b>	Wetland Enhancement	RW	0.04	Off-site in watershed	9/1/2001
<b>Rose Canyon ER Repairs between 9/01 and 5/03</b>	Wetland Enhancement	NVC	0.0018	Off-site in watershed	9/1/2001
<b>Rose Canyon ER Repairs between 9/01 and 5/03</b>	Wetland Enhancement	MFS	0.03	Off-site in watershed	9/1/2001
<b>San Clemente Emergency Sewer Encasement Repair</b>	Wetland Enhancement	SCLORF	0.04	Off-site in watershed	12/13/2010
<b>Stevenson Long Term Access Project</b>	Wetland Enhancement	MFS	0.085	Off-site in watershed	
<b>Stevenson Long Term Access Project</b>	Wetland Enhancement	SWS	0.028	Off-site in watershed	
<b>Stevenson Long Term Access Project</b>	Wetland Enhancement	NVC	0.028	Off-site in watershed	
<b>Van Nuys Canyon Emergency Sewer Repair Project</b>	Wetland Enhancement	NVC	0.02	Off-site in watershed	12/31/2004
<b>Van Nuys Canyon MH # 91 Sewer Blockage</b>	Wetland Enhancement	MFS	0.29	Off-site in watershed	12/4/1996
<b>Van Nuys Canyon MH # 91 Sewer Blockage</b>	Wetland Enhancement	NVC	0.13	Off-site in watershed	12/4/1996
<b>Van Nuys Canyon MHs 113, 114 and 93</b>	Wetland Enhancement	NVC	0.003	Off-site in watershed	12/15/2003
<b>Van Nuys Installation of 2 36-inch Pipe Culverts</b>	Wetland Enhancement	SWS	0.03	Off-site in watershed	2/7/2001
<b>Van Nuys MH #114 Sewage Leak Investigation</b>	Wetland Enhancement	NVC	0.003	Off-site in watershed	4/4/2002
<b>Van Nuys MH #124 Sewer Leak</b>	Wetland Enhancement	NVC	0.03	Off-site in watershed	2/10/1998
<b>Van Nuys MH #92-76 Four Sewer Breaks (Upper Canyon</b>	Wetland Enhancement	MFS	0.146	Off-site in watershed	8/4/2000

# El Rancho (Penasquitos Enhancement)

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Van Nuys MH #92-76 Four Sewer Breaks (Upper Canyon	Wetland Enhancement	DWET	0.25	Off-site in watershed	8/4/2000
<b>Total Mitigation Acres:</b>		<b>3.7548 acres</b>			

## Lake Murray

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>upland</b>					
32nd Street - Huckleberry LT	Upland Restoration	NNG	0.009	Off-site out of watershed	1/1/2010
Alvarado Court Emergency Sewer Repair	Upland Restoration	DCSS	0.29	Off-site in watershed	10/5/1998
Alvarado TS MH 459 and 458 Maintenance	Upland Restoration	DCSS	0.005	Off-site in watershed	5/1/2013
Buchanan Sewer Blockage Emergency	Upland Restoration	SMC	0.023	Off-site in watershed	12/2/2013
Buchanan Sewer Blockage Emergency	Upland Restoration	DCSS	0.032	Off-site in watershed	12/2/2013
Cardinal Drive Sewer Emergency	Upland Restoration	DCSS	0.0016	Off-site in watershed	12/14/2012
Chocolate Access MH 273 to 267	Upland Restoration	CC	0.002	Off-site out of watershed	
Florida Canyon	Upland Restoration	DCSS	0.01	Off-site out of watershed	2/28/2004
Huckleberry (32nd & Beech)	Upland Restoration	DCSS	0.009	Off-site out of watershed	7/17/2001
Huckleberry (32nd & Beech)	Upland Restoration	NNG	0.023	Off-site out of watershed	7/17/2001
Huckleberry (32nd St Canyon Emergency Maintenance)	Upland Restoration	NNG	0.03	Combination	7/21/2003
Hwy 163 (7th and Brookes 2004 Emergency Maint)	Upland Restoration	NNG	0.035	Off-site in watershed	5/28/2004
Hwy 163 Corridor (7th & Brookes 2002 Emergency Repa	Upland Restoration	NNG	0.015	Off-site in watershed	11/30/2002
Junipero Serra (Jackson/Mission Gorge Emergency)	Upland Restoration	DCSS	0.06	Off-site in watershed	11/13/2002
Lake Murray Emergency Cleaning	Upland Restoration	DCSS	0.64	In-canyon	12/1/2002
Lake Murray Emergency Cleaning	Upland Restoration	NNG	0.1	In-canyon	12/1/2002
Lake Murray Trunk Sewer and Permanent Access Path	Upland Restoration	NNG	0.05	In-canyon	
Lake Murray Trunk Sewer and Permanent Access Path	Upland Restoration	DCSS	3.32	In-canyon	
Lake Murray Trunk Sewer and Permanent Access Path	Upland Restoration	BBS	0.33	In-canyon	

