Tijuana River Valley Regional Park

Trails and Habitat Enhancement Project

State Clearing House Number 2004091159

Final Environmental Impact Report

Prepared for:
County of San Diego
Department of Public Works
5469 Kearny Villa Road Suite 305
San Diego CA 92123

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ENVIRONMENTAL IMPACT REPORT

FOR THE

TIJUANA RIVER VALLEY REGIONAL PARK

TRAILS AND HABITAT ENHANCEMENT PROJECT

SCH: 2004091159

Prepared for:

County of San Diego
Department of Public Works
5469 Kearny Villa Road
San Diego, CA 92123
Project Manager: Esther Daigneault

Prepared by:

Kimley-Horn and Associates, Inc.
517 Fourth Avenue, Suite 301
San Diego, CA 92101
(619) 234-9411
Project Manager: Scott Barker, AICP

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EXHIBITS

N/A

SUMMARY

This Draft Environmental Impact Report (EIR) is organized as follows:

- **Summary.** This chapter presents a summary of the Proposed Project, including project location, description and setting.

- **List of Acronyms.** This chapter of the Draft EIR lists and defines all acronyms and abbreviations used in this report.

- **Chapter 1 – Project Description and Environmental Setting.** This chapter describes the purpose and organization of the Draft EIR and provides a detailed Project Description. This chapter contains an analysis of issues required by the California Environmental Quality Act (CEQA), including growth-inducing impacts, cumulative impacts; and Multiple Species Conservation Program (MSCP) conformity.

- **Chapter 2 – Significant Environmental Effects Which Cannot be Avoided if the Proposed project is Implemented.** This chapter states that no environmental impacts would be potentially significant and unavoidable with implementation of the Proposed Project.

- **Chapter 3 – Significant Environmental Effects of the Proposed Project Which Can Be Mitigated.** This chapter identifies that impacts to the following subject areas that will be reduced to a less-than-significant level through implementation of mitigation measures:

    - Biological Resources
    - Cultural and Paleontological Resources
    - Land Use and Planning

- **Chapter 4 – Environmental Effects Found Not to Be Significant.** This chapter identifies all subject areas that would have less than significant impacts, and for which no mitigation measures are required.

- **Chapter 5 – Alternatives to the Proposed Project.** This chapter describes three alternatives to the Proposed Project (i.e., the No Project alternative, plus two additional alternatives), and compares their relative impacts to those of the Proposed Project. In addition the, chapter describes alternatives considered but rejected.

- **List of References, List of EIR Preparers / Persons and Organizations Consulted.**

- **List of Mitigation Measures and Environmental Design Considerations.**

- **Technical Appendices.** This chapter includes all technical reports prepared for the Proposed Project.

S.1 Project Synopsis

The Tijuana River Valley Regional Park (TRVRP) is located in the City of San Diego (**Exhibit 1-1**) in the southwestern portion of San Diego County. The TRVRP is bounded on the east by Dairy Mart Road and the residential community of San Ysidro (with the exception of a portion of the Dairy Mart Ponds that extend further east between the Interstate 5 (I-5) corridor and Camino de la Plaza), on the west by Border Field State Park and the Tijuana Estuary, on the south by the United States (U.S.)-Mexico International Border, and on the north by Sunset Avenue (with the exception of 95 acres immediately north of Sunset) and the residential community of Otay-Nestor.

The TRVRP is bisected by the east/west flowing Tijuana River, which flows from Mexico and drains into the Pacific Ocean through the Tijuana River Estuary located west of the TRVRP. The TRVRP consists of 1,800 acres. The County owns 1,638 acres. Other landowners include the City of San Diego and the California Department of Fish and Game (CDFG), with the transfer of the latter properties pending. The boundary of the TRVRP is shown in **Exhibit 1-2**, as well as the local limits of the MHPA.

The Proposed Project includes the following components:

1. Development of a formal recreational trail network. The existing informal network consists of haphazard, unplanned and unauthorized dirt roads and pathways within TRVRP. The 22.5 mile formal trail system includes the following types of trails, as shown on **Exhibit 1-3**:
    - 6.5 miles of six-foot-wide multi-use trails (i.e., equestrian/ bicycle/pedestrian) within existing dirt road and pathway alignments;
    - 6.6 miles of multi-use trails to be shared with U.S. Customs and Border Protection Service (CBP) authorized and emergency use[1];
    - 7.1 miles of four-foot-wide equestrian/pedestrian trails within existing dirt road and pathway alignments;
    - 0.2 miles of pedestrian/equestrian trails share with CBP authorized and emergency use within existing road paths;
    - 0.3 miles of six-foot-wide multi-use trails to be constructed along two new alignments, including a new steel semi-truss multi-use recreational bridge over the Tijuana River;
    - 0.5 miles of six-foot-wide multi-use trails within the Community Garden;
    - 0.2 miles of 15-foot-wide multi-use trails within ballfields; and
    - 1.1 miles of existing sidewalk (5.5-foot-wide) and bike lanes (four-foot-wide) on the Dairy Mart Road bridge over the Tijuana River.

    The Proposed Project would maximize use of existing dirt roads and pathways recognized in the Memorandum of Understanding (MOU) through trail realignments and

[1] The six-foot-wide multi-use trail will be located within existing trails or dirt roads (typically 8 to 10 feet wide)

enhancements, and in some cases closures and restoration where haphazard and unplanned development of trails has resulted in habitat degradation.

2. Revegetation of existing informal trails and dirt roads. As part of the Proposed Project, most of the existing informal trails and dirt roads not included in the formal trail network described above, will be closed and revegetated. Trail restoration would be designed to allow and facilitate native habitat re-growth along 40.9 miles of existing dirt roads and pathways resulting in the active or passive restoration of approximately 34.116 acres of riparian and upland vegetation communities. 8.1 miles of existing informal trails will be retained for the exclusive use of the CBP.
3. Restoration of approximately 60 acres of habitat west of the Dairy Mart Ponds, situated south of the I-5/Dairy Mart Road interchange, including, wetland, riparian and coastal sage scrub habitats.
4. Establishment of an eastern trailhead staging area consisting of two acres along the west side of Dairy Mart Road, north of the Tijuana River. The staging area will provide trail users with various facilities (such as day-use parking, equestrian hitching posts, benches, and trail maps) to assist them at the beginning or end of their trips into or out of the TRVRP.
5. Construction of a steel semi-truss multi-use recreational bridge crossing over the Tijuana River. This bridge will be constructed following the dredging of the Tijuana River pilot channel by the City of San Diego pursuant to their semi-annual dredging program.
6. Interpretive and directional signage, benches, bird observation blinds, and other furnishings at trail heads, scenic vistas/overlooks, and other locations.

S.2 Summary of Significant Effects and Mitigation Measures that Reduce or Avoid the Significant Effects

No significant unavoidable adverse environmental impacts were identified.

Table S-1 provides a comprehensive list of all mitigation measures required for the Proposed Project. These measures will be incorporated into the Conditions of Approval for this project in order to mitigate potential impacts to sensitive resources to less than significant levels and to minimize all other potential effects of the Proposed Project. The County will be responsible for implementation, monitoring, and compliance reporting of all Conditions of Approval.

Table S-2 provides information regarding best management practices (BMPs)/environmental design considerations that would be implemented for the Proposed Project. These BMPs/environmental design considerations are not required because impacts were below significance thresholds. However, these measures are recommended to be implemented to minimize potential Proposed Project effects.

S.3 Areas of Controversy

Visitors to the TRVRP use the existing network of informal trails that traverse the many habitats for hiking, biking, riding horses, and other passive recreation such as bird watching. Other uses

include border protection activities and agricultural and farming practices. In addition a few scattered residential dwellings occur within the project vicinity. However, the vast majority of the land is rural and undeveloped. Recreational activities are the most intensive use in the area, followed by border protection activities and farming.

The primary competing interests for the TRVRP Trails and Habitat Enhancement Project are related to equestrian use and habitat protection. The equestrian community would prefer to keep the entire trail identified in the MOU and allocate some trails for use by equestrian only They typically prefer narrow natural-surface trails in areas with scenic views and are concerned about safety conflicts between horses and other trail users. The equestrian community feels that horses provide benefits to the local economy, and to public health and safety. This group contests the assertion that horses and trails have a negative effect on sensitive species and habitats.

In conflict with interests of the equestrian community are the interests of environmental agencies, organizations, and individuals that want to close a portion of the trails for habitat protection and restoration. The concerns of this group are protecting sensitive species, especially the vireo, from impacts related to human recreation, trail maintenance, and invasive species.

An additional area of controversy relates to the ongoing activities of the enforcement officers of the CBP within the Regional Park and their suggestion that a loss of access to existing dirt roads would adversely affect their operational effectiveness. In an effort to resolve any potential conflicts of interest the Proposed Project may cause, continued coordination with CBP regarding their requirements is necessary. The County has designated the CBP only and Shared CBP trails as part of the proposed project.

Two of the three project alternatives would yield a slightly different result when compared to the Proposed Project. Under Alternative 1, there are fewer amenities relative to the Proposed Project with the mileage of trails reduced to 11.2 miles compared to 22.5 with the Proposed Project. Alternative 2 would create 17.2 miles of trails and also have reduced amenities relative to the Proposed Project. Alternative 1 and 2 both reduce the trail mileage which would not provide the beneficial effects of a larger trail system under the Proposed Project, and would diminish the recreational experience for many users. The No Project Alternative would continue to permit habitat fragmentation that is inconsistent with established City and County land use plans and policies including the MSCP. In addition, this alternative would not create a formal trail system and it would not enhance the value of habitat within the TRVRP. However, this alternative does not guarantee no trail closures as allowed in the existing SOP.

S.4 Issues to be Resolved by the Decision-Making Body

The issues to be resolved by the decision-making body concern whether to select the Proposed Project or a project alternative, whether the project conforms to the relevant County General Plan, codes, ordinances, and policies, and whether the proposed mitigation adequately mitigates the significant effects of the project.

S.5 Project Alternatives

Chapter 5 of this Draft EIR describes the Alternatives in greater detail and presents the comparative impact analysis.

Alternative 1 – Alternative 1 would create east/west and north/south multi-use links through the Tijuana River Valley Regional Park, with minimal redundancy of trails. There would be fewer amenities in this alternative than in the Proposed Project, and the mileage of trails would be reduced to 11.2 miles. The trail network would include both 6-foot wide multiuse equestrian/bicycle/foot trails (6.9 miles existing dirt road and pathway alignments and 0.2 miles of new segments) and 4-foot wide equestrian/pedestrian trails (3.0 miles within existing dirt road and pathway alignments). The existing 5.5-foot wide sidewalk and 4-foot bike lanes over the Dairy Mart Road Bridge are included in the total trail network (1.1 miles).

A total of 11.2 miles of trails would be permitted as part of the recreational trail network in the TRVRP. This would include widening 0.9 miles of trails to a width of 4 feet and 0.9 miles of trails to 6 feet and the addition of 0.2 miles of new linkages required to provide full recreational circulation in the TRVRP. This totals to approximately 2.0 miles of new/widened trails as part of required recreational linkages.

The proposed habitat restoration area west of Dairy Mart Ponds, future habitat restoration, proposed recreational trail bridge, and proposed eastern staging area would remain the same. A map of the location of the proposed Alternative 1 elements is shown in **Chapter 5**.

Alternative 1 causes less physical impacts on the environment, because there would be a 11.3 mile reduction in the total amount of trails that would be constructed under this proposal compared to the proposed project However, the reduction in trail mileage does not meet the objective of the Proposed Project which is to provide beneficial effects of a larger trail system hence this alternative would diminish the recreational experience for park users. Additionally, there would be a reduction in disturbance to biological resources under Alternative 1, as 0.46 acres of habitat would be disturbed under this alternative for trail widening versus 1.12 acres of habitat disturbance under the Proposed Project.

Alternative 2 – Alternative 2 would create east/west and north/south multi-use links through the Tijuana River Valley Regional Park. The total miles of trails (17.2 miles) fall between the number of miles of trails in the Proposed Project and Alternative 1. The trail network would include both 6-foot wide multiuse equestrian/bicycle/foot trails (9.0 miles within existing dirt road and pathway alignments and 0.2 miles of new segments) and 4-foot wide equestrian/pedestrian trails (6.9 miles within existing dirt road and pathway alignments). A segment referred to as Brian's Bridle Path would be included to provide a link to the Four Corners area and a trail that ultimately leads to the beach as well as the Wycliff Trail and an additional segment of the Perl Road Trail. The existing 5.5-foot wide sidewalk and 4-foot bike lanes over the Dairy Mart Road Bridge would be included in the total trail network (1.1 miles).

A total of 17.2 miles of trails would be permitted as part of the recreational trail network in the TRVRP. This would include widening 2.8 miles of trails to a width of 4 feet and 1.3 miles of trails to 6 feet. Also included would be 0.2 miles of new linkages required to provide full recreational circulation in the TRVRP. This would total approximately 4.3 miles of new/widened trails as part of required recreational linkages.

The proposed habitat restoration area west of Dairy Mart Ponds, proposed recreational trail bridge, and proposed eastern staging area would remain the same. A map of the location of the proposed Alternative 2 elements is shown in **Chapter 5**.

Alternative 2 would cause less physical impacts on the environment, because there would be about a 5.3-mile reduction in the total amount of trails that would be constructed under this proposal compared with the proposed project. However, the reduction in trail mileage does not meet the objective of the Proposed Project which is to provide beneficial effects of a larger trail system hence this alternative would diminish the recreational experience for park users. Additionally, there would be an decrease in disturbance to biological resources under Alternative 2, as 0.66 acres of habitat would be disturbed under this alternative for trail widening versus 1.12 acres of habitat disturbance under the Proposed Project.

No Project Alternative – Under the No Project Alternative, no trails would be officially added to the Park or permitted. The network of existing dirt roads and paths (currently 71.5 miles) and all other parts of the Park would be operated by the County of San Diego Parks and Recreation Department under their ongoing Standard Operating Procedures (included in **Appendix I** of this EIR). These procedures include, but are not limited to signage, re-vegetation of unpermitted dirt roads and pathways, signage, bollard placement, cowbird trapping, exotics removal and enforcement of illegal activities. No improvements or any of the programs presented in the Project Description, **Chapter 1** of this EIR, would be implemented.

Table S-3 is a comparison between the Proposed Project and Alternatives.

TABLES

TABLE S-1
MITIGATION MEASURES

Biological Resources	
1	The County will draft a formal long-term habitat management plan for the TRVRP, detailing management responsibilities and area-specific management directives, including a regular cowbird trapping program; manure removal program; sensitive species monitoring program as directed by the MSCP; regular ranger patrols; restoration as directed by the MSCP; and recreational user education. The management plan will also include a mechanism to evaluate the impacts of the trial system on sensitive habitats, along with a commitment to eliminate or relocate trails as needed, and consistent with the MSCP, to ensure that the long-term viability of these habitats is not compromised, re-evaluated locations, usage and number of trials as habitat restoration plans evolve, and to ensure funding is consistently available to implement the plan.
2	Native plants, including rushes, sedges, and other grasses that can grow equally well in riparian and upland habitat, should be expanded to increase habitat diversity and function as nurse crops for the establishment of a successional native vegetation community. This includes removal of invasive exotic plant species, targeting giant reed, tamarisk, eucalyptus, tree tobacco and invasive herbaceous species, including garland chrysanthemum. Suggested species for introduction include southern cattail (Typha latifolia), Mexican rush (Juncus mexicanus), three square rush (Scirpus americanus),and California bulrush (Scirpus californica) in freshwater marsh/seep habitats. Tall umbrella sedge (Cyperus eragrostis), creeping spike rush (Eleocharis macrostachya), San Diego sedge (Carex spissa), and knotgrass (Paspalum distichum) may be appropriate along waterways and in areas with seasonal high water. Spiny rush (Juncus acutus ssp. Leopoldi) would be successful in moist, alkaline seeps, and Santa Barbara sedge (Carex barbarae) and toad rush (Juncus bufonius) could be planted in more seasonally wet to mesic upland areas.
3	Areas that are proposed to be closed and are adjacent to coastal sage scrub, maritime chaparral, and riparian habitat should be managed by active prescriptive management and restoration to encourage the establishment of natives and prevent the re-invasion of noxious plants in sensitive riparian and upland habitats. Closed areas that traverse non-native grassland, fields, or row crop vegetation communities could be passively managed.
4	Recommended species for the restoration of closed areas and the rehabilitation of habitats on the mesa's include: California sagebrush (Artemisia californica), California buckwheat (Erigonum fasciculatum), laurel sumac (Malosma laurina), lemonade berry (Rhus integrifolia), toyon (Heteromeles arbutifolia), and white sage (Salvia apiana). San Diego County Viguiera (Viguiera laciniata) should be added to the planting palette at appropriate locations on south facing slopes of both mesas and bladderpod (Isomeris arborea) should be added to restored areas in the maritime succulent shrub community on the southwest face of Spooner's Mesa. Scarifying compacted mesa trails may be required. Biological barriers such as cacti and thorny plants could be used as entrance points.
5	Closed areas on top of the mesa should be restored in the future, requiring decompaction and planting with upland scrub and grassland species. A weed abatement program to curtail garland chrysanthemum propagation would be needed. Additional plants to be added to the palette for restoration of the mesas may include coast goldenbush (Isocoma menziesii), rattleweed (Astralagus trichopodus), golden tarweed (Hemizonia fasiculata), wart-stemmed ceanothus (Ceanothus verrucosus), golden-spined cereus (Bergerocactus emoryi), and deerweed (Lotus scoparius). Native xeric grasses such as melic grass (Melica imperfecta) and purple needlegrass (Nasella pulchra), should also be included in the seed mix for the mesa tops.