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Switzer MH 152 Access	Upland Restoration	DCSS	0.009	Off-site out of watershed	1/27/2014
<b>Total Mitigation Acres:</b>		<b>4.9936 acres</b>			
<b>wetland</b>					
32nd Street - Huckleberry LT	Wetland Enhancement	DWET	0.04	Off-site in watershed	1/1/2010
54th & Maisel	Wetland Enhancement	FM	0.008	Off-site in watershed	7/2/2001
60th Street Pipe Relocation/Permanent Access	Wetland Enhancement	DWET	0.005	Off-site in watershed	
Alvarado Court Emergency Sewer Repair	Wetland Enhancement	SWS	0.016	Off-site in watershed	10/5/1998
Alvarado Court Emergency Sewer Repair	Wetland Enhancement	FM	0.08	Off-site in watershed	10/5/1998
Alvarado Court Emergency Sewer Repair	Wetland Enhancement	NVC	0.03	Off-site in watershed	10/5/1998
Chocolate Access MH 273 to 267	Wetland Enhancement	EW	0.0064	Off-site out of watershed	
Chocolate Combined	Wetland Enhancement	NVC	0.008	Off-site out of watershed	8/1/2000
Huckleberry (32nd & Beech)	Wetland Enhancement	DWET	0.007	Off-site out of watershed	7/17/2001
Huckleberry (32nd & Beech)	Wetland Enhancement	NVC	0.005	Off-site out of watershed	7/17/2001
Hwy 163 Corridor (7th & Brookes 2002Emergency Repa	Wetland Enhancement	NVC	0.02	Off-site in watershed	11/30/2002
Junipero Serra (Jackson/Mission Gorge Emergency)	Wetland Enhancement	SWS	0.01	Off-site in watershed	11/13/2002
Junipero Serra (Mission Gorge Emergency Repair)	Wetland Enhancement	SWS	0.03	Off-site in watershed	12/11/2001
Junipero Serra (Superior Ready Mix Emergency Repai	Wetland Enhancement	SWS	0.6	Off-site in watershed	1/26/2002
Junipero Serra (Superior Ready Mix Emergency Repai	Wetland Enhancement	NVC	0.04	Off-site in watershed	1/26/2002
Junipero Serra (Superior Ready Mix Emergency Repai	Wetland Enhancement	SCWRF	0.18	Off-site in watershed	1/26/2002
Lake Murray Emergency Cleaning	Wetland Enhancement	NVC	0.01	In-canyon	12/1/2002
Lake Murray Emergency Cleaning	Wetland Enhancement	SWS	0.01	In-canyon	12/1/2002
Lake Murray Trunk Sewer and Permanent Access Path	Wetland Enhancement	SWS	0.32	In-canyon	
Lake Murray Trunk Sewer and Permanent Access Path	Wetland Enhancement	NVC	0.01	In-canyon	
Lake Murray Trunk Sewer and Permanent Access Path	Wetland Enhancement	FM	0.07	In-canyon	

# Lake Murray

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Mission Center Rd. (Kearny Mesa)	Wetland Enhancement	SWS	0.007	Off-site in watershed	1/13/2002
Switzer Canyon Emergency Sewer Repair Project	Wetland Enhancement	NVC	0.05	Off-site out of watershed	2/27/2002
<b>Total Mitigation Acres:</b>			<b>1.5624 acres</b>		

## Los Penasquitos North

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>upland</b>					
Los Penasquitos North Wetland Creation Project	Upland Restoration	DCSS	0.82	On-impact	
Torreyana Sewer Repair	Upland Restoration	DCSS	0.21	Off-site in watershed	10/1/2001
<b>Total Mitigation Acres:</b>			<b>1.03 acres</b>		

### wetland

Acuna LT	Wetland Creation	DWET	0.01	Off-site in watershed	2/1/2005
Black Mountain Road Finger Canyon	Wetland Creation	FM	0.006	In-canyon	4/4/2003
Carmel Valley Rd Emergency Water Break	Wetland Creation	RS	0.026	Off-site in watershed	10/22/2010
Carmel Valley Rd Emergency Water Break	Wetland Creation	SWS	0.008	Off-site in watershed	10/22/2010
Carroll and Mesa Rim	Wetland Creation	RW	0.72	Off-site in watershed	6/2/2003
Carroll and Mesa Rim	Wetland Creation	SWS	0.15	Off-site in watershed	6/2/2003
Carroll and Mesa Rim	Wetland Creation	MFS	0.44	Off-site in watershed	6/2/2003
Carroll and Mesa Rim	Wetland Creation	SCLORF	0.1	Off-site in watershed	6/2/2003
Lopez Canyon LT	Wetland Creation	SWS	0.03	In-canyon	
Lopez Canyon LT	Wetland Creation	NVC	0.01	In-canyon	
Lopez Canyon LT	Wetland Creation	RW	0.005	In-canyon	
Lopez Canyon LT MH 13 Access	Wetland Creation	AM	0.1	In-canyon	9/26/2013
Lopez Canyon Manhole 102 Maintenance	Wetland Creation	NVC	0.001	In-canyon	8/18/2005
Lopez Canyon MH 45 Protection	Wetland Creation	NVC	0.0004	In-canyon	

# Los Penasquitos North

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Lopez Emergency Cleaning	Wetland Creation	EW	0.001	In-canyon	2/13/2005
Lopez Emergency Cleaning	Wetland Creation	SWS	0.08	In-canyon	2/13/2005
Lopez Emergency Cleaning	Wetland Creation	RF	0.004	In-canyon	2/13/2005
Lopez Emergency Cleaning	Wetland Creation	MFS	0.04	In-canyon	2/13/2005
Lopez MH 102 Emergency	Wetland Creation	NVC	0.003	In-canyon	12/18/2009
Lower Rose Creek Emergency Maintenance	Wetland Creation	FM	0.03	Off-site in watershed	2/20/2004
Lower Rose Creek Emergency Maintenance	Wetland Creation	MFS	0.05	Off-site in watershed	2/20/2004
Lower Rose Creek Emergency Maintenance	Wetland Creation	SWS	0.21	Off-site in watershed	2/20/2004
Lower Rose Creek Emergency Maintenance	Wetland Creation	RW	0.52	Off-site in watershed	2/20/2004
Park Mesa LT	Wetland Creation	NVC	0.006	Off-site in watershed	1/11/2011
Park Mesa LT	Wetland Creation	SWS	0.035	Off-site in watershed	1/11/2011
Penasquitos Preserve (East of Black Mountain Road)	Wetland Creation	SCWRF	0.09	In-canyon	10/16/2003
Penasquitos Preserve LT	Wetland Creation	SCWRF	0.12	In-canyon	
Penasquitos Preserve LT	Wetland Creation	SCLORF	0.053	In-canyon	
Penasquitos Preserve LT	Wetland Creation	RW	0.006	In-canyon	
Penasquitos Preserve LT	Wetland Creation	MFS	0.008	In-canyon	
Penasquitos Preserve LT	Wetland Creation	FM	0.045	In-canyon	
Penasquitos View Emergency	Wetland Creation	CAM	0.002	In-canyon	8/18/2004
Penasquitos Views Trunk Sewer	Wetland Creation	SWS	0.192	In-canyon	
Van Nuys Canyon MH # 91 Sewer Blockage	Wetland Creation	MFS	0.07	Off-site in watershed	12/4/1996
Van Nuys Installation of 2 36-inch Pipe Culverts	Wetland Creation	SWS	0.03	Off-site in watershed	2/7/2001
Van Nuys MH #92-76 Four Sewer Breaks (Upper Canyon	Wetland Creation	MFS	0.146	Off-site in watershed	8/4/2000
Van Nuys MH #92-76 Four Sewer Breaks (Upper Canyon	Wetland Creation	DWET	0.25	Off-site in watershed	8/4/2000