TABLE S-1
MITIGATION MEASURES

Biological Resources	
6	The County should continue to coordinate efforts with TSNWR, Border Field State Park, and the Tijuana River Valley Equestrian Association (TRVEA) to educate horse stable owners and equestrian users in proper manure management to minimize nuisance attraction of cowbirds. This would help reduce the annual effort required for the cowbird trapping program.
7	The existing and ongoing brown-headed cowbird-trapping program has been very successful, along with riparian habitat restoration, in increasing the number of nesting vireos in TRVRP and should be continued. However, brown-headed cowbirds are attracted to manure as a food source for seeds, larvae and the insects typically associated with manure. Continuation of the existing successful trapping program and implementation of a manure management education program by equestrian user groups will minimize this potential impact. A manure management program is also recommended to reduce the potential introduction of exotic species from seeds carried in the manure.
8	Areas adjacent to core habitats and sensitive riparian and upland vegetation communities should be buffered from recreational use through the planting of transitional vegetation adjacent to and outside of the sensitive vegetation communities, fencing, and signage. Active ranger patrols should provide education of trail users and should enforce environmental protection regulation.
9	Prior to construction, focused surveys pursuant to USFWS protocols will be performed for all sensitive riparian and upland bird species, including the least Bell's vireo, southwestern willow flycatcher, light-footed clapper rail, and California gnatcatcher. Construction and vegetation clearing will take place outside the breeding season of the respective bird species, but protection of occupied habitat should be provided during construction.
10	Prior to any on site construction work, the limits of the Project Impact Area (including access and staging) will be surveyed, staked, and fenced.
11	A qualified biologist will delineate the boundaries of the project footprint with orange snow fencing to avoid surface disturbance to the surrounding areas. Movement of vehicles and equipment will be confined within these delineated areas. The limits of the project footprint will be clearly delineated upstream and downstream of the project footprint.
12	Jurisdictional wetlands and sensitive habitats should be protected from construction activities using silt fencing and orange snow fencing. If trail widening and associated project components in the floodplain or in riparian wetlands require dredging or filling of wetlands or seasonal streambeds, , and/or removal of riparian vegetation, permits from ACOE, CDFG and RWQCB will be necessary.
13	A biological monitor (qualified biologist) will be present to monitor and enforce environmental protection measures, including the installation and maintenance of BMPs, maintenance of fences, and all construction-related provisions identified in this document to minimize and mitigate impacts.
14	Personnel will be trained prior to the action by experienced biologists. All employees that will work on the project will be educated and instructed of the following: to limit and restrict their activities, vehicle and equipment use, and construction materials to the designated construction/staging areas and routes of travel. Impact areas will be the minimal area necessary to complete the project.

TABLE S-1
MITIGATION MEASURES

Biological Resources	
15	To meet the protection measures of the Migratory Bird Treaty Act, construction activities will be conducted outside of the bird breeding season (February 1 – September 15) whenever feasible. However, if such activities must occur within the breeding season, a qualified biologist will conduct a preconstruction survey of the project site and surrounding habitat within one week prior to the start of construction, to determine if there are active nests within the project area, including raptors and ground nesting birds. The survey should begin no more than three days prior to the beginning of construction activities. It is recommended that if an active nest is observed in the Project area, a 300 foot buffer will be established between the construction activities (clearing, grubbing, building, etc.) and the nest so that nesting activities are not interrupted, and the buffers should be in effect as long as construction is occurring and/or until the nest is no longer active.
16	Siltation and erosion in and around the project site will be controlled with BMPs, including silt fences, gravel bags, fiber rolls, and slope stabilization by hydroseeding with binders and tackifiers.
17	Construction personnel will apply appropriate erosion control measures, where appropriate, and adhere to BMPs as directed by County guidelines.
18	Construction personnel will also avoid onsite fuel changes and use appropriate facilities for equipment repair. All transport, handling, use, and disposal of substances such as petroleum products, solvents, and paints related to construction of the sewer line will comply with all Federal, State, and local laws regulating the management and use of hazardous materials.
19	Construction traffic will be minimal and confined to the well-traveled access roads and the fenced action area.
20	Mule fat scrub at the eastern trailhead staging area should be protected with exclusionary fencing and trailhead development confined to the highest two thirds (elevation) of the site.
21	Native landscaping and interpretive signage at the trailheads are recommended.

TABLE S-1
MITIGATION MEASURES

Biological Resources	
22	For the construction of the proposed pedestrian/equestrian bridge, the existing 9 inch-diameter, 40 foot tall black willow on the east side and 6 inch- diameter, 20 to 25 feet tall willow on the west side of the north bank should be protected with pads and slatted or well staked exclusionary fencing for protection during bridge construction. Existing mule fat scrub to the west of the staging area would be fenced to protect it from disturbance. The staging area would be in an area that is already disturbed and partially graded and is vegetated with non-native species such as wild radish, black mustard, garland chrysanthemum, cocklebur, castor bean, fennel, and eucalyptus seedlings. Staging in this disturbed area, followed by restoration with native black willow, arroyo willow, sandbar willow, mugwort, mule fat and other appropriate species would result in a substantial improvement over existing conditions.
23	On the south bank of the river near the location of the proposed bridge, there is a large black willow, greater than 10 inches in diameter and approximately 60 feet tall, on the west bank. This willow and its large branch, which would arc about 15-20 high over the bridge, will need to be protected or well staked with exclusionary fencing. The giant reed that has to be removed to construct the bridge supports would be cut near the base and completely removed and disposed of properly. AquaMaster or a similar approved herbicide would be sprayed or painted immediately on the cut bases. Monitoring is recommended to identify new shoots that may need to be treated.
24	Sandbar willow and/or arroyo willow cuttings, mugwort, California blackberry (Rubus ursinus) and beardless wild ryegrass (Leymus tritcoides) should be planted to stabilize the recontoured riverbank after bridge placement activities are complete.

TABLE S-1
MITIGATION MEASURES

Cultural Resources	
A	Contract with a County certified archaeologist (and Native American Observer) to implement a flagging, grading monitoring and data recovery program. This program shall include, but not be limited to, the following actions:
A-1	Sites (SDI-8595, SDI-8597, SDI-8602, SDI-8603, SDI-8604, SDI-8773, SDI-11097, SDI-11099, SDI-11945, SDI-11946, SDI-15099, TR-8, and the New Trees Site) are divided by trails that have been selected for closure and restoration of the trail back to its natural state through passive or active restoration. Because restoration techniques have the potential to disturb intact subsurface deposits through ground disturbance, the following mitigation will be implemented to avoid adverse effects to these sites. Prior to restoration of the trails within these sites, a County certified archaeologist will flag the site boundaries in addition to a 10 meter buffer, to ensure that the sites will not be impacted by ground disturbing activities. Ripping of the trail surface to agitate the soil or any other ground disturbing activities in the flagged areas will be prevented and impacts to these resources avoided. When ground disturbing activities approach the buffer areas an archaeological monitor will be present to observe these activities. Fencing and sign placement is also limited to areas outside the buffer zone. With respect to site CA-SDI-4933 (a prehistoric temporary campsite that has been greatly disturbed in the past), it is recommended that during trail widening, an archaeological monitor should be present to observe the work on the 211-foot long trail segment that is to be widened to ensure that impacts to CA-SDI-4933 or other buried resources do not occur.
A-2	The County certified archaeologist/historian (and Native American Observer) shall attend the pre-grading meeting with the contractors to explain and coordinate the requirements of the monitoring program. The County shall approve all persons involved in the monitoring program prior to any pre-construction meetings. The consulting archaeologist shall contract with a Native American Observer to be involved with the grading monitoring program.
A-3	During the original cutting of previously undisturbed deposits, the archaeological monitor(s) (and Native American Observer) shall be onsite full-time to perform periodic inspections of the excavations. The frequency of inspections will depend on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features.
A-4	Isolates and clearly non-significant deposits will be minimally documented in the field and the monitored grading can proceed.
A-5	In the event that previously unidentified potentially significant cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance operation in the area of discovery to allow evaluation of potentially significant cultural resources. The archaeologist shall contact the County Archaeologist at the time of discovery. The archaeologist, in consultation with County staff archaeologist, shall determine the significance of the discovered resources. The County Archaeologist must concur with the evaluation before construction activities will be allowed to resume in the affected area. For significant cultural resources, a Research Design and Data Recovery Program to mitigate impacts shall be prepared by the consulting archaeologist and approved by the County Archaeologist, then carried out using professional archaeological methods. If any human bones are discovered, the County Coroner shall be contacted. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains.
A-6	Before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The archaeological monitor(s) (and Native American Observer) shall determine the amount of material to be

TABLE S-1
MITIGATION MEASURES

Cultural Resources	
	recovered for an adequate artifact sample for analysis.
A-7	In the event that previously unidentified cultural resources are discovered, all cultural material collected during the grading monitoring program shall be processed and curated according to current professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curation facility within San Diego County, to be accompanied by payment of the fees necessary for permanent curation.
A-8	In the event that previously unidentified cultural resources are discovered, a report documenting the field and analysis results and interpreting the artifact and research data within the research context shall be completed. The report will include Department of Parks and Recreation Primary and Archaeological Site forms.
B	Contract with a County certified paleontologist to implement a grading monitoring and data recovery program to the satisfaction of the County. Verification of the contract shall be presented in a letter from the Project Paleontologist to the County. This program shall include, but not be limited to, the following actions:
B-1	The County certified paleontologist shall attend the pre-grading meeting with the contractors to explain and coordinate the requirements of the monitoring program to evaluate the presence of fossils. The County shall approve all persons involved in the monitoring program prior to any pre-construction meetings.
B-2	Paleontology monitor(s) shall be onsite full-time to perform periodic inspections of the excavations. The frequency of inspections will depend on the rate of excavation, the materials excavated, and the presence and abundance of paleontological resources.
B-3	In the event that previously unidentified potentially significant paleontological resources are discovered, the paleontologist shall have the authority to divert or temporarily halt ground disturbance operation in the area of discovery until such time that the sensitivity of the resource can be determined and the appropriate mitigation implemented.
B-4	In the event that previously unidentified paleontological resources are discovered, a report documenting the field and analysis results and interpreting the research data within the research context shall be completed and submitted to the satisfaction of the County prior to the issuance of any building permits.
B-5	In the event that previously unidentified paleontological resources are discovered during the grading monitoring program, fossils collected, along with copies of field notes, photos, and maps shall be deposited in a scientific institution such as the San Diego Natural History Museum.
B-6	In the event that no paleontological resources are discovered, a brief letter to that effect shall be sent to the County by the consulting paleontologist that the grading monitoring activities have been completed.
Planning and Land Use	
1	As discussed in the MSCP conformity section of Eastern Staging Area project element analysis in sub-chapter 3.1, the impact associated with the reduced wetlands buffer will be mitigated by the following measures: fencing, cowbird trapping, manure removal, and regular ranger patrols. No lighting will be allowed in this area, and night time use of this area will be prohibited.

TABLE S-2
BEST MANAGEMENT PRACTICES/ENVIRONMENTAL DESIGN CONSIDERATIONS

Categories	
Aesthetics	
None recommended.	
Air Quality	
1	On-road trucks and other mobile equipment should be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations.
2	Apply water or chemical dust suppressants to unstabilized disturbed areas and/or unpaved roadways in sufficient quantity and frequency to maintain a stabilized surface.
3	All clearing and grading activities should cease during periods of high wind (greater than 20 mph averaged over 1 hour).
Agricultural Resources	
None recommended.	
Geology & Soils	
1	The County shall prepare a Stormwater Pollution Prevention Plan (SWPPP) for the Proposed Project to include the 60-acre habitat restoration area, active and passive restoration areas, recreational trail bridge and eastern staging area. The SWPPP will establish BMP's to prevent and eliminate release of sediments (turbidity) from runoff of disturbed locations into the Tijuana River, local drains, culverts, waterways, and/or channels
2	An Erosion Control Plan shall be prepared for the Proposed Project to identify specific measures to be implemented to reduce soil loss and water quality impacts. The Erosion Control Plan will include, at a minimum:
	Confine all vehicular traffic associated with construction to designated rights-of-way, material yards, and access roads;
	Limit disturbance of soils and vegetation removal to the minimum area necessary for access and construction;
	Graded areas (i.e., the eastern staging area) should be sloped to sheet flow or bermed (water bars), where possible, to reduce concentrated surface water flows down roads and pathways or across the graded area to be revegetated;
	Use certified weed-free straw bales, or silt fences, where appropriate specifically in areas of passive restoration to minimize sedimentation; and
	Use drainage control structures, where necessary, to direct surface drainage away from disturbance areas and to minimize runoff and sediment deposition down-slope from all disturbed areas. These structures include culverts, ditches, water bars (berms and cross ditches), and sediment traps.
Hydrology & Drainage	
	None recommended.
Noise	
1	Construction activities shall conform to County of San Diego and City of San Diego requirements, which make it unlawful to operate construction equipment on Sundays or major holidays. Construction may occur Mondays through Saturdays between the hours of 7:00 a.m. and 7:00 p.m.

TABLE S-2
BEST MANAGEMENT PRACTICES/ENVIRONMENTAL DESIGN CONSIDERATIONS

Categories	
2	Construction equipment shall be equipped with manufacturer's recommended mufflers or other noise-reducing equipment.
3	Construction equipment shall be turned off when not in operation.
Public Health & Safety – Hazardous Materials	
	None recommended.
Public Services & Utilities	
	None recommended.
Recreation	
	None recommended.
Traffic & Transportation	
1	The County should ensure that final design of the Eastern Trailhead Staging Area is coordinated with the City of San Diego's Traffic Engineering Department to ensure City line-of-sight requirements and standards are met.

TABLE S-3
COMPARISON CHART

	Total Permitted Trails	6' Wide Multi-Use Trails (Equestrian/ Bicycle/ Pedestrian)	4' Bike Lane and 5.5" Sidewalk	4' Wide Equestrian/ Pedestrian Trails	Trails Narrowed to 6'	Trails Narrowed to 4'	Trailheads	Interpretive Signs	Hitching Posts	Bike Racks	Benches	Bird Observation Blind	Directional Signage	Trail Markers
Proposed Project	22.5	14.1	1.1	7.3	3.9	5.8	7	9	9	9	16	3	12	TBD
Alternative #1	11.2	7.1	1.1	3.0	tbd	tbd	7	5	7	7	12	2	8	TBD
Alternative #2	17.2	9.2	1.1	6.9	tbd	tbd	7	9	9	9	16	3	12	TBD
Alternative #3 (No Project)	0*	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0

* There are 10.3 miles of trails identified in the MOU. However, these have never undergone any formal permitting under CEQA or NEPA.

LIST OF ACRONYMS

$\mu g/m^3$	Micrograms Per Cubic Meter
ACOE	U.S. Army Corps of Engineers
ADT	Average Daily Trips
BMPs	Best Management Practices
BTR	Biological Technical Report
CARB	California Air Resources Board
CARE	Citizens Against Recreation
CBP	U.S. Customs and Border Protection
CCC	California Coastal Commission
CCR	California Code of Regulations
CCT	California Coastal Trail
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act of 1970
CESA	California Endangered Species Act
City	City of San Diego
CIP	Capital Improvement Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CRHR	California Register of Historical Resources
CSC	California Species of Concern
CSS	Coastal Sage Scrub
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
db	Decibels
dBA	Decibels on the A-weighted Scale
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESL	Environmentally Sensitive Lands
FEMA	Federal Emergency Management Agency
FSC	Federal Species of Concern
FT	Federally Threatened
HAPs	Hazardous Air Pollutants
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HMMD	Hazardous Material Management Division
IBWC	International Boundary and Water Commission
I	Interstate
LCP	Local Coastal Program
MC	Maritime Chaparral
MSCP	Multiple Species Conservation Program

MHPA	Multi-Habitat Planning Area
MSCP	Multiple Species Conservation Program
MSS	Maritime Succulent Scrub
MOU	Memorandum of Understanding
MPE	Most Probable Magnitude Earthquake
NNG	Non-Native Grasslands
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Act of 1970
PM_{10}	Particulate Matter Less Than 10 microns
$PM_{2.5}$	Particulate Matter Less Than 2.5 microns
PRC	Public Resources Code
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SMGB	State Mining and Geology Board
SO_2	Sulfur Dioxide
SWPPP	Storm Water Pollution Prevention Program
TRNERR	Tijuana River National Estuarine Research Reserve
TCP	Traditional Cultural Property
TRVEA	Tijuana River Valley Equestrian Association
TRVRP	Tijuana River Valley Regional Park
TSNWR	Tijuana Slough National Wildlife Refuge
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

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CHAPTER 1.0 PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

1.1 Project Description and Location

The Tijuana River Valley Regional Park (TRVRP) is located in the City of San Diego (**Exhibit 1-1**) in the southwestern portion of San Diego County. The TRVRP is bounded on the east by Dairy Mart Road and the residential community of San Ysidro (with the exception of a portion of the Dairy Mart Ponds that extend further east between the Interstate 5 (I-5) corridor and Camino de la Plaza), on the west by Border Field State Park and the Tijuana Estuary, on the south by the United States (U.S.)-Mexico International Border, and on the north by Sunset Avenue (with the exception of 95 acres immediately north of Sunset) and the residential community of Otay-Nestor.

The TRVRP is bisected by the east/west flowing Tijuana River, which flows from Mexico and drains into the Pacific Ocean through the Tijuana River Estuary located west of the TRVRP. The TRVRP consists of 1,800 acres. The County owns 1,638 acres. Other landowners include the City of San Diego and the California Department of Fish and Game (CDFG), with the transfer of the latter properties pending. The boundary of the TRVRP is shown in **Exhibit 1-2**, as well as the local limits of the MHPA.