**Total Mitigation Acres:** 3.5974 acres

# Marron Valley Cornerstone Lands Conservation Bank

ATTACHMENT 4e

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>upland</b>					
<b>45th &amp; Boston</b>	Upland Bank	NNG	0.07	Off-site out of watershed	12/13/2002
<b>54th &amp; Maisel</b>	Upland Bank	DCSS	0.04	Off-site out of watershed	7/2/2001
<b>60th Street Pipe Relocation/Permanent Access</b>	Upland Bank	NNG	0.024	Off-site out of watershed	
<b>60th Street Pipe Relocation/Permanent Access</b>	Upland Bank	DCSS	0.095	Off-site out of watershed	
<b>Alvarado LT</b>	Upland Bank	DCSS	0.07	Off-site out of watershed	
<b>Alvarado LT</b>	Upland Bank	CC	0.04	Off-site out of watershed	
<b>Alvarado LT</b>	Upland Bank	SMC	0.01	Off-site out of watershed	
<b>Balboa Terrace Trunk Sewer Replacement</b>	Upland Bank	DCSS	0.354	Off-site out of watershed	9/16/2012
<b>Buchanan</b>	Upland Bank	DCSS	0.04	Off-site out of watershed	3/11/2002
<b>Buchanan</b>	Upland Bank	SMC	0.12	Off-site out of watershed	3/11/2002
<b>Buchanan</b>	Upland Bank	POS	0.13	Off-site out of watershed	3/11/2002
<b>Buchanan (10th &amp; Johnson Ave. Emergency Repair)</b>	Upland Bank	DCSS	0.13	Off-site out of watershed	9/6/2002
<b>Buchanan (Highway 163 &amp; Lincoln Street Emergency)</b>	Upland Bank	DCSS	0.018	Off-site out of watershed	4/11/2003
<b>Buchanan (Highway 163 &amp; Lincoln Street Emergency)</b>	Upland Bank	SMC	0.054	Off-site out of watershed	4/11/2003
<b>Buchanan LT</b>	Upland Bank	SMC	0.043	Off-site out of watershed	1/1/2004
<b>Buchanan LT</b>	Upland Bank	POS	0.026	Off-site out of watershed	1/1/2004
<b>Buchanan/Caminito Fuente</b>	Upland Bank	DCSS	0.02	Off-site out of watershed	9/15/2004
<b>Dakota Canyon Replacement/Relocation/Access</b>	Upland Bank	DCSS	0.57	Off-site out of watershed	1/22/2008
<b>Euclid &amp; Menlo (47th &amp; Thorn Sewer Maint &amp; Emerg)</b>	Upland Bank	NNG	0.05	Off-site out of watershed	2/1/2004
<b>Euclid &amp; Menlo (47th &amp; Thorn Sewer Maint &amp; Emerg)</b>	Upland Bank	DCSS	0.01	Off-site out of watershed	2/1/2004
<b>Hwy 163 North LT</b>	Upland Bank	NNG	0.19	Off-site out of watershed	
<b>I-805 &amp; 94 Canyon (40th &amp; C Emergency Repair)</b>	Upland Bank	NNG	0.011	Off-site out of watershed	2/6/2003
<b>I-805 &amp; 94 Canyon (40th &amp; C Emergency Repair)</b>	Upland Bank	SMC	0.016	Off-site out of watershed	2/6/2003



# Marron Valley Cornerstone Lands Conservation Bank

ATTACHMENT 4e

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>Lexington (Central &amp; Redwood Emergency)</b>	Upland Bank	NNG	0.14	Off-site out of watershed	1/1/1999
<b>Lexington (Central &amp; Redwood Emergency)</b>	Upland Bank	SMC	0.002	Off-site out of watershed	1/1/1999
<b>Lexington/Manzanita Pipe and MH Replacement Emer</b>	Upland Bank	SMC	0.059	Off-site out of watershed	11/4/2008
<b>Mission Center LT</b>	Upland Bank	DCSS	0.14	Off-site out of watershed	7/1/2004
<b>Mission Center LT</b>	Upland Bank	SMC	0.04	Off-site in watershed	7/1/2004
<b>Norfolk (Fairmont &amp; Montezuma)</b>	Upland Bank	SMC	0.106	Off-site out of watershed	4/22/2002
<b>Norfolk (Fairmont &amp; Montezuma)</b>	Upland Bank	BBS	0.06	Off-site out of watershed	4/22/2002
<b>Norfolk (Fairmont &amp; Montezuma)</b>	Upland Bank	DCSS	0.398	Off-site out of watershed	4/22/2002
<b>Norfolk (Fairmont &amp; Montezuma)</b>	Upland Bank	POS	0.151	Off-site out of watershed	4/22/2002
<b>Norfolk Canyon Maintenance Project</b>	Upland Bank	SMC	0.002	Off-site out of watershed	6/10/2004
<b>Norfolk Canyon Maintenance Project</b>	Upland Bank	DCSS	0.302	Off-site out of watershed	6/10/2004
<b>Norfolk LT</b>	Upland Bank	SMC	0.02	Off-site out of watershed	7/1/2004
<b>Otay Valley TS Pipe Protection</b>	Upland Bank	NNG	0.02	Off-site out of watershed	9/16/2013
<b>Pump Station 77 Inspections</b>	Upland Bank	NNG	0.02	Off-site out of watershed	
<b>Pump Station 77 Inspections</b>	Upland Bank	DCSS	0.348	Off-site out of watershed	
<b>Rancho Bernardo 15 East</b>	Upland Bank	DCSS	0.31	Off-site out of watershed	3/17/2004
<b>Rancho Bernardo 15 East (Escala Emergency)</b>	Upland Bank	DCSS	0.1	Off-site out of watershed	8/24/2007
<b>Rancho Mission LT</b>	Upland Bank	DCSS	0.006	Off-site out of watershed	11/12/2013
<b>Shepherd</b>	Upland Bank	DCSS	0.01	Off-site out of watershed	2/1/2003
<b>Shepherd LT</b>	Upland Bank	NNG	0.09	Off-site in watershed	
<b>South Chollas LTA</b>	Upland Bank	DCSS	0.508	Off-site out of watershed	
<b>Stevenson</b>	Upland Bank	DCSS	0.14	Off-site out of watershed	8/8/2001
<b>Stevenson</b>	Upland Bank	POS	0.04	Off-site out of watershed	8/8/2001
<b>Stevenson Canyon Manhole 138 Emergency</b>	Upland Bank	NNG	0.18	Off-site out of watershed	3/23/2006

# Marron Valley Cornerstone Lands Conservation Bank

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Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Stevenson Long Term Access Project	Upland Bank	NNG	0.28	Off-site out of watershed	
Trinidad & Euclid	Upland Bank	SMC	0.13	Off-site out of watershed	5/9/2001
USIU	Upland Bank	SMC	0.2	Off-site out of watershed	
USIU	Upland Bank	DCSS	0.2	Off-site out of watershed	
USIU	Upland Bank	NNG	0.75	Off-site out of watershed	
<b>Total Mitigation Acres:</b>			<b>6.883 acres</b>		

## Otay Mesa Mitigation Bank

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>upland</b>					
15 West and Elanus	Upland Bank	DCSS	0.2	Off-site out of watershed	12/19/2003
Acuna	Upland Bank	DCSS	0.01	Off-site out of watershed	3/11/2002
Acuna	Upland Bank	SMC	0.07	Off-site out of watershed	3/11/2002
Auburn & Belle Island (Isla Vista/Auburn Dr. Emerg	Upland Bank	DCSS	0.06	Off-site out of watershed	10/21/2002
Bounty & Waring (Bounty & Spear Emergency Repair)	Upland Bank	DCSS	0.2	Off-site out of watershed	4/29/2003
Elanus & Murray Canyons (I-15 & Clairemont Mesa Bl	Upland Bank	DCSS	0.122	Off-site out of watershed	12/11/2002
Euclid & Menlo (47th & Thorn Sewer Maint & Emerg)	Upland Bank	SMRC	0.05	Off-site out of watershed	2/1/2004
Euclid & Menlo Canyon (47th & Thorn Emergency Repa	Upland Bank	SMRC	0.02	Off-site out of watershed	4/29/2002
Fairmont & Home	Upland Bank	SMRC	0.11	Off-site out of watershed	4/9/2004
Fairmont & Home	Upland Bank	NNG	0.25	Off-site out of watershed	4/9/2004
Hopkins	Upland Bank	NNG	0.14	Off-site out of watershed	3/17/2004
Hopkins (Calle Abajo Emergency)	Upland Bank	NNG	0.09	Off-site out of watershed	4/3/2002
Hwy 163 North LT	Upland Bank	CLOW	0.04	Off-site out of watershed	
Norfolk (Fairmont & Montezuma)	Upland Bank	SOC	0.046	Off-site out of watershed	4/22/2002
Rancho Bernardo 15 East	Upland Bank	DCSS	0.31	Off-site out of watershed	3/17/2004

# Otay Mesa Mitigation Bank

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Rancho Mission LT	Upland Bank	DCSS	0.026	Off-site out of watershed	11/12/2013
South Juniper Emergency Project	Upland Bank	DCSS	0.001	Off-site out of watershed	5/14/2006
Switzer MH 152 Access	Upland Bank	SOC	0.009	Off-site out of watershed	1/27/2014
<b>Total Mitigation Acres:</b>			<b>1.754 acres</b>		

## Penasquitos Eucalyptus Removal

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>wetland</b>					
Carroll and Mesa Rim	Wetland Enhancement	RW	0.31	Off-site in watershed	6/2/2003
<b>Total Mitigation Acres:</b>			<b>0.31 acres</b>		

## Rancho Mission Enhancement

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>wetland</b>					
15 West and Elanus	Wetland Enhancement	SWS	0.05	Off-site in watershed	12/19/2003
Alvarado Court Sewer Crossing	Wetland Enhancement	SWS	0.005	Off-site in watershed	
Alvarado LT	Wetland Enhancement	MFS	0.01	Off-site in watershed	
Alvarado LT	Wetland Enhancement	NVC	0.01	Off-site in watershed	
Alvarado LT	Wetland Enhancement	DWET	0.01	Off-site in watershed	
Alvarado Trunk Sewer	Wetland Enhancement	DWET	0.022	Off-site in watershed	
Barr Avenue (Hotel Circle) part of Dove Canyon	Wetland Enhancement	NVC	0.01	Off-site in watershed	8/16/2003
Bay View Emergency Response Project	Wetland Enhancement	NVC	0.013	Off-site out of watershed	8/20/2004
Buchanan	Wetland Enhancement	DWET	0.322	Off-site in watershed	3/11/2002
Buchanan	Wetland Enhancement	SWS	0.0108	Off-site in watershed	3/11/2002
Buchanan B	Wetland Enhancement	NVC	0.02	Off-site in watershed	
Buchanan LT	Wetland Enhancement	DWET	0.06	Off-site in watershed	1/1/2004