1.1.1 Project's Component Parts

The Proposed Project includes the following components:

1. Development of a formal recreational trail network. The existing informal network consists of unplanned and unauthorized dirt roads and pathways within the TRVRP. The 22.5 mile formal trail system includes the following types of trails, as shown on **Exhibit 1-3**:
    - 6.5 miles of six-foot-wide multi-use trails (i.e., equestrian/ bicycle/pedestrian) within existing dirt road and pathway alignments;
    - 6.6 miles of multi-use trails to be shared with U.S. Customs and Border Protection Service (CBP) authorized and emergency use[1];
    - 7.1 miles of four-foot-wide equestrian/pedestrian trails within existing dirt road and pathway alignments;
    - 0.2 miles of pedestrian/equestrian trails shared with CBP authorized and emergency use within existing road paths;
    - 0.3 miles of six-foot-wide multi-use trails to be constructed along two new alignments, including a new steel semi-truss multi-use recreational bridge over the Tijuana River;

[1] The six-foot-wide multi-use trail will be located within existing trails or dirt roads (typically 8 to 10 feet wide)

- 0.5 miles of six-foot-wide multi-use trails within the Community Garden;
- 0.2 miles of 15-foot-wide multi-use trails within ballfields; and
- 1.1 miles of existing sidewalk (5.5-foot-wide) and bike lanes (four-foot-wide) on the Dairy Mart Road bridge over the Tijuana River.

The Proposed Project would maximize use of existing dirt roads and pathways recognized in the MOU through trail realignments and enhancements, and in some cases closures and restoration where haphazard and unplanned development of trails has resulted in habitat degradation.

2. Revegetation of existing informal trails and dirt roads. As part of the Proposed Project, most of the existing informal trails and dirt roads not included in the formal trail network described above, will be closed and revegetated. Trail restoration would be designed to allow and facilitate native habitat re-growth along 40.9 miles of existing dirt roads and pathways resulting in the active or passive restoration of approximately 34.11 acres of riparian and upland vegetation communities. 8.1 miles of existing informal trails will be retained for the exclusive use of the CBP.
3. Restoration of approximately 60 acres of habitat west of the Dairy Mart Ponds, situated south of the I-5/Dairy Mart Road interchange, including, wetland, riparian and coastal sage scrub habitats.
4. Establishment of an eastern trailhead staging area consisting of two acres along the west side of Dairy Mart Road, north of the Tijuana River. The staging area will provide trail users with various facilities (such as day-use parking, equestrian hitching posts, benches, and trail maps) to assist them at the beginning or end of their trips into or out of the TRVRP.
5. Construction of a steel semi-truss multi-use recreational bridge crossing over the Tijuana River. This bridge will be constructed following the dredging of the Tijuana River pilot channel by the City of San Diego pursuant to their semi-annual dredging program.
6. Interpretive and directional signage, benches, bird observation blinds, and other furnishings at trail heads, scenic vistas/overlooks, and other locations.

The elements of the Proposed Project are described in more detail in the following paragraphs.

1.1.1.1 Establishment of a Formal Recreational Trail System

The Tijuana River Valley Regional Park currently contains 71.5 miles of unplanned, unauthorized and haphazard dirt roads and pathways. These impromptu trails have been created by hikers, equestrians, illegal border crossings, CBP activities, and other uses. Under existing conditions, the numerous informal dirt roads and pathways have over time contributed to a degradation of habitat. The resulting intensive and often uncontrolled recreational use of these trails has posed an increased threat to sensitive biological resources in the Tijuana River Valley. The Proposed Project will create a formal recreational trail system that will serve recreational trail users and, following the closure of existing informal pathways, will facilitate revegetation of degraded habitat.

The Proposed Project would create a formal 22.5 -mile recreational trail network based primarily on existing dirt roads and pathways. The trails will be designed in accordance with guidelines detailed in the County of San Diego Department of Parks and Recreation approved County Trails Program. Surface material will consist of native soils. Two new trail segments, totaling 0.3 miles, will be constructed. One of these segments will be constructed in the northwestern quadrant of the TRVRP, west of Hollister Street, and will cross the Tijuana River via the recreational trail bridge described below in sub-chapter 1.1.1.5. The other segment is located to the east of Hollister Street, north of the Tijuana River. **Exhibit 1-3** presents the formal trail network. **Table 1-1** describes the disposition of the existing informal network within TRVRP as proposed by the Project. As shown in this table, 40.9 miles of existing informal trails will be closed and revegetated, 8.1 miles will be retained for exclusive CBP use, and the remaining 22.5 miles and the addition 0.3 mile of trail will be allocated to the formal recreational trail network.

Several of the formal trail segments will be *narrower* than the existing, and will provide an opportunity for revegetation. **Table 1-2** summarizes the potential revegetation acreage by vegetation community. In order to avoid potential noise impacts to sensitive bird species, bridge construction shall not take place within 300 feet of breeding habitat for the least Bell's vireo, California gnatcatcher, or light-footed clapper rail during the breeding season (i.e., February 1 through September 15).

1.1.1.2 Revegetation of Existing Informal Trails and Dirt Roads

Exhibit 1-5 presents the existing informal trails to be revegetated as part of the Proposed Project. As discussed above, the revegetation of 40.9 miles of informal trails will provide an opportunity to rehabilitate some habitat that had been previously damaged as a consequence of trail creation. Active and passive restoration techniques will be employed, as summarized in **Appendix C-4** (*Programmatic Restoration Concepts and Guidelines for the Tijuana River Valley Regional Park*). At a minimum, actions would be taken to facilitate successful restoration by keeping users off the edge of the existing trail, avoid weed infestations (such as site clean-up and decompaction), scheduled exotic species removal and programmatic monitoring and maintenance (i.e., passive restoration) activities. Active restoration will involve the same steps, but instead of natural recruitment, native vegetation will be planted using container stock, cuttings, or seeding methods. Active restoration will also include decompaction, exotic species removal, regular long-term monitoring and, in certain cases, limited grading. The restoration plan contained in **Appendix C-4** provides specific guidance on site selection, restoration techniques, best management practices (BMPs), and performance criteria. The proposed project will incorporate existing portions of a trail system that was recognized in 1996 through an MOU among various parties[2]. **Table 1-3** describes the acreage by vegetation community that will be restored through either active or passive means.

1.1.1.3 Restoration of Habitat West of Dairy Mart Ponds

A 60-acre triangular-shaped parcel located west of the Dairy Mart Ponds and south of the I-5/Dairy Mart Road interchange is proposed for habitat restoration. The goal of the habitat restoration project is to expand the existing areas of riparian and floodplain-associated habitats,

and create a southern willow scrub habitat linking existing areas of similar habitats. The location of the restoration area is depicted on **Exhibit 1-6**. **Exhibit 1-7** presents the type of existing vegetation within this area. This area is located adjacent to the northern TRVRP boundary and northeast of the newly developed sports complex. The land is currently fallow and has been previously used for agricultural production. An existing 35-foot wide utility easement would be maintained and will be used for the multi-use trail/CBP joint use. Two 18" reinforced concrete pipes will be installed underneath the exiting utility easement. The proposed grading and culverts proposed for the project will allow hydraulic connection the river flows when the Tijuana River water surface elevations exceed 25 feet in the project vicinity.

1.1.1.4 Establishment of an Eastern Staging Area

The Eastern Staging Area would consist of a 1,100-foot long by 200-foot wide (at the maximum width) segment of the old Dairy Mart Road. It is northwest of and parallel to the current Dairy Mart Road. This Proposed Project element is shown in **Exhibit 1-8**. This area is already graded and paved but may require additional improvements, including striping. The staging area will provide park users access to trails. Day-use parking, equestrian hitching posts, benches, and trail maps will be provided within this area. The driveway to this staging area is located directly off of Dairy Mart Road north of the Dairy Mart Bridge and would be designed to provide an adequate ingress and egress line of sight consistent with City of San Diego traffic and roadway engineering requirements and standards.

Alternative staging areas considered included an area at the southeast corner of International Road and Sunset Avenue adjacent to the existing ball fields, an area along Hollister Street and north of Monument Road, and an area along Monument Road, west of Hollister Street. The alternative staging areas are shown in **Exhibit 1-9**. The International Road and Hollister Street locations can be easily accessed; however, these areas contain sensitive habitats that may reduce their viability as alternate sites. The Monument Road alternative is located in a disturbed area but is not easily accessible from the road. Also, the two Hollister Street sites would be redundant, given the nearby existing Central Staging area, located between Hollister Street and Saturn Boulevard. After considering the limitations of the alternative staging areas, the Eastern Staging Area was determined to be a better location for the types of uses needed in a staging area.

1.1.1.5 Construction of a Recreational Trail Bridge over the Tijuana River

The Proposed Project will include the construction of a steel semi-truss trail bridge over the Tijuana River (River), between Saturn Boulevard and Hollister Street. This project component is shown on **Exhibits 1-10** and **1-11**. The design and location of the proposed bridge were selected to avoid and minimize potential effects to the floodplain, surrounding riparian habitat, and associated sensitive biological resources, such as the least Bell's vireo. Park users would be able to use the proposed bridge to cross the River in this location regardless of seasonal variation in the River's water level. As discussed above, this bridge will be constructed following the dredging of the Tijuana River by the City of San Diego pursuant to their semi-annual dredging program.

1.1.1.6 Construction of Interpretive Signage, Benches, Site Furnishings, and Bird Observation Blinds

All formal trailheads and designated staging areas would be clearly posted with interpretive and directional signage depicting the location of the trail relative to the trail network in the TRVRP. General locations where signs and benches would be installed are shown on **Exhibit 1-12**. Example signage, site furnishings, and bird observation blinds are depicted in **Exhibits 1-13** through **1-18.** Information regarding trail length and other pertinent information would also be posted at the trail heads. Interpretive signage would be posted at designated scenic vistas and overlooks providing additional information relative to the view provided. Benches will also be provided at all official trailheads and scenic overlooks. Two bird observation blinds will be provided south of the Dairy Mart Ponds, and a third would be located in the northwestern portion of the TRVRP, south of Sunset Avenue and west of Saturn Boulevard.

1.1.2 Technical, Economic, and Environmental Characteristics

The Proposed Project's technical characteristics involve the construction of two new trail segments totaling 0.3 miles, the construction of a new trail bridge crossing over the Tijuana River, and the provision of vehicular access to/from the Eastern Staging Area. The new six-foot-wide trail segments at the bridge crossing would avoid existing black willow (*Salix gooddingii*) trees and would require the removal of existing exotic species. Prior to the construction of the bridge, the Tijuana River pilot channel will be dredged by the City of San Diego in accordance with their semi-annual dredging program conducted by the City's Streets Division. Construction of the steel truss bridge would require two pilings at each abutment (four pilings total) with minimal approach embankment fill. The piles would be driven to a depth that is approximately 80 feet below the ground surface to ensure the sustainability of the bridge in a flood event with major bottom scouring. The steel truss deck would span over the low flow channel. Access to and from the Eastern Staging Area will be via a driveway located north of the Dairy Mart Road Bridge over the Tijuana River. As discussed in **Chapter 4**, design of this access will be coordinated with the City of San Diego to provide adequate sight distance for vehicles at this intersection. The Proposed Project will not include any substantial changes to topography, mass grading activities, or capacity increases to transportation infrastructure or wet utilities.

As discussed in subsequent sub-chapters, the Tijuana River Valley provides a unique environmental function, given its location and its large, contiguous blocks of high-value habitat. In addition to providing foraging and breeding habitat for migratory birds, the TRVRP accommodates significant riparian communities. The Proposed Project area is a designated biological core area in the City of San Diego's Multiple Species Conservation Program (MSCP), and is located within the MHPA. Sub-chapter 1.3.1 describes the permits and approvals to be required for implementation of the Proposed Project. Sub-chapter 1.5.2 describes the Proposed Project's conformity with the MSCP.

1.2 Project Objectives

The objective of the Proposed Project is to implement a trails and habitat restoration effort sponsored by the California Coastal Conservancy, a state agency. This effort is intended to

provide a linkage to the California Coastal Trail, and recognizes the potential for restoration of riparian and coastal sage scrub habitats despite many years of damage including severe natural and unnatural flooding. As discussed above, the numerous areas of high-value habitat have deteriorated over time by the formation of numerous unauthorized pathways created by its various users. The Proposed Project is intended to create, enhance and restore natural habitats within TRVRP while optimizing the recreational use of the site and accommodating ongoing border protection activities. This is to be achieved through the creation of a formal trail network and revegetation of numerous unauthorized pathways and dirt roads. In addition, the Proposed Project is planned to provide public access to the coast and linkages to the regional trails system including the Coastal Trail via Bayshore and to developing communities located east of the Regional Park through planned linkages along Dairy Mart Road. The Proposed Project also provides an opportunity to document site conditions and constraints to guide long-term decision-making regarding recreation uses and activities and natural resource management.

The Proposed Project involves establishing a formal trail network and restoration of habitat, and is not intended to implement all of the restoration activities identified in the Tijuana River Valley MSCP Subarea Plan. For example, the Proposed Project will not conduct restoration on Spooner's Mesa and will not remove existing berms. Instead, restoration of the Tijuana River Valley is a long-term objective that will be accomplished after grant funding has been secured and suitable sites have been identified. The County of San Diego plans to cooperate with the City's Flood Control Department in implementing their 25-year plan, which may involve the removal of some berms in the TRVRP and the relocation of any trails atop these berms.

1.3 Intended Uses of the EIR

This EIR is an informational document, which will inform public agency decision-makers, and the public generally of significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. This document has been prepared in accordance with the *Environmental Impact Report Format and General Content Requirements* (County of San Diego, June 2004) in compliance with all criteria, standards, and procedures of the California Environmental Quality Act (CEQA) of 1970 as amended (PRC 21000 *et seq*). Per section 21067 of CEQA and Sections 15367 and 15053 of the State CEQA Guidelines, the County is the *Lead Agency* under whose authority this document has been prepared.

This is a project-level EIR as defined in Section 15161 of the State CEQA Guidelines because the EIR examines the environmental effects of a specific development project. This EIR will be used for the following purposes:

- To inform the public, decision-makers, elected officials and other stakeholders regarding the Proposed Project and to solicit input on the nature and scope of potential environmental effects addressed in the Draft EIR;
- To disclose to the public, decision-makers, elected officials and other stakeholders the potential environmental effects associated with short-term construction and long-term operation of the Proposed Project;

- To identify ways to avoid or minimize potential environmental effects of the Proposed Project and evaluate alternatives to the proposed action(s);
- To provide the San Diego County Board of Supervisors with a technically and legally adequate environmental document to be used in their decision-making process for the Proposed Project; and,
- To provide regulatory agencies with information necessary to determine if they have jurisdiction over the Proposed Project and, if so, to identify and streamline project permitting requirements.

1.3.1 Matrix of Project Approvals/Permits

Table 1-4 shows the permits that will be required for the Proposed Project. These include the following:

1. U.S. Army Corps of Engineers
    - Section 404 General – Nationwide Permits (25, 27, 33, and 42)
2. California Department of Fish and Game
    - Fish and Game Code 1602 Agreement
3. Regional Water Quality Control Board
    - Section 401 Water Quality Certification
4. City of San Diego
    - Site Development Permit
    - Coastal Development Permit
    - MSCP Consistency Determination

1.3.2 List of Related Environmental Review and Consultation Requirements

The County has initiated Proposed Project coordination activities with the City of San Diego, California Department of Fish and Game, United States Fish and Wildlife Service, the United States Department of the Army, Corps of Engineers and the U.S. Customs and Border Protection. A Preliminary Review application for MSCP Consistency and a Coastal Development Permit was submitted to the City of San Diego in July 2004 for review and comment. The City of San Diego's final approval is required under the MSCP.

In addition, the development and planning of the Proposed Project has been coordinated internally among the County of San Diego Planning and Land Use, Public Works, and Parks and Recreation Departments.

Upon Proposed Project approval and following certification of the EIR, the County would commence additional project coordination activities with all applicable regulatory agencies to ensure full regulatory compliance prior to the initiation of any construction activities.

1.4 Environmental Setting

As discussed above, the Proposed Project is located in the southwestern portion of San Diego County, east of the Border Field State Park, south of the City of Imperial Beach and the City of

San Diego community of Otay-Nestor, west of Dairy Mart Road (some of the park extends east), and north of the U.S.-Mexico International Border. Visitors to the TRVRP use the existing network of informal trails (see previously referenced **Exhibits 1-3** and **1-4**) that traverse the many habitats for hiking, riding horses, and other passive recreation such as birdwatching. The most popular horse trails connect the Equestrian Staging Area to the Pacific Ocean. Other man-made features include a Community Garden, a Bird and Butterfly Garden, and a Visitor Center. Designated federal and state facilities located adjacent to the TRVRP include: the Tijuana Slough National Wildlife Refuge (TSNWR) and Border Field State Park. These two facilities, along with the western portion of the TRVRP, comprise the Tijuana River National Estuarine Research Reserve.

The Tijuana River Valley Regional Park (TRVRP) comprises approximately 1,800 acres (2.8 square miles) within the lower Tijuana River Valley in southwestern San Diego County. The Tijuana River Valley is a unique area containing large, contiguous blocks of high quality habitat that support numerous sensitive plant and animal species. For example, riparian areas within the TRVRP represent some of the largest and most important riparian habitat systems in San Diego County, and provide habitat for two federally endangered birds: the light-footed clapper rail (*Rallus longirostris levipes*), and the southwestern willow flycatcher (*Empidonax traillii extimus*) and has been designated critical habitat for the endangered the least Bell's vireo (*Vireo bellii pusillus*). Diegan coastal sage scrub provides foraging and nesting habitat for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*). Other onsite vegetation communities include mule fat scrub (transitional riparian), chaparral, maritime succulent scrub, freshwater marsh, native and non-native grassland, and disturbed areas. Together, these vegetation communities potentially support 40 special status plant species and 56 special status animal species.

The TRVRP is critical to wildlife because it is a part of the Pacific Flyway, which provides foraging and breeding habitat for many migrating bird species. Because of its importance to wildlife, the area has been designated as a biological core area in the City of San Diego's Multiple Species Conservation Program (MSCP), and lies almost entirely within the Multiple Habitat Planning Area (MHPA). Designated federal and state open space located adjacent to the TRVRP include: the Tijuana Slough National Wildlife Refuge (TSNWR) and Border Field State Park.