# Rancho Mission Enhancement

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Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>Buchanan LT</b>	Wetland Enhancement	NVC	0.624	Off-site in watershed	1/1/2004
<b>Buchanan Sewer Blockage Emergency</b>	Wetland Enhancement	SWS	0.011	Off-site in watershed	12/2/2013
<b>Chollas Dam Vegetation Removal</b>	Wetland Enhancement	FM	0.022	Off-site in watershed	1/22/2013
<b>Chollas Exposed Water Main Repair</b>	Wetland Enhancement	RS	0.014	Off-site out of watershed	8/30/2011
<b>Delevan &amp; I-15 Emerg Repair (South Juniper Canyon)</b>	Wetland Enhancement	NVC	0.03	Off-site out of watershed	7/27/2005
<b>Elanus &amp; Murray Canyons (I-15 &amp; Clairemont Mesa Bl</b>	Wetland Enhancement	SWS	0.007	Off-site in watershed	12/11/2002
<b>Elanus (I-15 &amp; Clairemont Mesa Blvd) LT</b>	Wetland Enhancement	EW	0.005	Off-site in watershed	
<b>Euclid &amp; Menlo (47th &amp; Thorn Sewer Maint &amp; Emerg)</b>	Wetland Enhancement	DWET	0.08	Off-site out of watershed	2/1/2004
<b>Euclid &amp; Menlo (47th &amp; Thorn Sewer Maint &amp; Emerg)</b>	Wetland Enhancement	NVC	0.01	Off-site out of watershed	2/1/2004
<b>Euclid &amp; Menlo Canyon (47th &amp; Thorn Emergency Repa</b>	Wetland Enhancement	NVC	0.0011	Off-site out of watershed	4/29/2002
<b>Euclid and Menlo Emerg Pipe Protection</b>	Wetland Enhancement	NVC	0.005	Off-site out of watershed	5/26/2011
<b>Federal &amp; Chollas</b>	Wetland Enhancement	DWET	0.0008	Off-site out of watershed	10/22/2002
<b>Fox Canyon (University &amp; 49th) Emergency Repair</b>	Wetland Enhancement	NVC	0.002	Off-site out of watershed	10/29/2007
<b>Hopkins</b>	Wetland Enhancement	DWET	0.02	Off-site out of watershed	3/17/2004
<b>Hopkins (Calle Abajo Emergency)</b>	Wetland Enhancement	NVC	0.002	Off-site out of watershed	4/3/2002
<b>Huckleberry (32nd St Canyon Emergency Maintenance)</b>	Wetland Enhancement	DWET	0.04	Off-site out of watershed	7/21/2003
<b>Hwy 163 Corridor (7th &amp; Brookes 2002Emergency Repa</b>	Wetland Enhancement	NVC	0.02	Off-site out of watershed	11/30/2002
<b>Hwy 163 North LT</b>	Wetland Enhancement	NVC	0.001	Off-site out of watershed	
<b>I-15 &amp; Adams</b>	Wetland Enhancement	NVC	0.07	Off-site in watershed	5/6/2004
<b>I-15 &amp; Adams</b>	Wetland Enhancement	EW	0.004	Off-site in watershed	5/6/2004
<b>I-805 &amp; 94 Canyon (40th &amp; C Emergency Repair)</b>	Wetland Enhancement	NVC	0.0013	Off-site out of watershed	2/6/2003
<b>Isla Vista Emergency Response Project</b>	Wetland Enhancement	NVC	0.003	Off-site out of watershed	5/17/2004
<b>Lexington/Manzanita Pipe and MH Replacement Emer</b>	Wetland Enhancement	NVC	0.016	Off-site out of watershed	11/4/2008
<b>Lexington/Manzanita Pipe Encasement Emergency</b>	Wetland Enhancement	NVC	0.005	Off-site out of watershed	6/4/2009

# Rancho Mission Enhancement

<b>Impact Project</b>	<b>Mitigation Type</b>	<b>Habitat Type</b>	<b>Acreage</b>	<b>Location</b>	<b>Impact Date</b>
<b>Market &amp; Euclid (MH 88 Repair at Encanto Creek)</b>	Wetland Enhancement	SWS	0.003	Off-site out of watershed	10/22/2009
<b>Mission Center Canyon B</b>	Wetland Enhancement	EW	0.02	Off-site in watershed	1/1/2011
<b>Mission Center Canyon B</b>	Wetland Enhancement	DWET	0.014	Off-site in watershed	1/1/2011
<b>Mission Center Canyon B</b>	Wetland Enhancement	RS	0.025	Off-site in watershed	1/1/2011
<b>Mission Center Canyon Emergency Sewer Repair</b>	Wetland Enhancement	SWS	0.004	Off-site in watershed	3/10/2010
<b>Mission Center Canyon Emergency Sewer Repair</b>	Wetland Enhancement	FM	0.023	Off-site in watershed	3/10/2010
<b>Mission Center Canyon Emergency Sewer Repair</b>	Wetland Enhancement	NVC	0.014	Off-site in watershed	3/10/2010
<b>Mission Center Canyon Emergency Sewer Repair</b>	Wetland Enhancement	DWET	0.006	Off-site in watershed	3/10/2010
<b>Murphy Canyon TS Access and Repair</b>	Wetland Enhancement	FM	0.051	Off-site out of watershed	
<b>Norfolk (Fairmont &amp; Montezuma)</b>	Wetland Enhancement	SWS	0.003	Off-site in watershed	4/22/2002
<b>Norfolk (Fairmont &amp; Montezuma)</b>	Wetland Enhancement	NVC	0.042	Off-site in watershed	4/22/2002
<b>Norfolk Canyon Maintenance Project</b>	Wetland Enhancement	NVC	0.002	Off-site in watershed	6/10/2004
<b>Presidio (Palm Cyn) GJ665</b>	Wetland Enhancement	RS	0.165	Off-site in watershed	
<b>Presidio (Palm Cyn) GJ665</b>	Wetland Enhancement	NVC	0.0137	Off-site in watershed	
<b>Rancho Mission (Mission Gorge Canyon, Conestoga Co</b>	Wetland Enhancement	NVC	0.008	In-canyon	2/7/2002
<b>Rancho Mission (Mission Gorge Canyon, Conestoga Co</b>	Wetland Enhancement	DWET	0.005	In-canyon	2/7/2002
<b>Rancho Mission LT</b>	Wetland Enhancement	SWS	0.007	Off-site in watershed	11/12/2013
<b>San Diego Mission Rd Emergency</b>	Wetland Enhancement	FM	0.01	Off-site in watershed	7/9/2011
<b>San Diego Mission Rd Emergency</b>	Wetland Enhancement	SWS	0.01	Off-site in watershed	7/9/2011
<b>Shepherd</b>	Wetland Enhancement	SWS	0.01	Off-site in watershed	2/1/2003
<b>Shepherd LT</b>	Wetland Enhancement	RW	0.06	Off-site in watershed	
<b>Shepherd LT</b>	Wetland Enhancement	RS	0.02	Off-site in watershed	
<b>Shepherd LT</b>	Wetland Enhancement	NVC	0.03	Off-site in watershed	
<b>Shepherd LT</b>	Wetland Enhancement	DWET	0.015	Off-site in watershed	

# Rancho Mission Enhancement

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
South Chollas LTA	Wetland Enhancement	MFS	0.0015	Off-site out of watershed	
South Juniper Emergency Project	Wetland Enhancement	NVC	0.02	Off-site out of watershed	5/14/2006
Valencia Canyon Emergency Repair & Maintenance	Wetland Enhancement	MFS	0.004	Off-site out of watershed	1/25/2003
Valencia Canyon Emergency Repair & Maintenance	Wetland Enhancement	NVC	0.0014	Off-site out of watershed	1/25/2003
Willow St. Canyon	Wetland Enhancement	NVC	0.004	Off-site out of watershed	5/2/2005
Woodman Canyon Emergency Sewer Access and Repair	Wetland Enhancement	NVC	0.004	Off-site out of watershed	1/6/2005
<b>Total Mitigation Acres:</b>			<b>2.1326 acres</b>		

# Rose Canyon Wetland and Upland

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>upland</b>					
I-5/SR-52 Maintenance Project	Upland Restoration	NNG	0.01	In-canyon	
I-5/SR-52 Maintenance Project	Upland Restoration	DCSS	0.02	In-canyon	
Middle Rose Creek (ER Repair -Rose W of Genesee )	Upland Restoration	NNG	0.04	In-canyon	12/1/2002
Middle Rose Creek (ER Repair -Rose W of Genesee )	Upland Restoration	DCSS	0.06	In-canyon	12/1/2002
Miramar Trunk Sewer Replacement Project	Upland Restoration	POS	0.117	In-canyon	7/6/2007
Miramar Trunk Sewer Replacement Project	Upland Restoration	BBS	0.959	In-canyon	7/6/2007
Miramar Trunk Sewer Replacement Project	Upland Restoration	CLOW	0.154	In-canyon	7/6/2007
Miramar Trunk Sewer Replacement Project	Upland Restoration	NNG	0.181	In-canyon	7/6/2007
Miramar Trunk Sewer Replacement Project	Upland Restoration	DCSS	0.737	In-canyon	7/6/2007
Miramar Trunk Sewer Replacement Project	Upland Restoration	SOC	0.027	In-canyon	7/6/2007
Miramar Trunk Sewer Replacement Project	Upland Restoration	SMC	0.058	In-canyon	7/6/2007
Old Rose Canyon Sewer Relocation Project	Upland Restoration	NNG	0.045	In-canyon	2/8/2011
Penasquitos Bluffs (Finger Canyon Emergency)	Upland Restoration	SOC	0.3	Off-site in watershed	11/1/2000
Penasquitos Bluffs (Finger Canyon Emergency)	Upland Restoration	NG	0.02	Off-site in watershed	11/1/2000

# Rose Canyon Wetland and Upland

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>Penasquitos View Emergency</b>	Upland Restoration	DCSS	0.01	Off-site in watershed	8/18/2004
<b>Rose Canyon ER Repairs between 9/01 and 5/03</b>	Upland Restoration	BBS	0.03	In-canyon	9/1/2001
<b>Rose Canyon ER Repairs between 9/01 and 5/03</b>	Upland Restoration	POS	0.05	In-canyon	9/1/2001
<b>Rose Canyon ER Repairs between 9/01 and 5/03</b>	Upland Restoration	DCSS	0.13	In-canyon	9/1/2001
<b>Rose Canyon ER Repairs between 9/01 and 5/03</b>	Upland Restoration	NNG	0.2	In-canyon	9/1/2001
<b>Total Mitigation Acres:</b>	<b>3.148 acres</b>				

## Wetland

<b>Black Mtn Access Rd Repair</b>	Wetland Creation	Streambed	0.038	Off-site in watershed	
<b>I-5/SR-52 Maintenance Project</b>	Wetland Creation	SWS	0.03	In-canyon	
<b>Lower Rose Canyon Emergency Repairs (MH 15)</b>	Wetland Enhancement	EW	0.005	In-canyon	2/8/2005
<b>Lower Rose Canyon Emergency Repairs (MH 15)</b>	Wetland Enhancement	MFS	0.11	In-canyon	2/8/2005
<b>Lower Rose Canyon Emergency Repairs (MH 15)</b>	Wetland Creation	SWS	0.32	In-canyon	2/8/2005
<b>Lower Rose Canyon Emergency Repairs (MH 15)</b>	Wetland Enhancement	CVFM	0.21	In-canyon	2/8/2005
<b>Lower Rose Canyon Emergency Repairs (MH 15)</b>	Wetland Creation	CVFM	0.21	In-canyon	2/8/2005
<b>Lower Rose Canyon Emergency Repairs (MH 15)</b>	Wetland Creation	MFS	0.11	In-canyon	2/8/2005
<b>Lower Rose Canyon Emergency Repairs (MH 15)</b>	Wetland Creation	EW	0.005	In-canyon	2/8/2005
<b>Middle Rose Cyn MH 160 Emergency</b>	Wetland Enhancement	NVC	0.02	Off-site in watershed	11/17/2011
<b>Middle Rose Cyn MH 160 Emergency</b>	Wetland Creation	SWS	0.02	Off-site in watershed	11/17/2011
<b>Miramar Trunk Sewer Replacement Project</b>	Wetland Creation	RW	0.577	In-canyon	7/6/2007
<b>Miramar Trunk Sewer Replacement Project</b>	Wetland Creation	MFS	1.352	In-canyon	7/6/2007
<b>Miramar Trunk Sewer Replacement Project</b>	Wetland Creation	SCLORF	0.162	In-canyon	7/6/2007
<b>Miramar Trunk Sewer Replacement Project</b>	Wetland Creation	SWS	0.445	In-canyon	7/6/2007
<b>Monte Verde Sewer Improvements</b>	Wetland Creation	SRF	0.04	In-canyon	1/1/2010
<b>Old Rose Canyon Sewer Relocation Project</b>	Wetland Creation	MFS	0.007	In-canyon	2/8/2011