However, the Tijuana River Valley also supports areas that have been subjected to human disturbance for decades. These disturbances have resulted in the loss of native habitat, negative impacts to water quality, compaction of native soils, accumulation of trash, erosion and sedimentation. The quality of water in the Tijuana River, particularly water from Mexico, is often heavily impacted by sediments, pollution, trash and debris. Poor water quality has resulted in numerous beach closures just west of the TRVRP. The TRVRP Trails and Habitat Enhancement Project will help reduce these disturbances by closing off unnecessary trails, restoring habitat, and educating the public about the importance of open space conservation.

1.5 Consistency of Project with Applicable Regional and General Plans

The TRVRP consists of a total of 1,800 acres, of which 1,638 acres are owned by the County. The other landowners in the TRVRP include the City of San Diego (City) and the California Department of Fish and Game (CDFG), with the transfer of these latter properties pending. The land area encompassing the Tijuana River Valley Regional Park is located within the City of San Diego. Land planning decisions within the TRVRP will require coordination with the following policies and regulations:

- City of San Diego
    - Tijuana River Valley Local Coastal Program Land Use Plan
    - Multiple Species Conservation Program Subarea Plan
    - General Plan and Zoning Code requirements
    - Environmentally Sensitive Lands & Hillside Review Ordinances

1.5.1 Tijuana River Valley Local Coastal Program and Land Use Plan

The California Coastal Commission (CCC) and the local governments along the coast share responsibility for managing the State's coastal resources mandated by the California Coastal Act of 1976 (California Public Resources Code 30000 ET seq). Through coordination with the CCC, coastal cities and counties develop Local Coastal Programs (LCPs). These programs are the primary means for carrying out the policies of the California Coastal Act at the local level. In general, these policies are intended to promote public access and enhance recreational use of the coast as well as protection of natural resources in the coastal zone.

Following approval by the CCC, the LCP is certified and the local governments implement the programs. LCPs include two main components, a Land Use Plan and an Implementation Plan. These components may include details indicating the kinds, location, and intensity of land uses and applicable resource protection and development policies (CCC 2003).

The Proposed Project is within the California Coastal Zone and therefore subject to the California Coastal Act. The City of San Diego's LCP Amendment #2-90 (certified in September 1990) included all the Tijuana River Valley rezoning needed to make the zoning consistent with the certified Land Use Plan. Once these rezoning were certified by the Coastal Commission, coastal development permit authority was delegated to the City of San Diego.

1.5.2 San Diego County MSCP and City of San Diego MHPA

The San Diego County Board of Supervisors adopted the MSCP Subarea Plan in August 1998 as an integral part of the County's efforts to protect parks, open space, and habitats for sensitive species while allowing development consistent with the plan. The MSCP is a cooperative habitat program that encompasses 582,000 acres and establishes a 172,000-acre preserve system in southwestern San Diego County. The MSCP covers 85 plant and animal species and 23 vegetation community types and includes participation by the County and other local jurisdictions as well as the USFWS and the CDFG. Local jurisdictions and special districts implement their respective portions of the MSCP Plan through Subarea plans, which describe

specific implementing mechanisms for the MSCP. The combination of the subregional MSCP Plan and Subarea plans serve as a Multiple Species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA), the Natural Community Conservation Program (NCCP) pursuant to the California NCCP Act of 1991 and the California Endangered Species Act (CESA). Although the study area is partially owned and fully operated by the County of San Diego, the property is covered under the City of San Diego's Subarea Plan and therefore will be evaluated pursuant to regulations and guidelines set forth in the City's Subarea Plan.

The City of San Diego MSCP Subarea Plan (City of San Diego 1997) encompasses 206,124 acres within the MSCP Subregion. Within this area, the City has delineated a 56,831 acre Multiple Habitat Planning Area (MHPA) for the purpose of protecting critical sensitive biological resources. The MHPA, which makes up the preserve system for the MSCP, is being assembled and managed for biological resources. The Tijuana Estuary/River Valley was identified as a Core Resource Area -- an area with a high concentration of sensitive biological resources, which, if lost, could not be replaced or mitigated elsewhere. This region supports one of the most important wetland systems in the County, and the City proposes to preserve approximately 94% of the Tijuana River Valley core area within the entire MHPA. To achieve its conservation goals, the Subarea Plan encourages the restoration of the Tijuana River Valley to a natural floodplain that contains appropriate habitats for endangered, threatened, and other covered species and vegetation communities.

Primary concerns for the Tijuana River Valley, including the Regional Park, include: management of land use adjacent to covered species habitat; water quality; dumping and vandalism; non-sustainable agriculture; invasive species introduction and control; illegal immigration; restoration needs; excavation activities; flood control; and maintenance of human use areas. Under the City of San Diego MSCP Subarea Plan, explicit management policies and directives have been outlined for the Tijuana River Valley to address these concerns (MSCP 1997). Guidelines that pertain specifically to the MHPA within the Tijuana River Valley include the following:

(a) Maintain existing reserve (estuary) and park uses,
(b) Maintain a buffer around all wetland areas,
(c) Maintain existing agricultural uses on Spooner's Mesa, with the long-term goal of phased restoration to coastal sage scrub, maritime succulent scrub or native grassland habitat,
(d) Maintain agricultural use on County-owned lands, with the long-term goal of restoration to native vegetation where possible, consistent with the County's Management Framework Plan, and
(e) Retain and enhance, where possible, existing riparian habitat along the Tijuana River.

The Subarea Plan forms the basis for the Implementing Agreement, which is the contract between the USFWS, CDFG, and the City of San Diego pursuant to FESA and CESA. The agreement ensures implementation of the plan and qualifies as a stand-alone document to implement the City's portion of the MSCP Preserve. MSCP-covered species are included in an

Incidental take Authorization issued to the City by the USFWS or CDFG as part of the City's MSCP Subarea plan.

1.5.2.1 Environmentally Sensitive Lands Regulations (ESL)

The City of San Diego Land Development Code includes regulation of Environmentally Sensitive Lands (ESL) (Chapter 14, Division 1, Section 143.0101 et seq.). The ESL defines sensitive biological resources as those lands included within the MHPA as identified in the City's MSCP Subarea plan, and other lands outside of the MHPA that contain wetlands, vegetation communities classifiable as Tier I, II, IIIA or IIIB; habitat for rare, endangered or threatened species; or narrow endemic species.

Wetlands are differentiated in the ESL regulation from uplands and further differentiated between naturally occurring wetland areas and those created by human activities (San Diego Municipal Code 2001). Naturally occurring inland wetland types include riparian habitats, freshwater marsh, natural flood channels, swales, deltas and vernal pools. Under the ESL, impacts to wetlands should be avoided, and a wetland buffer must be maintained around all wetlands as appropriate to protect the functions and values of the wetland. Wetland functions include providing wildlife habitat (spawning, nesting, rearing, and foraging), food chain productivity, filtration leading to improved water quality, ground water recharge, and protection from storm and floodwaters through water retention.

Upland vegetation communities within the MSCP study area have been divided into four tiers of sensitivity based on rarity and ecological importance. The tiers (from most to least sensitive) are:

Tier I – Rare Uplands (maritime succulent scrub, native grassland, etc),
Tier II – Uncommon Uplands (coastal sage scrub),
Tier III – Common Uplands (IIIA – chaparral and IIIB – non-native grasslands) and
Tier IV – Other Uplands (disturbed land, agriculture, eucalyptus, ornamentals).

Unavoidable impacts to upland communities must be mitigated according to ratios provided in the guidelines. However, measures that contribute towards overall implementation of the MSCP may be considered as mitigation, even when a net loss of the existing inventory of sensitive biological resources occurs.

All habitats supporting listed species (e.g. salt marshes for the endangered salt marsh bird's beak) are considered sensitive biological resources under the ESL. Additionally, within the MHPA, individuals of narrow endemic species and MSCP-covered species are considered sensitive biological resources.

1.5.2.2 MSCP Conformance Analysis

As discussed above in sub-chapter 1.5.2, the MSCP Subarea Plan details major issues that require consideration in any planning efforts for the Tijuana River Valley, including intense land uses adjacent to covered species habitats, compromised water quality, dumping and vandalism,

non-sustainable agricultural uses, exotic species invasion, illegal immigration and U.S. Customs and Border Protection activities, restoration needs, mining and excavation, flood control, and infrastructure construction and maintenance. The Proposed Project is consistent with most of the requirements of the MSCP, the City of San Diego's MSCP Subarea Plan and other planning documents, such as the Tijuana River Valley Management Framework Plan (California State Polytechnic University, Pomona, Prepared for the County Department of Parks and Recreation, 1989). Some trail planning guidelines in the Tijuana River Valley Management Framework Plan are superseded by the 1996 "MOU for Inter-Agency Trail Coordination" described in subchapter 1.1.1.2. These documents contain language regarding any future development and conservation efforts in the study area and within the MSCP preserve boundary. The following lists some of the project components identified in the City's Subarea Plan that are addressed by the Proposed Project to address the above-described environmental issues:

- Preserve and enhance covered species habitat;
- Widen and restore floodplain;
- Evaluate current trail use (e.g., equestrian and border protection);
- Identify trail management needs and limited vehicle access;
- Prohibit off-road vehicle use; and
- Prohibit illegal uses (e.g., illegal trail use, squatting, and housing) and restore areas back to native habitat.

Specifically, the following project components comply with the provisions as stated in the MSCP:

- No active recreational uses, such as sports fields, are permitted, or will be located, within the core habitat areas as identified in the MSCP. Natural habitat areas will be shielded from lighting, and landscaping of recreational areas will exclusively contain native species.
- Off road vehicle activity is prohibited within the park's boundaries.
- Invasive and exotic plant species will be removed pursuant to general management directives; native habitat restoration will occur in selected areas within the floodplain and north-west of the Dairy Mart Ponds.
- Habitats for sensitive and MSCP-covered species will be maintained and improved, such as habitats for the Northern harrier, mountain plover, southwestern willow flycatcher, least Bell's vireo, California gnatcatcher, light-footed clapper rail, etc.
- A total of 38.12 acres of disturbed habitat will be restored back to riparian and wetlands functions to provide habitat for sensitive and MSCP-covered species, and to widen the river corridor. This includes associated with trail closure and from trail narrowing.
- Trails within core habitat will stay on the same footprint as existing trails, will not exceed a width of four feet, and will be used for hiking, biking, and equestrian use. The following exceptions exist:

- Customs and Border Protection trails will be wider pursuant to requirements of the federal Triple Fence Project; Customs and Border Protection trails (of which approximately 8.1 miles of various lengths will be retained for exclusive CBP use) are not part of the Proposed Project;
- There will be 7.7 miles of in the MSCP core area. In addition, 3.9 miles of multi-use trail segments are located within the core riparian habitat: one trail extends east-west along the southern edge of the riparian habitat, and one trail extends north-south leading to and from the bridge across the Tijuana River. The trails facilitate east-west and north-south trail connections in the center of the study area and will be constructed on existing trail footprints, except for the new 0.3-mile connecting segment. Both trails are consistent with the above referenced 1996 Trails Coordination MOU. Impacts to riparian habitats and associated biological resources will be minimized through intensive management, including cowbird trapping, invasive species removal, fencing, and manure management.

- Existing trails that need to be retained and that are currently wider than four-to-six feet will be narrowed using restoration techniques, such as decompaction, exotic week eradication, monitoring, and reseeding if feasible.
- No active uses will occur within 300-500 feet of any wetland with the exception of the equestrian staging area in the eastern portion of the study area. The staging area will be located on an exisiting disturbed area that is currently paved and compacted. In order to avoid impacts to sensitive biological resources and to plan proper access, the equestrian center will be located on an existing asphalt pad. This pad is adjacent to a fenced riparian habitat mitigation area created by the City of San Diego. The project has incorporated measure to offset its potential impacts including fencing, cowbird trapping, manure management, and regular ranger patrols.

1.6 List of Past, Present, and Reasonably Anticipated Future Projects in the Project Area

In accordance with CEQA § 15130 (b) (1) (A), five proposals in the vicinity of the TRVRP were identified for the purposes of evaluating the potential cumulative impacts of those projects combined with the Proposed Project. The geographic scope used to identify the cumulative impacts was defined based on the following considerations:

A. Given the nature of the Proposed Project (i.e., trails and habitat enhancement), cumulatively considerable[3] impacts could arise in the following resource categories:

- Agricultural Resources
- Biological Resources
- Noise

[3] That is, the Proposed Project's individual impacts may not be significant, but a significant cumulative impact may occur when the Proposed Project is combined with past, present, and reasonably anticipated future projects in the project area.

- Recreation
- Traffic Circulation

B. With the exception of Traffic Circulation, the potentially impacted communities/receptors for each of the above-described resources would be located in the immediate project vicinity. With respect to traffic, potential impacts would be limited both in intensity and duration of traffic in this area. Based on this, an extensive geographic scope is not necessary for the purposes of assessing cumulative effects.

C. Based on items A and B above, the following limits of the geographic scope for identifying cumulative proposals were identified:

- To the west: Pacific Ocean

- To the north:
  - Imperial Beach Boulevard, from Pacific Ocean to 5th Street
  - Southern boundary of Imperial Beach Naval Auxiliary Land Field, from 5th Street (extended) to 15th Street
  - Leon Avenue, from 15th Street to Hollister Street
  - Tocayo Avenue, from Hollister Street to I-5

- To the east: I-5

- To the south: U.S.-Mexico International Border

The following cumulative projects generated from the above criteria are described below. **Exhibit 1-19** depicts the geographic scope, and the general location of each of the cumulative projects.

1. *U.S. Customs and Border Protection 14-Mile Border Infrastructure System Project* – This project involves the development of a new triple fence system along the U.S. Mexico International Border to control illegal border crossings. This project has been exempted by federal authorities from environmental review and permitting.
2. *Goat Canyon Enhancement Project.* This project would provide enhancements and sediment controls for the Goat Canyon area of Border Field State Park. Environmental review has been completed.
3. *California Coastal Trail Planning – California Coastal Conservancy.* The California Coastal Conservancy is developing the California Coastal Trail (CCT), which is a network of publicly accessible trails for pedestrians, bicyclists, equestrians, wheelchair users and other users along the entire California coastline. When completed, the trail will stretch along the coast of California from the Oregon Border to the U.S.-Mexico International Border. The CCT is in the process of development. As discussed in sub-chapter 1.2, the Proposed Project is funded by the California Coastal Conservancy, and will form a portion of this trail network.

4. *Border Field State Park/Tijuana River Estuary Visitor Center.* This project involves the development and rehabilitation of day-use facilities at both the Border Field State Park and the Tijuana River Estuary Visitor Center. A Notice of Determination (NOD) was filed in October 2002. Work has been completed at the Tijuana River Estuary Visitor Center, but is still being implemented at Border Field State Park.
5. *Rio Walk Subdivision.* This project involves the construction of 182 single-family residences west of Hollister Street and south of Leon Avenue.
6. *San Diego County Water Authority Wetlands Mitigation Site.* The project would provide a 40-acre riparian woodland/riparian scrub mitigation bank within TRVRP. A Request for Proposal was issued in July 2005 and, as of November 2005; the County Water Authority was in the process of selecting an environmental consultant to identify the mitigation area and to prepare an environmental document.

1.7 Growth-Inducing Effects

The purpose of this section of the EIR is to evaluate the potential for growth-inducing effects of the Proposed Project. The CEQA Guidelines require a discussion of the ways in which a project could potentially foster economic or population growth or the construction of additional housing in the surrounding environment. This discussion should include the characteristics of the Proposed Project that may encourage or facilitate future growth that, either individually or cumulatively, could significantly affect the environment.

A growth-inducing effect is one that could lead to future growth or remove a barrier to growth. To evaluate the possible effects a Project may have on growth within the region, it is important to understand some of the traditional barriers to growth. These may include the following:

- Lack of transportation facilities for the population to travel between their place of employment, recreational facilities, service facilities, shopping and their homes.
- Lack of educational facilities including elementary and high school facilities, secondary education facilities, and vocational institutions.
- Employment patterns such as high unemployment or limited employment opportunities within the region.
- Availability of housing to accommodate all income categories.
- Availability of wastewater treatment capacity.
- Availability of emergency services such as police, fire, and medical facilities.
- Availability of electricity.
- Availability of water supply and distribution.

The Proposed Project is the enhancement of trails and habitat within an existing designated Regional Park. The Proposed Project has been designed to meet current and anticipated future habitat requirements of the MSCP as well as assisting in the meeting of existing and future recreational needs for southwestern San Diego County.

The Proposed Project would not result in increased employment, the development of additional housing or infrastructure. Because the Proposed Project will not increase the capacity of infrastructure or otherwise stimulate development, it would not remove any barriers to growth. Therefore the Proposed Project is not anticipated to result in any direct or indirect growth-inducing effects.

TABLES

TABLE 1-1
STATUS OF EXISTING AND PROPOSED FUTURE TRAILS

Trail Use	Mileage
Existing Trails, Roads and Paths	71.5 mi
Proposed Trail Network	
6 ft. multi-use trail within existing roads and paths	6.5 mi
6 ft. multi-use trail shared with CBP authorized and emergency use within existing roads and paths	6.6 mi
4 ft. pedestrian/equestrian trail within existing roads and paths	7.1 mi
4 ft. pedestrian/equestrian trail shared with CBP authorized and emergency use within existing roads and paths	0.2 mi
6 ft. multi-use trail – new segments (incl. new steel semi-truss bridge)	0.3 mi
6 ft. multi-use trail within Community Garden	0.5 mi
15 ft. wide multi-use trail within ballfields	0.2 mi
Bike and sidewalk on Dairy Mart Road -- existing	1.1 mi
TOTAL:	*22.5 mi*
Non-Project Trails to be Retained	
CBP trails within existing roads and paths	8.1 mi
Existing Trails to be Closed and Restored	40.9 mi

Notes:
CBP = Customs and Border Protection Service

TABLE 1-2
VEGETATION RESTORATION ON TRAILS TO BE NARROWED

Vegetation Community	Vegetation Restoration due to Trail Narrowing
Riparian Plant Communities	
Fresh Water Marsh	0.00 AC
Mule Fat Scrub	0.98 AC
Open Water	0.00 AC
Southern Cottonwood-Willow Riparian	0.61 AC
Southern Willow Scrub	0.29 AC
Diegan Coastal Sage Scrub	
Diegan Coastal Sage Scrub	0.25 AC
Chaparral Communities	
Southern Maritime Chaparral	0.00 AC
Southern Mixed Chaparral	0.02 AC
Other Native Communities	
Maritime Succulent Scrub	0.00 AC
Native Grassland	0.00 AC
Disturbed Habitat	
Disturbed Habitat	1.45 AC
Non-Native Communities	
Non-Native Grassland	0.37 AC
Eucalyptus Woodland	0.00 AC
Agricultural Lands	
Field/Pasture	0.51 AC
Row Crops	0.00 AC
Other Communities	
Urban/Disturbed	0.12 AC
TOTALS:	**4.60 AC**

Notes:
AC = Acres/CSS = Coastal Sage Scrub

TABLE 1-3

VEGETATION RESTORATION ON TRAILS TO BE CLOSED

Vegetation Community	Informal Trail Acreage for Active or Passive Restoration
Riparian Plant Communities	
Fresh Water Marsh	0.00 AC
Mule Fat Scrub	4.36 AC
Open Water	0.00 AC
Southern Cottonwood-Willow Riparian	0.00 AC
Southern Willow Scrub	3.31 AC
Diegan Coastal Sage Scrub	
Diegan Coastal Sage Scrub	8.82 AC
	0.00 AC
	1.31 AC
	0.38 AC
	0.64 AC
	6.35 AC
Chaparral Communities	
Southern Maritime Chaparral	1.71 AC
Southern Mixed Chaparral	1.19 AC
Other Native Communities	
Maritime Succulent Scrub	0.46 AC
Native Grassland	0.00 AC
Disturbed Habitat	
Disturbed Habitat	6.92 AC
Non-Native Communities	
Non-Native Grassland	2.80 AC
Eucalyptus Woodland	0.00 AC
Agricultural Lands	
Field/Pasture	2.76 AC
Row Crops	0.17 AC
Other Communities	
Urban/Disturbed	1.62 AC
TOTALS:	**34.12 AC**

Notes:
AC = Acres/CSS = Coastal Sage Scrub

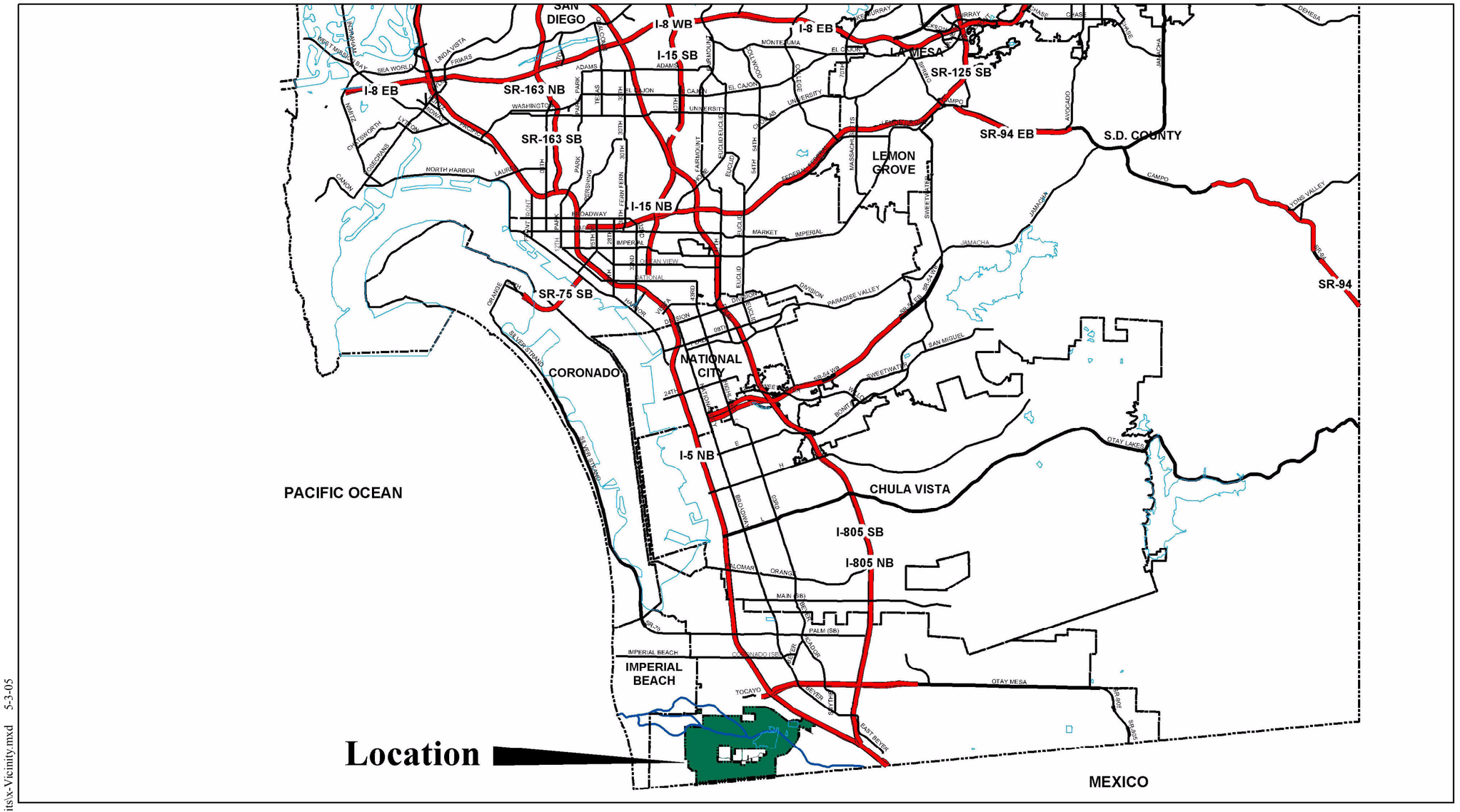
TABLE 1-4
LIST OF REQUIRED PERMITS AND PLANS

Agency	Permit	Notes
Federal		
U.S. Army Corps of Engineers (USACE)	Clean Water Act (CWA) Section 404 General - Nationwide Permits	Projects that will deposit dredged or fill materials into "waters of the US," including wetlands
		#25 - Structural Discharges #27 - Stream and Wetland Restoration Activities #33 - Temporary Construction, Access and Dewatering #42 - Recreational Facilities
State		
California Department of Fish and Game (CDFG)	Fish and Game Code Section 1602 Agreement	Projects that will obstruct/divert flow, change/use stream or lake, and/or deposit/dispose of debris into river/stream
Regional		
Regional Water Quality Control Board (RWQCB), San Diego Region	CWA Section 401 Water Quality Certification	Projects that will obstruct/divert flow, change/use stream or lake, and/or deposit/dispose of debris into river/stream
Local		
City of San Diego	Site Development Permit	Projects defined in Chapter 12, Article 6, Division 5 of the San Diego Municipal Code
	Coastal Development Permit	Projects defined in Chapter 12, Article 6, Division 7 of the San Diego Municipal Code
	Multiple Species Conservation Program Consistency Determination	Projects located within the Multiple Habitat Planning Area of the MSCP

K:\095432014\New EIR\County I119 Review Submittal 081505\[Tables 08.05 County.xls]1-4 List of Permits

EXHIBITS

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Legend

Tijuana River Valley Regional Park

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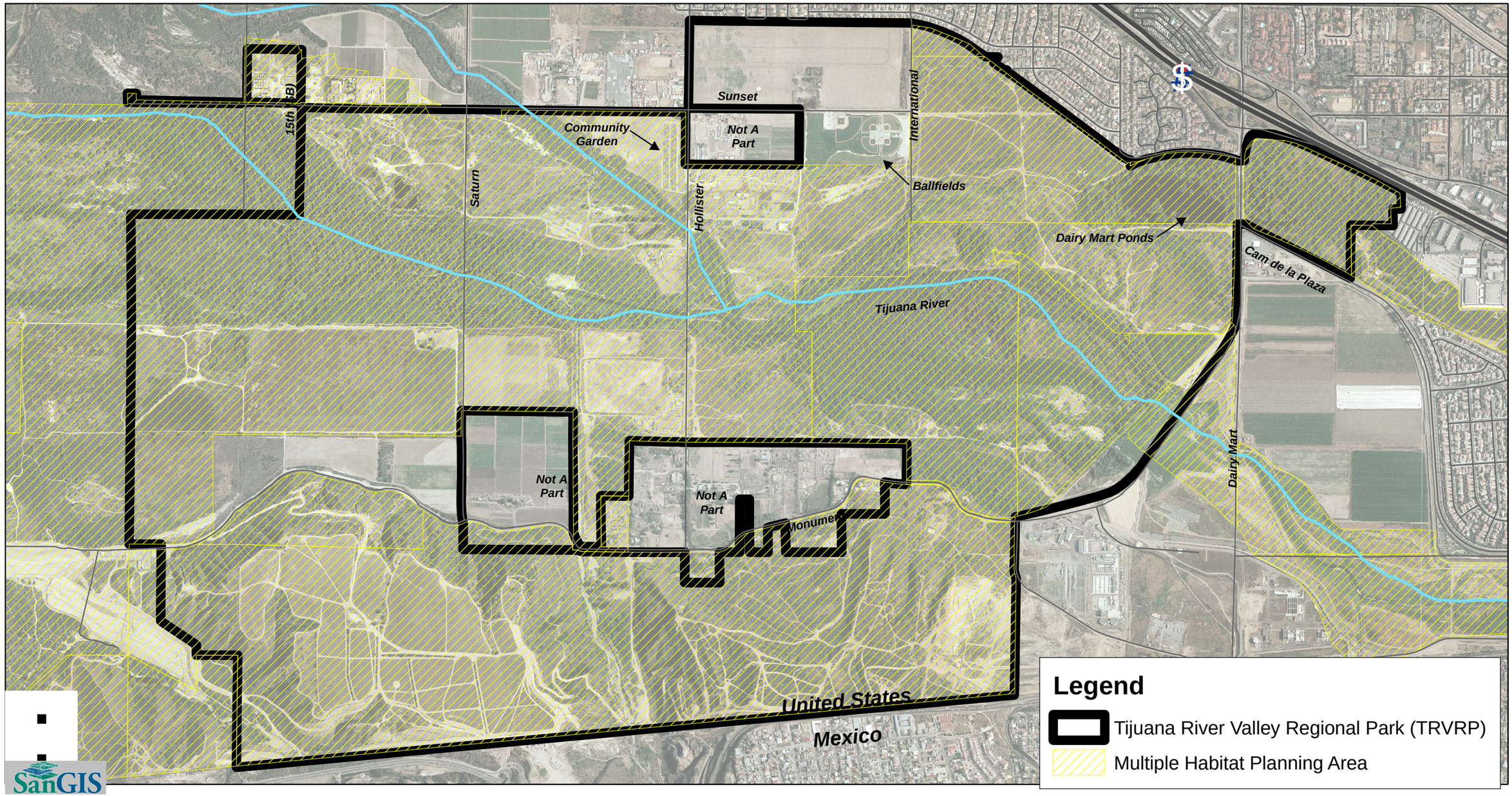
Exhibit 1-1
Project Vicinity Map

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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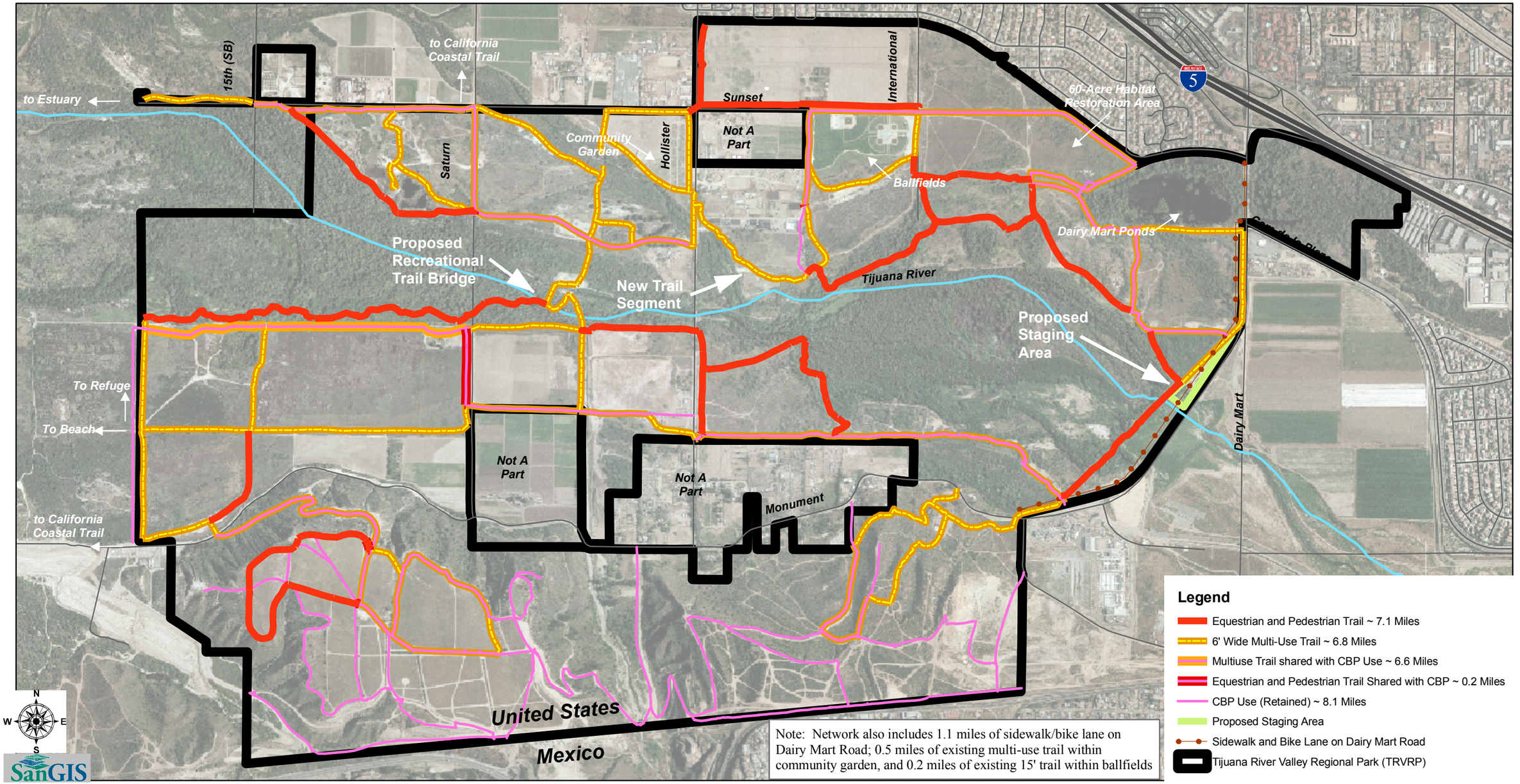
Sources

Exhibit 1-2
Project Boundary

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Note: Network also includes 1.1 miles of sidewalk/bike lane on Dairy Mart Road; 0.5 miles of existing multi-use trail within community garden, and 0.2 miles of existing 15' trail within ballfields

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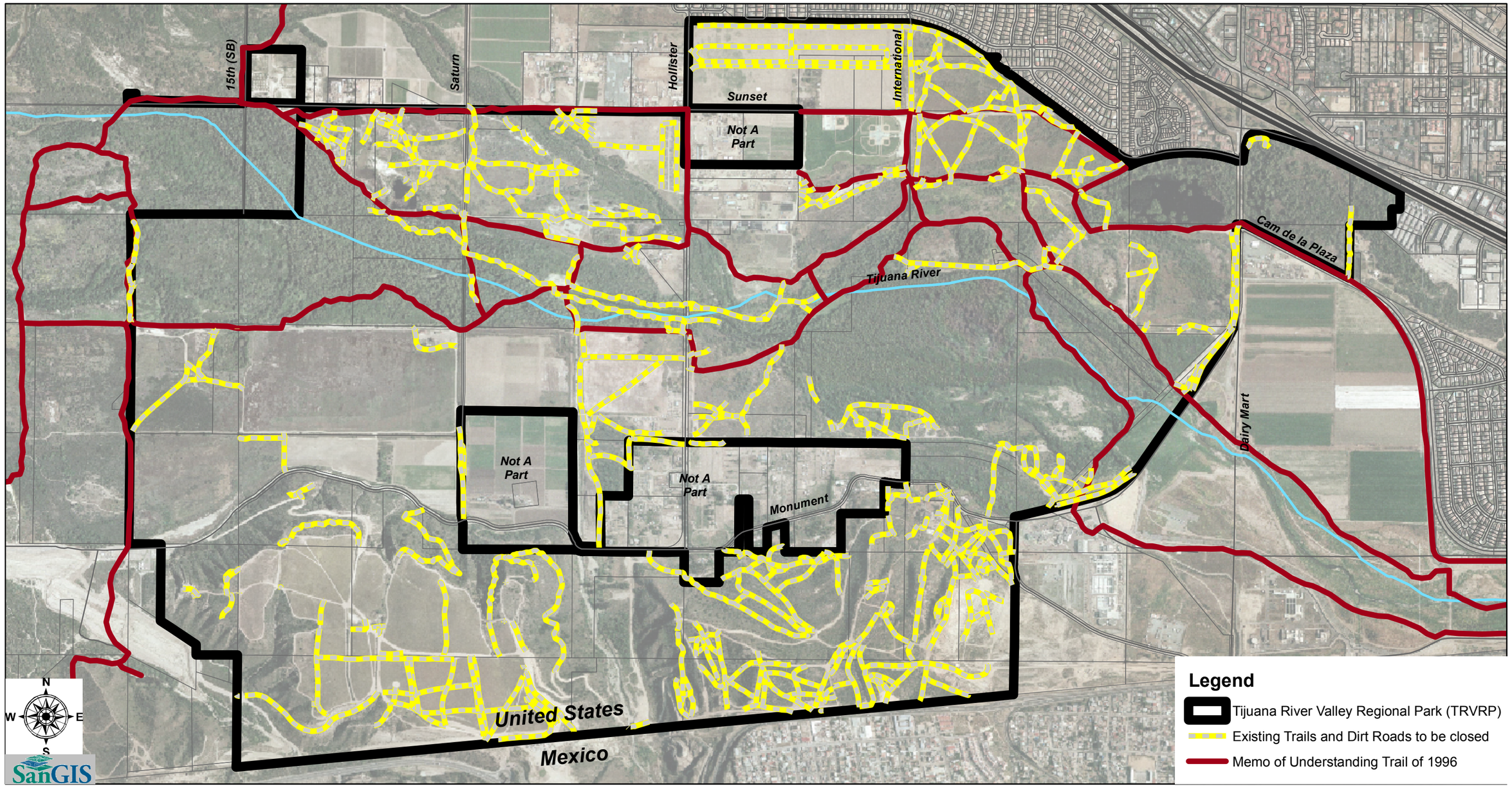
Sources