# Rose Canyon Wetland and Upland

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Old Rose Canyon Sewer Relocation Project	Wetland Creation	SWS	0.04	In-canyon	2/8/2011
Old Rose Canyon Sewer Relocation Project	Wetland Creation	FM	0.002	In-canyon	2/8/2011
Rose Canyon ER Repairs between 9/01 and 5/03	Wetland Creation	MFS	0.03	In-canyon	9/1/2001
Rose Canyon ER Repairs between 9/01 and 5/03	Wetland Creation	RW	0.02	In-canyon	9/1/2001
Rose Canyon ER Repairs between 9/01 and 5/03	Wetland Creation	NVC	0.0018	In-canyon	9/1/2001
Rose Creek East of I-805 (Miramar Rd & Commerce Av	Wetland Creation	SWS	0.03	In-canyon	3/11/2002
Rose Creek Emergency Bypass Project	Wetland Enhancement	NVC	0.005	In-canyon	1/31/2005
<b>Total Mitigation Acres:</b>			<b>3.7898 acres</b>		

# San Clemente Wetland and Upland

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>upland</b>					
Gesner LT	Upland Restoration	DCSS	0.1	Off-site in watershed	
Gesner/Huron	Upland Restoration	NNG	0.01	Off-site in watershed	8/1/1998
Penasquitos Bluffs (Finger Canyon Emergency)	Upland Restoration	DCSS	0.71	Off-site in watershed	11/1/2000
Penasquitos Bluffs (Finger Canyon Emergency)	Upland Restoration	CC	0.02	Off-site in watershed	11/1/2000
Penasquitos Bluffs (Finger Canyon Emergency)	Upland Restoration	NNG	0.03	Off-site in watershed	11/1/2000
San Clemente (Emergency Repairs Combined)	Upland Restoration	DCSS	0.051	In-canyon	9/1/2001
San Clemente (Emergency Repairs Combined)	Upland Restoration	NNG	0.005	In-canyon	9/1/2001
San Clemente Canyon Access Path LT Project	Upland Restoration	DCSS	0.035	In-canyon	
San Clemente Canyon Access Path LT Project	Upland Restoration	CLOW	0.54	In-canyon	
San Clemente Canyon Biltmore Pipe Protection Emerg	Upland Restoration	NNG	0.051	In-canyon	11/30/2006
San Clemente Canyon Biltmore Pipe Protection Emerg	Upland Restoration	DCSS	0.01	In-canyon	11/30/2006
San Clemente Canyon Biltmore Pipe Protection Emerg	Upland Restoration	SMC	0.01	In-canyon	11/30/2006
San Clemente LT MH #4	Upland Restoration	DCSS	0.076	In-canyon	9/20/2010



# San Clemente Wetland and Upland

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Wet Weather Stream Discharge	Upland Restoration	SMC	0.06	In-canyon	
Wet Weather Stream Discharge	Upland Restoration	DCSS	0.38	In-canyon	
<b>Total Mitigation Acres:</b>			<b>2.088 acres</b>		
<b>wetland</b>					
Balboa Terrace Trunk Sewer Replacement	Wetland Creation	FM	0.04	Off-site in watershed	9/16/2012
Balboa Terrace Trunk Sewer Replacement	Wetland Creation	SWS	0.064	Off-site in watershed	9/16/2012
Balboa Terrace Trunk Sewer Replacement	Wetland Creation	SCLORF	0.003	Off-site in watershed	9/16/2012
Balboa Terrace Trunk Sewer Replacement	Wetland Creation	MFS	0.022	Off-site in watershed	9/16/2012
Balboa Terrace Trunk Sewer Replacement	Wetland Creation	DWET	0.107	Off-site in watershed	9/16/2012
Balboa Terrace Trunk Sewer Replacement	Wetland Creation	NVC	0.014	Off-site in watershed	9/16/2012
Carroll Canyon Emergency Sewer Repair	Wetland Creation	SAWRF	0.03	Off-site in watershed	2/26/2010
Carroll Canyon Emergency Sewer Repair	Wetland Creation	NVC	0.01	Off-site in watershed	2/26/2010
Dakota Canyon Replacement/Relocation/Access	Wetland Creation	NVC	0.03	Off-site in watershed	1/22/2008
East Tecolote Canyon Pipe Encasemt Protection Proj	Wetland Creation	SRF	0.04	Off-site in watershed	10/4/2010
East Tecolote Canyon Pipe Encasemt Protection Proj	Wetland Creation	SWS	0.036	Off-site in watershed	10/4/2010
East Tecolote Canyon Pipe Encasemt Protection Proj	Wetland Creation	OW	0.023	Off-site in watershed	10/4/2010
Penasquitos Bluffs LT	Wetland Creation	FM	0.014	Off-site in watershed	
Penasquitos Bluffs LT	Wetland Creation	SWS	0.01	Off-site in watershed	
Penasquitos Bluffs LT	Wetland Creation	AM	0.014	Off-site in watershed	
San Clemente Canyon Access Path LT Project	Wetland Creation	SCLORF	0.85	In-canyon	
San Clemente Canyon Access Path LT Project	Wetland Creation	SCWRF	0.27	In-canyon	
San Clemente Canyon Biltmore Pipe Protection Emerg	Wetland Creation	NVC	0.004	In-canyon	11/30/2006
San Clemente Canyon Biltmore Pipe Protection Emerg	Wetland Creation	SCLORF	0.117	In-canyon	11/30/2006
San Clemente Canyon Mitigation Project	Wetland Creation	SCLORF	0.003	In-canyon	9/15/2007

# San Clemente Wetland and Upland

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
San Clemente Emergency Sewer Encasement Repair	Wetland Creation	NVC	0.01	In-canyon	12/13/2010
San Clemente Emergency Sewer Encasement Repair	Wetland Creation	SCLORF	0.02	In-canyon	12/13/2010
Soledad Valley Water Line Break	Wetland Creation	AM	0.2	Off-site in watershed	3/23/2009
Stevenson Long Term Access Project	Wetland Creation	SWS	0.028	Off-site in watershed	
Stevenson Long Term Access Project	Wetland Creation	MFS	0.085	Off-site in watershed	
Tecolote Mt. Ashmun Pipe Protection Emergency	Wetland Creation	RF	0.01	Off-site in watershed	1/17/2008
Wet Weather Stream Discharge	Wetland Creation	NVC	0.01	In-canyon	
<b>Total Mitigation Acres:</b>			<b>2.064 acres</b>		

## Tecolote - Tree of Heaven removal

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>wetland</b>					
Tecolote	Wetland Enhancement	SCLORF	0.25	In-canyon	2/28/2001
<b>Total Mitigation Acres:</b>			<b>0.25 acres</b>		