Exhibit 1-3
Formal Trail Network

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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Sources

Exhibit 1-4
Existing Dirt Roads and Trails to be Closed

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project

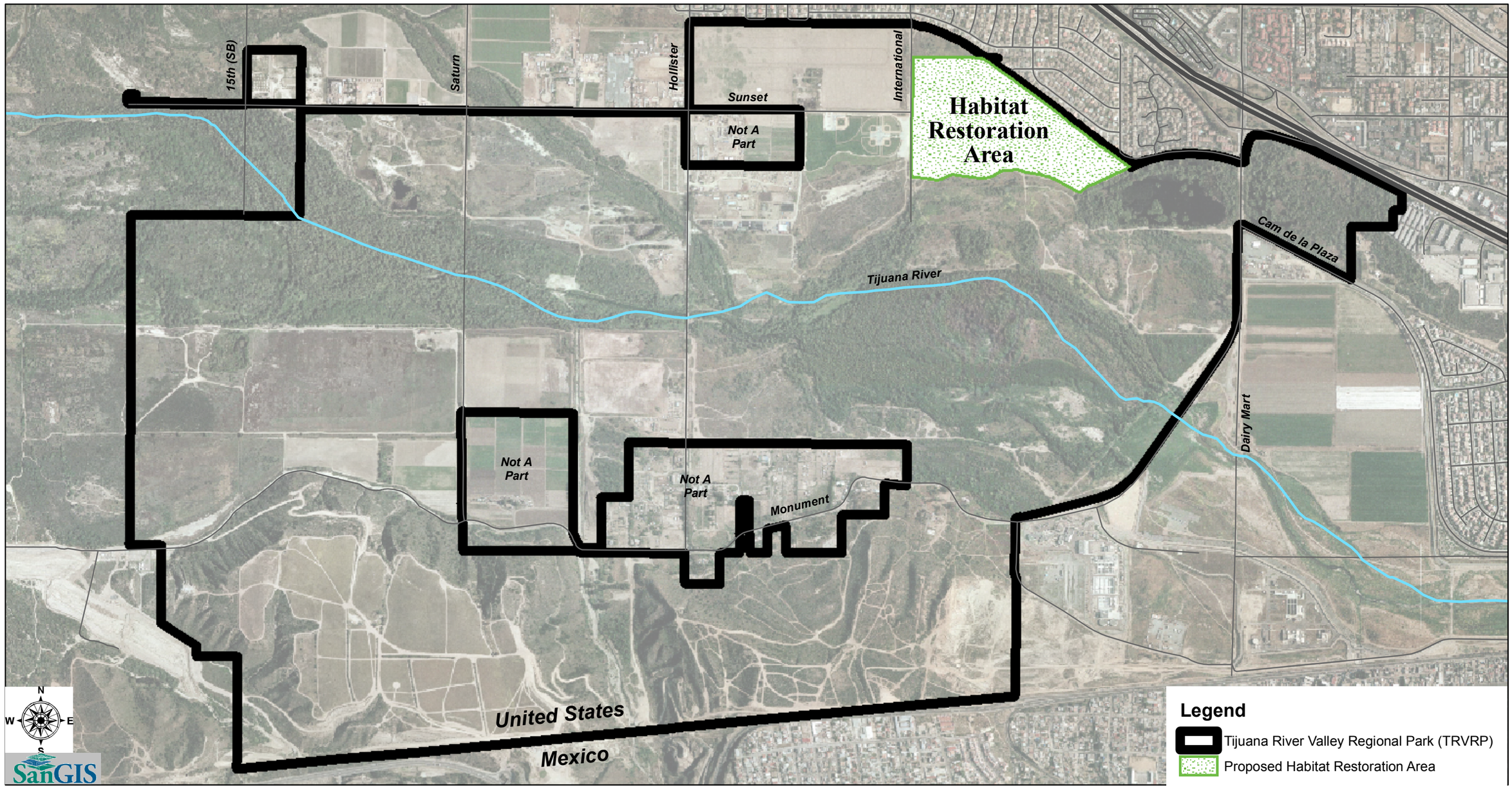

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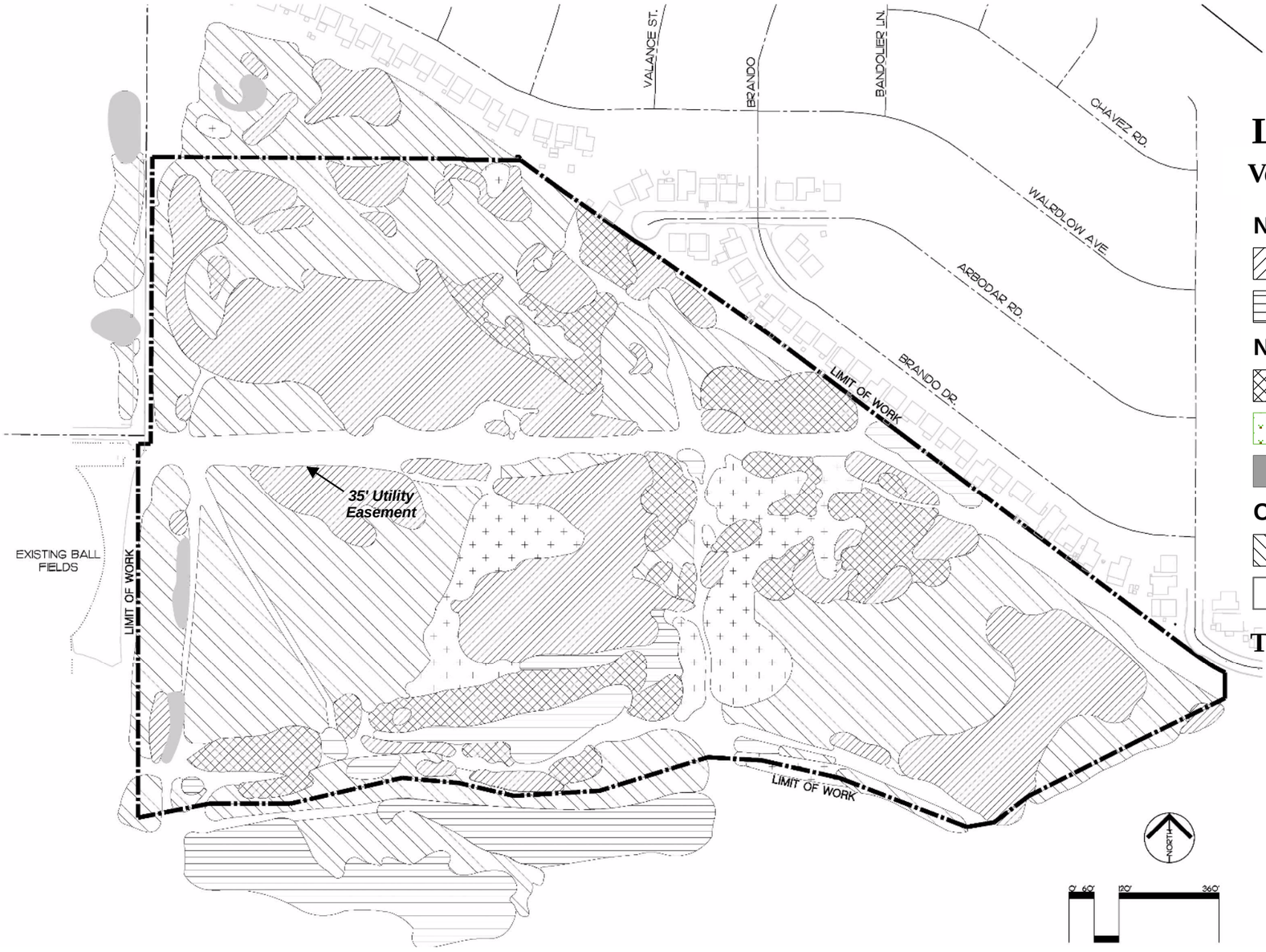
Exhibit 1-5
Habitat Restoration Area

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Legend

Vegetation Type	Acreage
Native	
Mule Fat Scrub	18.2
Southern Willow Scrub	2.2
Non-Native	
Tamarisk Woodland	7.3
Non-Native Grassland	4.9
Arundo	0.3
Other	
Disturbed/Ruderal	24.6
Non-Vegetated	2.8
TOTAL	**60.3 Acres**

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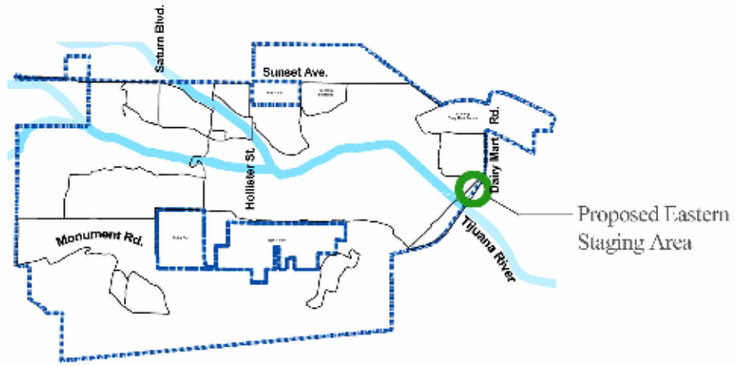
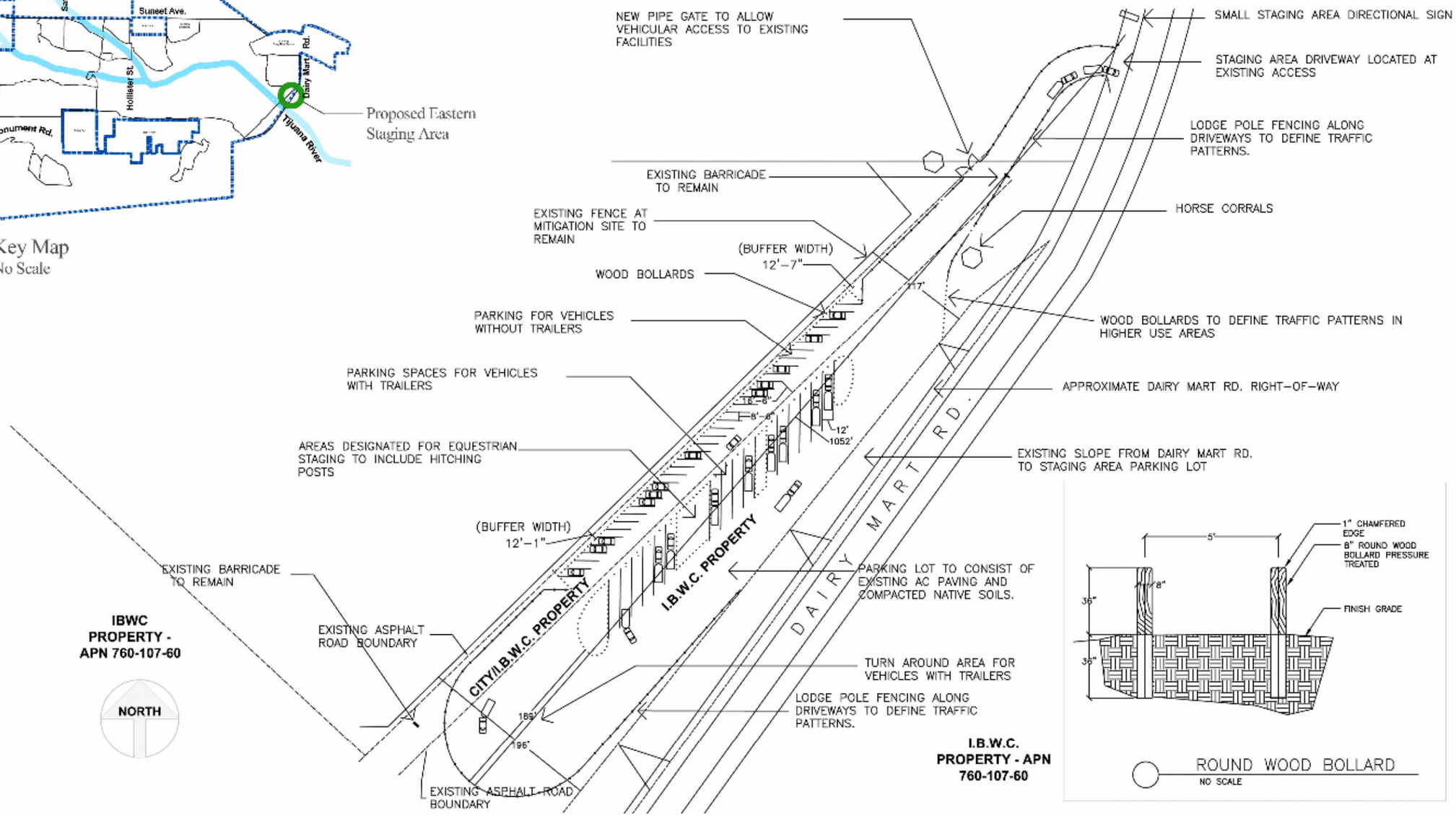
Sources

Exhibit 1-6
Habitat Restoration Site West of Dairy Mart Ponds - Existing Vegetation Communities

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Key Map
No Scale



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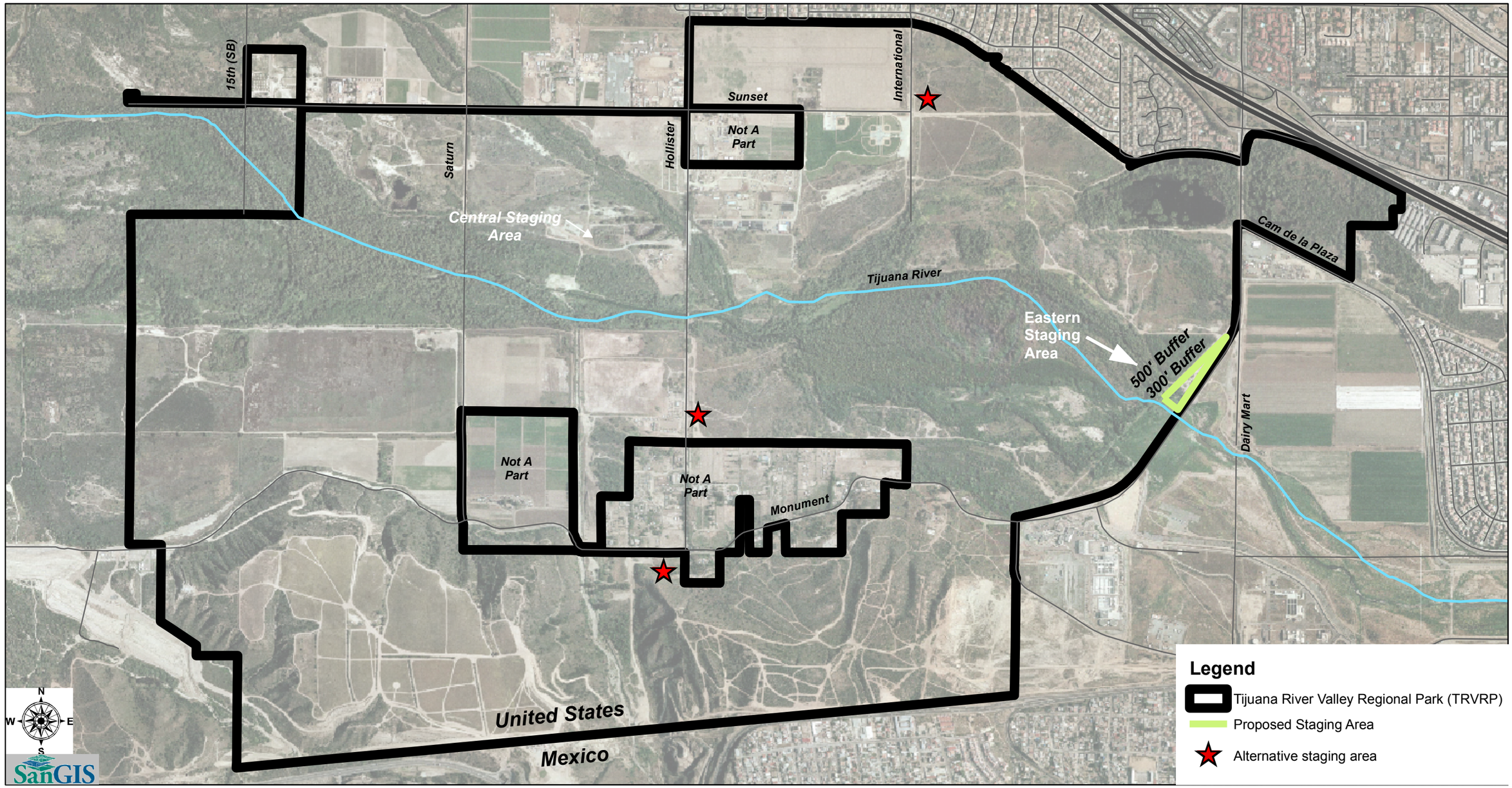
Sources

Exhibit 1-7
Proposed Eastern Staging Area

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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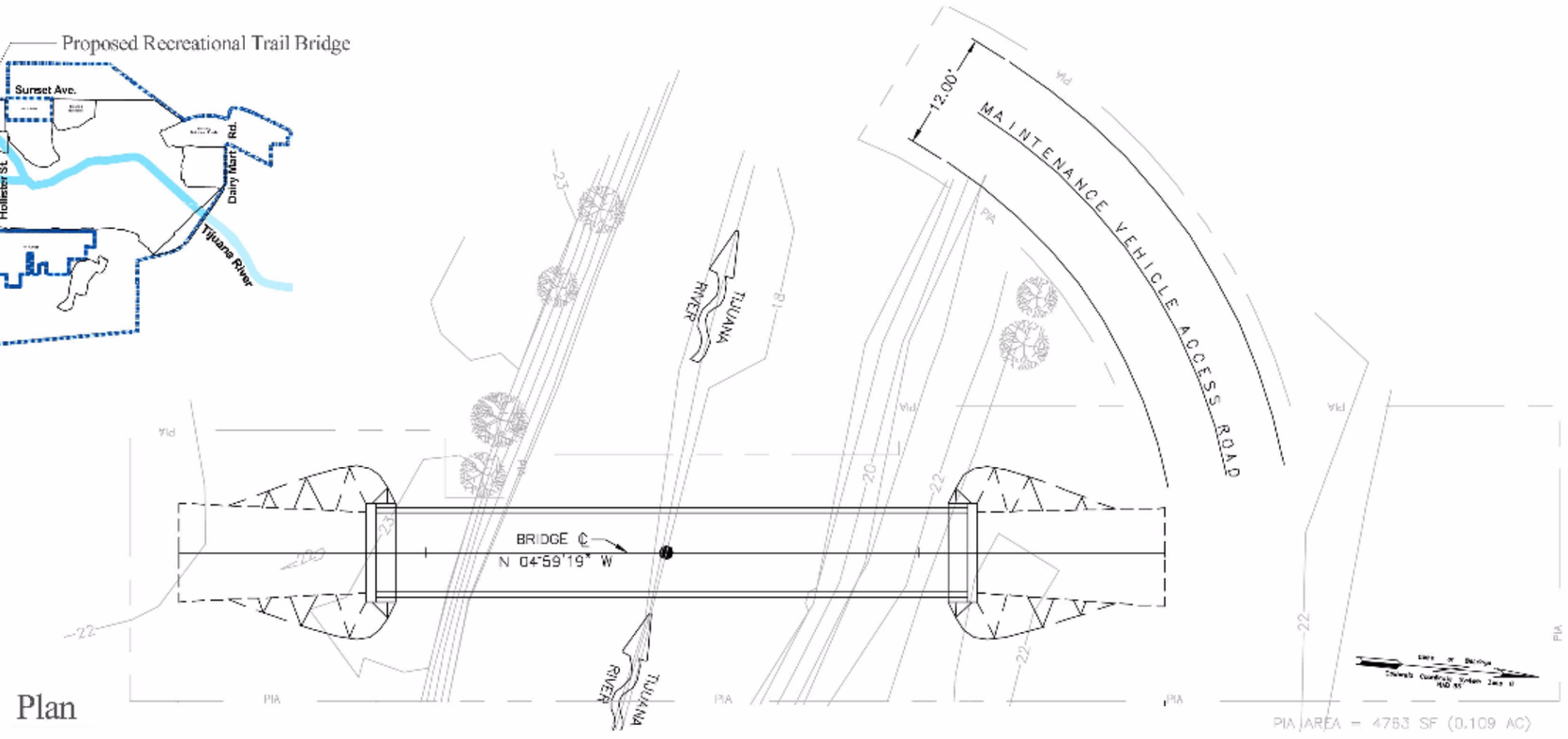
Sources

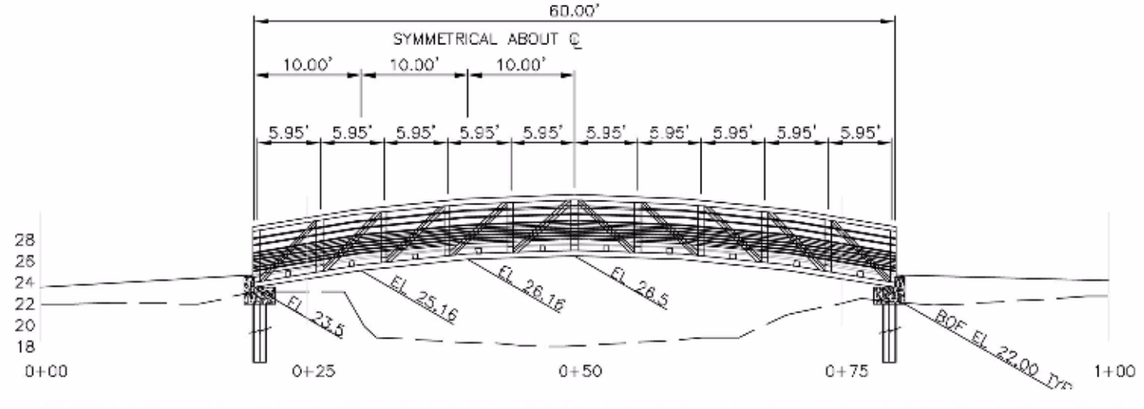
Exhibit 1-8
Alternative Staging Area Locations

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project

Key Map
No Scale



Plan



Profile

BRIDGE TYPICAL SECTION

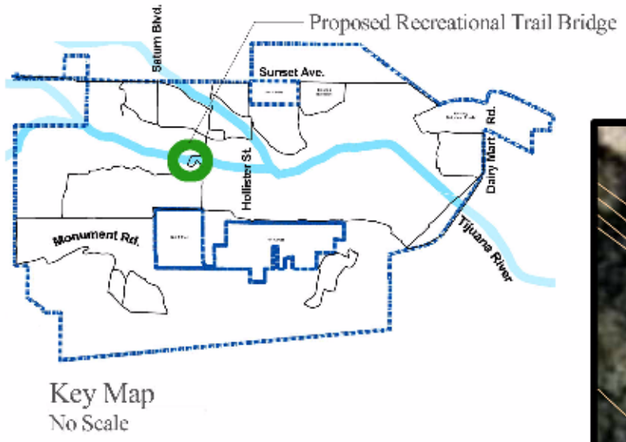
Prepared by: Department of Public Works
Preliminary (Not for Construction)

K:\095432014\GIS Exhibits\x-Proposed recreational trail bidge.mxd

Sources

Exhibit 1-9
Proposed Recreational Trail Bridge

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Key Map
No Scale

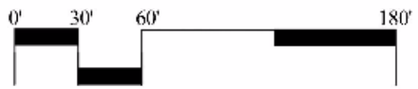


Exhibit 1-10

Proposed Recreational Trail Bridge with Aerial Photo

Sources

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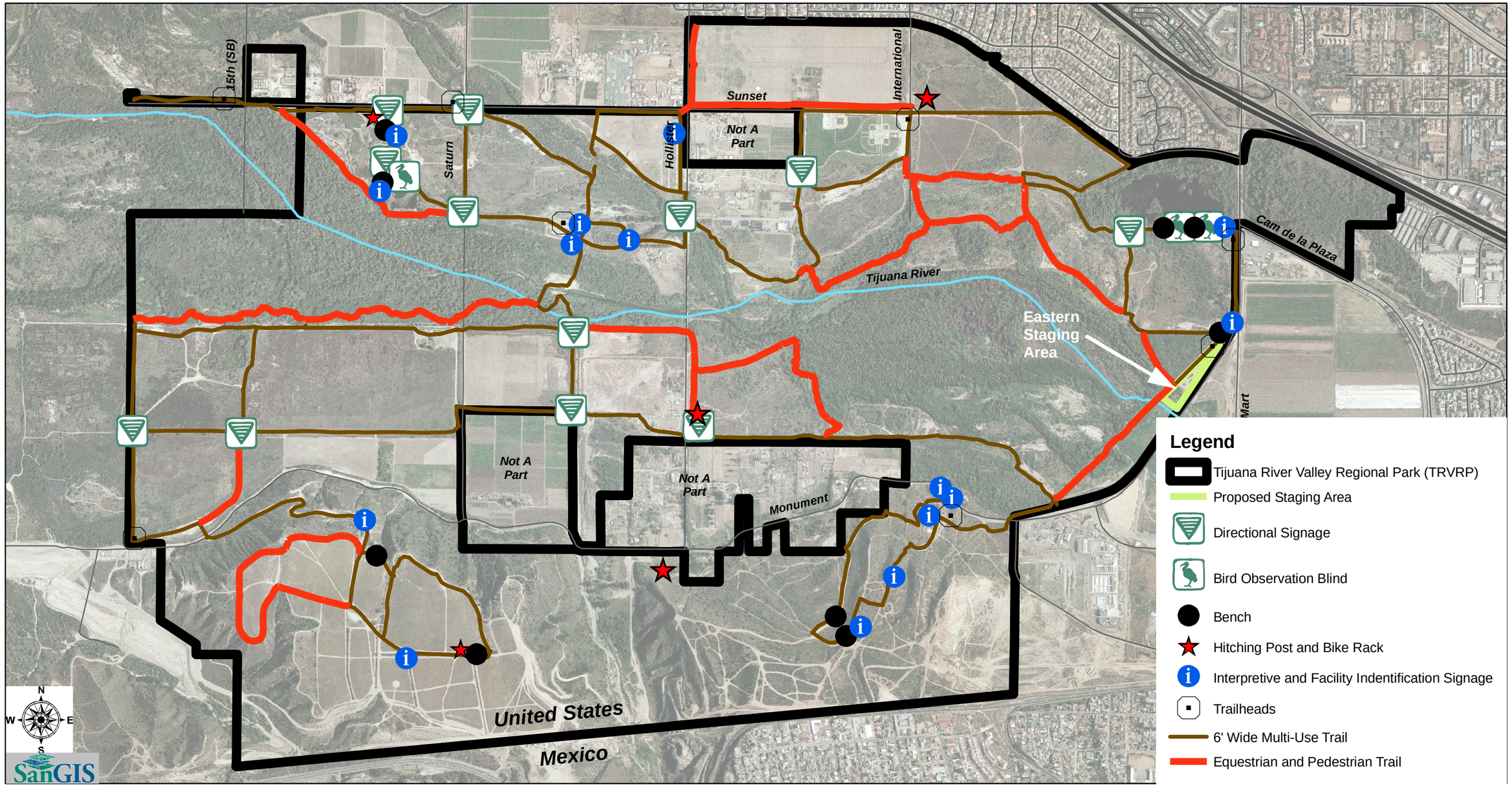
TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



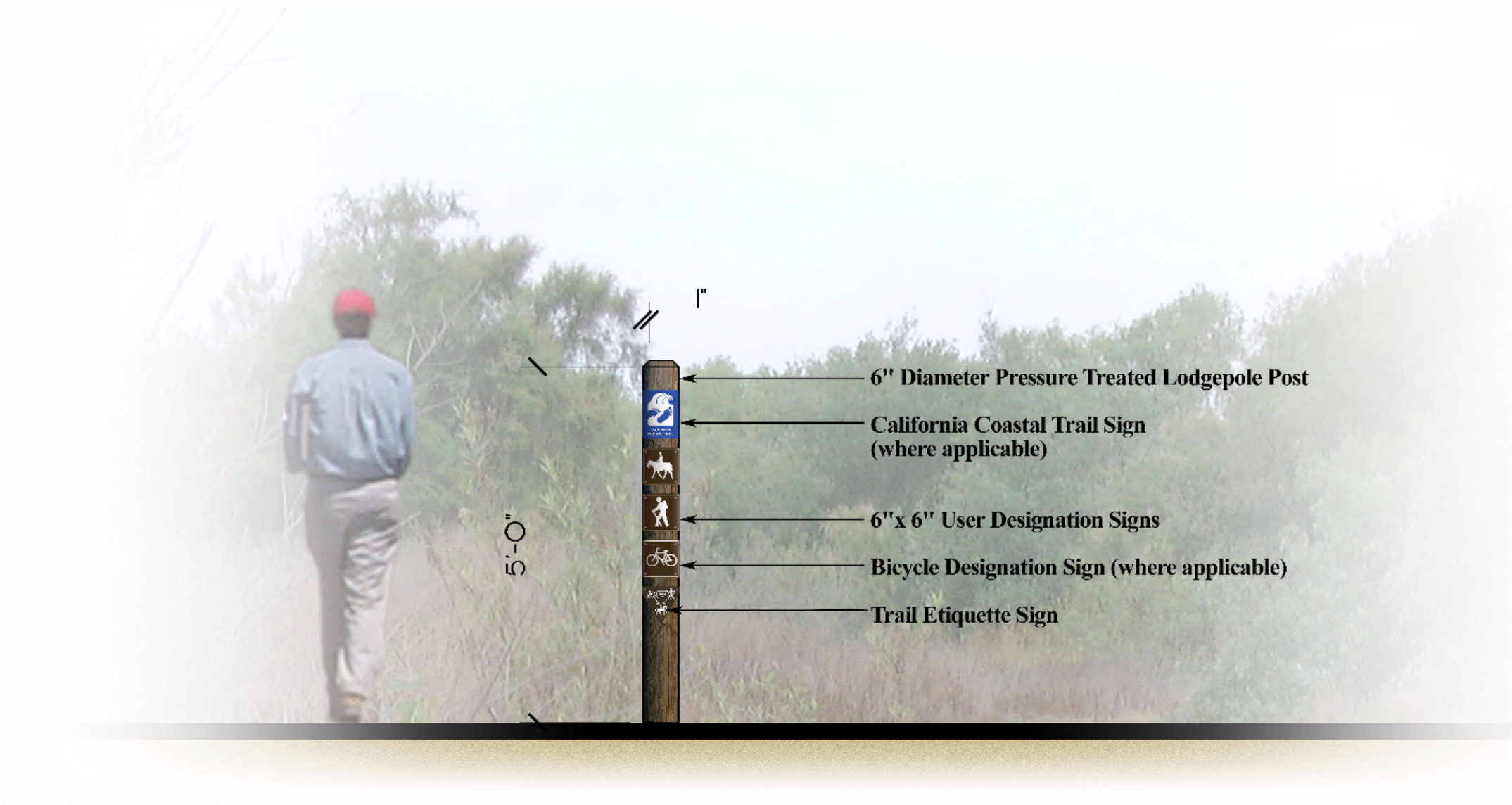
K:\09543201 4\GIS Exhibits\x-location of trail heads-signage-etc.mxd

Sources

Exhibit 1-11

Location of Trail Heads, Signage, Trail Furnishings and Bird Observations

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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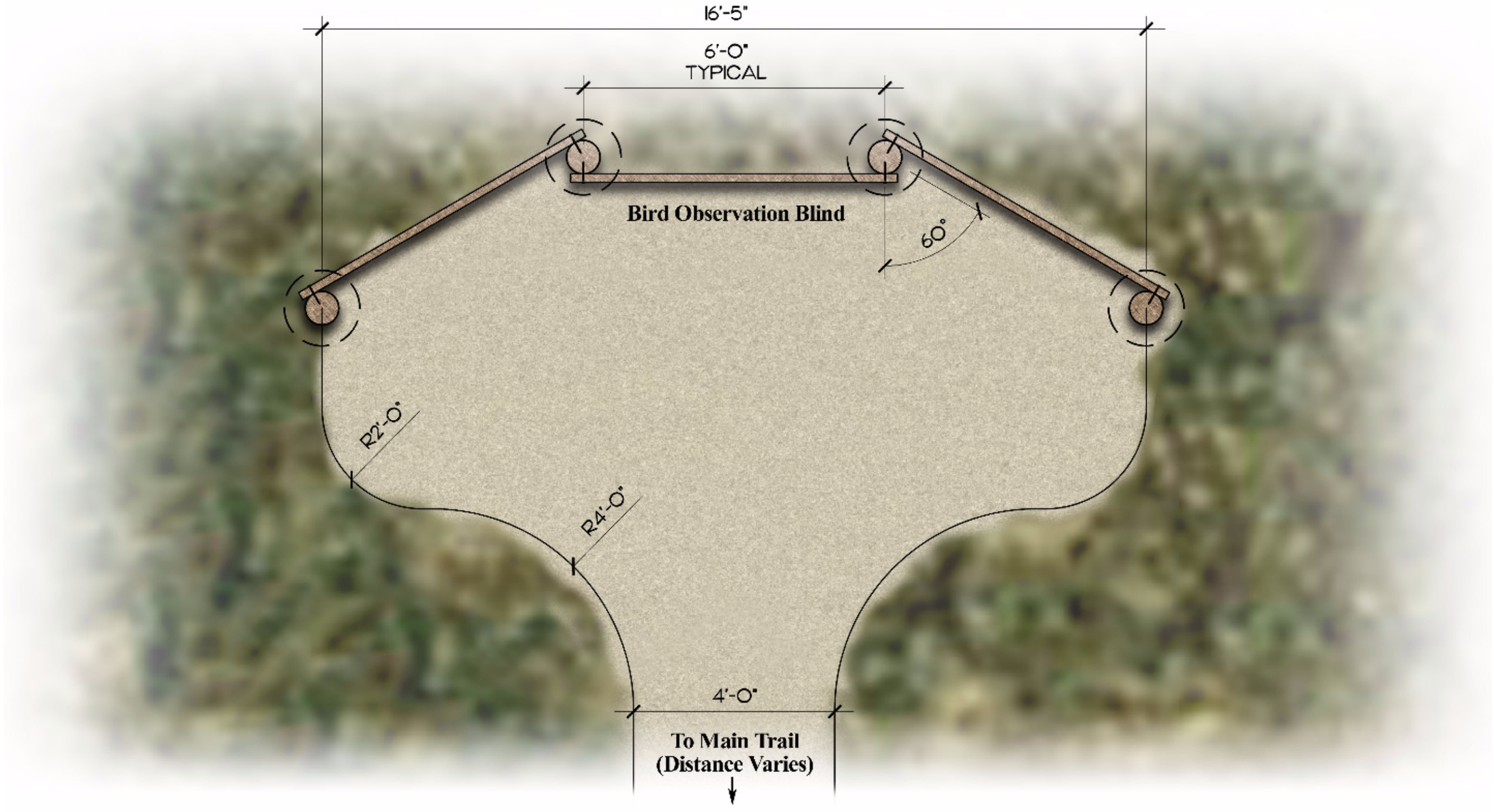
Sources