## Tecolote Canyon Wetland and Upland

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
<b>upland</b>					
East Tecolote (East Clairemont)	Upland Restoration	DCSS	0.012	In-canyon	1/8/2002
East Tecolote (East Clairemont) LT	Upland Restoration	DCSS	0.286	In-canyon	
East Tecolote (East Clairemont) LT	Upland Restoration	POS	0.015	In-canyon	
East Tecolote (East Clairemont) LT	Upland Restoration	SOC	0.126	In-canyon	
East Tecolote Emergency MH 218	Upland Restoration	DCSS	0.027	In-canyon	2/8/2010
East Tecolote Manholes 223 and 224 Emergency	Upland Restoration	DCSS	0.009	In-canyon	12/16/2009
East Tecolote Manholes 223 and 224 Emergency	Upland Restoration	CLOW	0.018	In-canyon	12/16/2009
Manning Canyon Sewer Repair	Upland Restoration	DCSS	0.002	In-canyon	12/11/2013

# Tecolote Canyon Wetland and Upland

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
Manning Street Sewer Repair	Upland Restoration	DCSS	1	In-canyon	7/6/2001
Manning Street Sewer Repair	Upland Restoration	NNG	0.1	In-canyon	7/6/2001
Park Mesa LT	Upland Restoration	NNG	0.009	Off-site in watershed	1/11/2011
Park Mesa LT	Upland Restoration	DCSS	0.108	Off-site in watershed	1/11/2011
Park Mesa LT	Upland Restoration	SMC	0.015	Off-site in watershed	1/11/2011
Park Mesa Way	Upland Restoration	BBS	0.04	In-canyon	1/13/2000
Stevenson Canyon MH 257 Emergency	Upland Restoration	DCSS	0.0048	Off-site in watershed	10/30/2012
Tecolote	Upland Restoration	DCSS	0.07	In-canyon	2/28/2001
Tecolote	Upland Restoration	POS	0.03	In-canyon	2/28/2001
Tecolote (including Mt. Elbrus)	Upland Restoration	NNG	0.05	In-canyon	11/18/2002
Tecolote (including Mt. Elbrus)	Upland Restoration	DCSS	0.245	In-canyon	11/18/2002
Tecolote Canyon Mitigation Project	Upland Restoration	POS	0.65	In-canyon	
Tecolote Emergency Pipe Repair (Crossing)	Upland Restoration	DCSS	0.004	In-canyon	12/13/2004
Tecolote LT	Upland Restoration	DCSS	0.4	In-canyon	
Tecolote Pipe Repair Near Manhole 346	Upland Restoration	DCSS	0.024	In-canyon	8/17/2009
Tecolote Pipe Repair Near Manhole 346	Upland Restoration	NNG	0.11	In-canyon	8/17/2009
<b>Total Mitigation Acres:</b>			<b>3.3548 acres</b>		

## wetland

East Tecolote (East Clairemont)	Wetland Creation	SWS	0.0001	In-canyon	1/8/2002
East Tecolote (East Clairemont)	Wetland Creation	SRF	0.004	In-canyon	1/8/2002
East Tecolote (East Clairemont) LT	Wetland Creation	SWS	0.039	In-canyon	
East Tecolote (East Clairemont) LT	Wetland Creation	SRF	0.229	In-canyon	
East Tecolote (East Clairemont) LT	Wetland Creation	NVC	0.008	In-canyon	
East Tecolote (East Clairemont) LT	Wetland Creation	FM	0.014	In-canyon	

# Tecolote Canyon Wetland and Upland

Impact Project	Mitigation Type	Habitat Type	Acreage	Location	Impact Date
East Tecolote Emergency MH 218	Wetland Creation	NVC	0.007	In-canyon	2/8/2010
East Tecolote Emergency MH 218	Wetland Creation	SRF	0.048	In-canyon	2/8/2010
East Tecolote Manholes 223 and 224 Emergency	Wetland Creation	FM	0.039	In-canyon	12/16/2009
East Tecolote Manholes 223 and 224 Emergency	Wetland Creation	SWS	0.033	In-canyon	12/16/2009
East Tecolote Manholes 223 and 224 Emergency	Wetland Creation	SRF	0.034	In-canyon	12/16/2009
East Tecolote Manholes 223 and 224 Emergency	Wetland Creation	OW	0.015	In-canyon	12/16/2009
Park Mesa Way	Wetland Creation	SWS	0.15	In-canyon	1/13/2000
Tecolote (including Mt. Elbrus)	Wetland Creation	SCLORF	0.2	In-canyon	11/18/2002
Tecolote (including Mt. Elbrus)	Wetland Creation	SWS	0.13	In-canyon	11/18/2002
Tecolote Emergency Pipe Repair (Crossing)	Wetland Creation	EW	0.002	In-canyon	12/13/2004
Tecolote Emergency Pipe Repair (Crossing)	Wetland Creation	SWS	0.008	In-canyon	12/13/2004
Tecolote Emergency Pipe Repair (Crossing)	Wetland Creation	SCLORF	0.002	In-canyon	12/13/2004
Tecolote LT	Wetland Creation	MFS	0.01	In-canyon	
Tecolote LT	Wetland Creation	SWS	0.03	In-canyon	
Tecolote LT	Wetland Creation	SRF	0.341	In-canyon	
Tecolote MH 101 Emergency	Wetland Creation	NVC	0.0034	In-canyon	4/5/2010
Tecolote MH 101 Emergency	Wetland Creation	MFS	0.0005	In-canyon	4/5/2010
Tecolote Mt. Ashmun Pipe Protection Emergency	Wetland Creation	RF	0.01	In-canyon	1/17/2008
Tecolote Mt. Ashmun Pipe Protection Erosion Contro	Wetland Creation	RF	0.002	In-canyon	9/9/2009
Tecolote Mt. Ashmun Pipe Protection Erosion Contro	Wetland Creation	SWS	0.001	In-canyon	9/9/2009
Tecolote North Exposed TS Emergency	Wetland Creation	NVC	0.001	In-canyon	10/31/2013
Tecolote Pipe Repair Near Manhole 346	Wetland Creation	SRF	0.035	In-canyon	8/17/2009
<b>Total Mitigation Acres:</b>			<b>1.396 acres</b>		