Exhibit 1-12
Typical Trail Marker Elevation

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



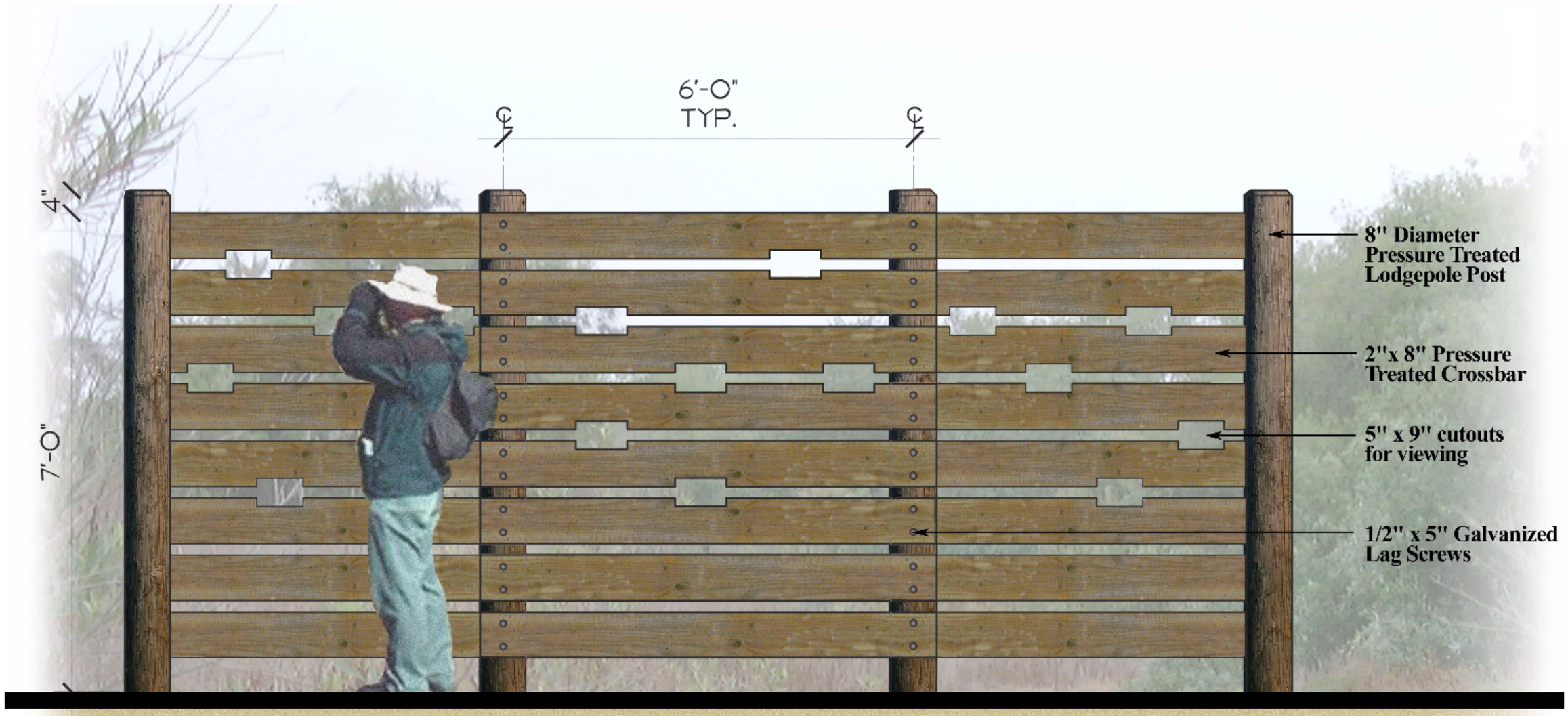
Sources

K:\09543201\4\GIS Exhibits\x-Typical Bird Observation Blind Plan.mxd

Exhibit 1-13

Typical Bird Observation Blind - Plan

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



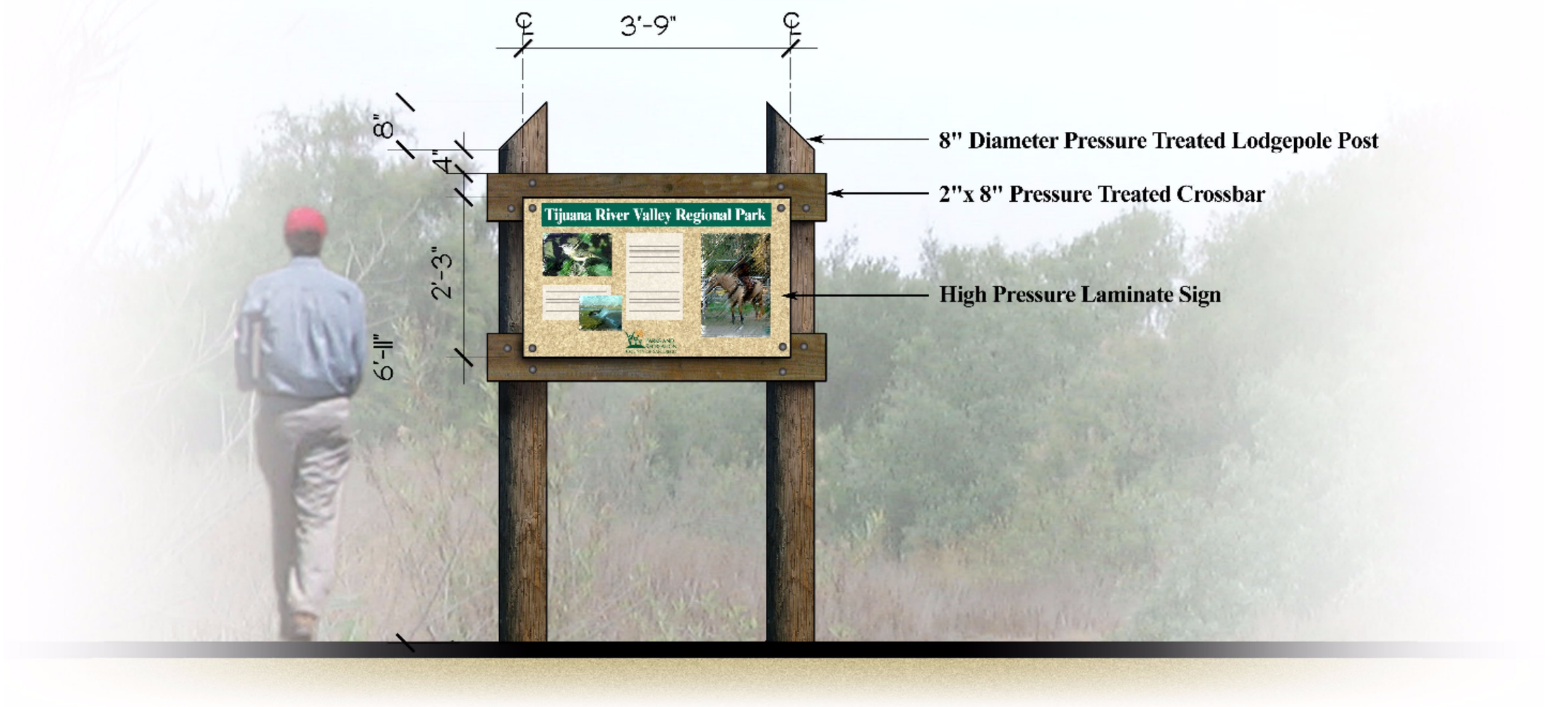
K:\095432014\GIS Exhibits\x-Typical Bird Observation Blind Elevation

Sources

Exhibit 1-14

Typical Bird Observation Blind - Elevation

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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Sources

Exhibit 1-15
Typical Interpretive Signage Elevation

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project

K:\09543201\4\GIS Exhibits\x-Typical Directional Signage Elevation.mxd

Sources

Exhibit 1-16

Typical Directional Signage Elevation

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project

6' Long Wooden Bench

Lodgepole Fence

Bike Rack

Hitching Post

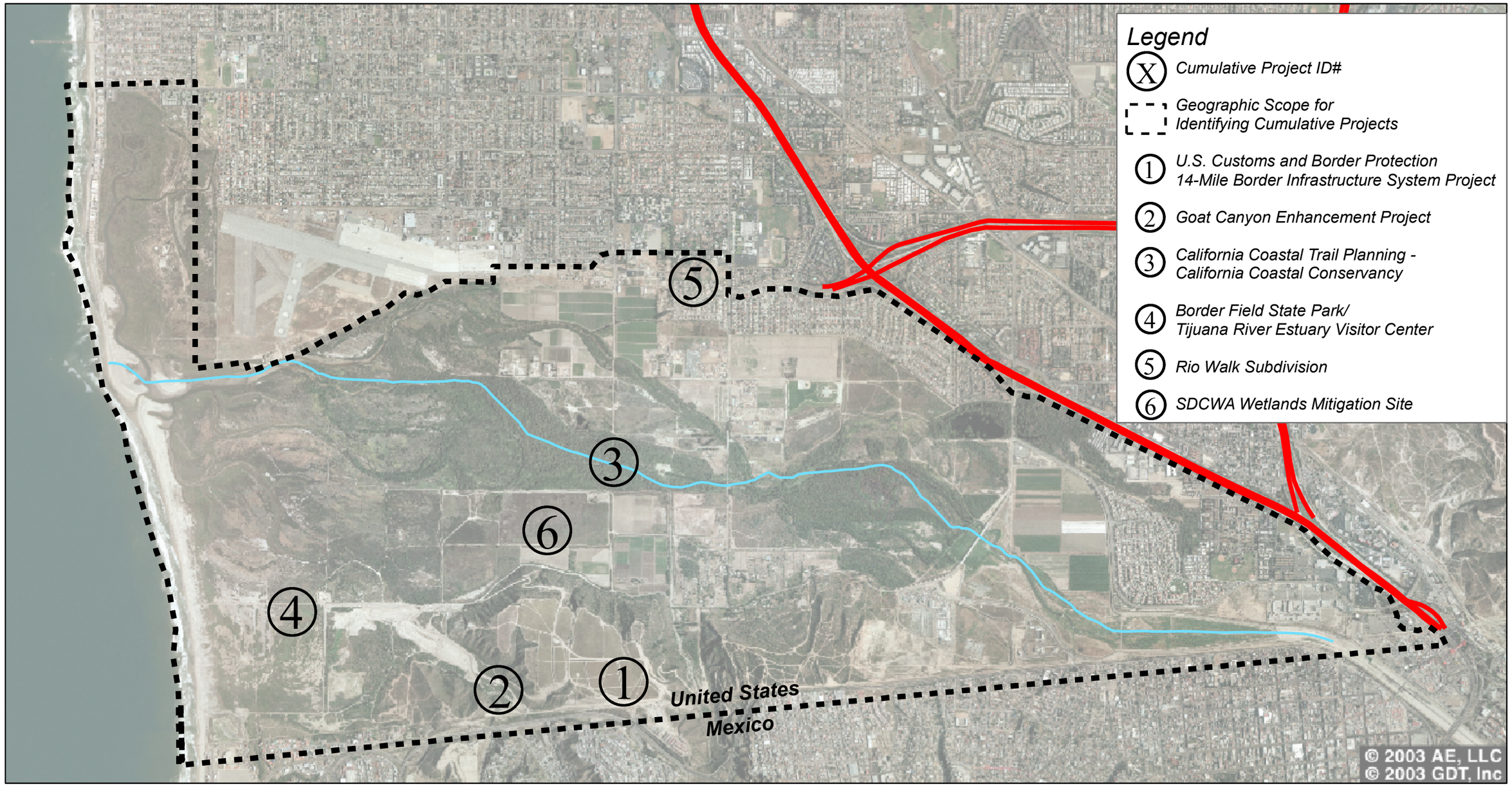
K:\09543201\4\GIS Exhibits\x-Typical Site Furnishings

Sources

Exhibit 1-17

Typical Site Furnishings

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



K:\095432014\GIS Exhibits\x-cumulative project.mxd

Sources

Exhibit 1-18
Location of Cumulative Projects

CHAPTER 2.0 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

Pursuant to the County of San Diego *Environmental Impact Report Format and General Content Requirements* (June 2004), this chapter evaluates those environmental effects that could occur as a result of implementation of the Proposed Project that could not be avoided, reduced, or minimized through mitigation measures that could be implemented. In accordance with County policy and CEQA requirements, if significant and not mitigable environmental effects would result, the decision-makers must adopt Findings for the project, as well as a Statement of Overriding Considerations, pursuant to Sections 15091 and 15093 of the State CEQA Guidelines in order to adopt the project as proposed.

Thirteen (13) issue areas were identified by the County of San Diego as having the potential to result in significant effects on the environment. These issue areas include aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hydrology and drainage, land use and planning, noise, public health and safety/hazardous materials, public services and utilities, recreation, and traffic/circulation. None of the above issues were determined to result in unavoidable significant effects (i.e., significant, and not mitigable impacts).

All impacts from the Proposed Project can either be avoided or mitigated to a level below significance. Other potential environmental effects of the proposed project are addressed in other chapters and sub-chapters of this EIR, including Chapter 3.0 (Significant Environmental Effects of the Proposed Project Which Can be Mitigated) and Chapter 4.0 (Environmental Effects Found not to be Significant).

CHAPTER 3.0 SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT WHICH CAN BE MITIGATED

This chapter of the EIR evaluates those environmental effects of the Proposed Project which would be avoided, reduced, or minimized through mitigation measures that could be adopted. The following evaluation includes a description of existing conditions; guidelines for the determination of significance; an analysis of the project effects and a determination of significant impact (a statement as to whether the impact is significant or not significant per County guidelines); a cumulative impact analysis; a growth inducing impact analysis (if applicable); identification of effects found not to be significant; identification of mitigation measures that would alleviate the impacts; and, a summary conclusion for each issue area.

The County of San Diego has identified the following subject areas as having the potential to result in significant environmental impacts related to the Proposed Project: aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hydrology and drainage, land use and planning, noise, public health and safety/hazardous materials, public services and utilities, recreation, and traffic/circulation. The following resource areas will result in significant, but mitigable impacts, as a result of implementation of the Proposed Project:

- Biological Resources
- Cultural and Paleontological Resources
- Land Use and Planning

The other resource areas are covered Chapter 4.0 of this EIR (Effects Found Not to be Significant).

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SUB - CHAPTER 3.1 BIOLOGICAL RESOURCES

3.1 Biological Resources

This subchapter presents an assessment of the impacts of the Proposed Project on biological resources. The information presented below is based upon a review of the following resources: *Biological Resources Technical Report for the Tijuana River Valley Regional Park Trails and Habitat Enhancement Project* (Greystone, 2005), and the *City of San Diego MSCP Subarea Plan*, (MSCP 2003). The Biological Resources Technical Report (BTR) and accompanying field survey reports are incorporated herein by reference and contained in **Appendix C-1** of this EIR.

3.1.1 Existing Conditions

The Tijuana River Valley Regional Park (TRVRP) comprises approximately 1,800 acres (2.8 square miles) within the lower Tijuana River Valley in southwestern San Diego County. The Tijuana River Valley is a unique area containing large, contiguous blocks of high quality habitat that support numerous sensitive plant and animal species. For example, riparian areas within the County, and provide habitat for two federally endangered birds: the light-footed clapper rail (*Rallus longirostris levipes*), and the southwestern willow flycatcher (*Empidonax traillii extimus*) and critical habitat for the least Bell's vireo (*Vireo bellii pusillus*). Diegan coastal sage scrub provides foraging and nesting habitat for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*). Other onsite vegetation communities include mule fat scrub (transitional riparian), chaparral, maritime succulent scrub, freshwater marsh, native and non-native grassland, and disturbed areas. Together, these vegetation communities potentially support 40 special status plant species and 56 special status animal species.

The TRVRP is critical to wildlife because it is a part of the Pacific Flyway, which provides foraging and breeding habitat for many migrating bird species. Because of its importance to wildlife, the area has been designated as a biological core area in the City of San Diego's Multiple Species Conservation Program (MSCP), and lies almost entirely within the Multiple Habitat Planning Area (MHPA) (see **Exhibit 3.1-1**). Designated Federal and State open space located adjacent to the TRVRP includes: the Tijuana Slough National Wildlife Refuge (TSNWR) and Border Field State Park.

However, the Tijuana River Valley also supports areas that have been subjected to human disturbance for decades. These disturbances have resulted in the loss of native habitat, negative impacts to water quality, compaction of native soils, accumulation of trash, erosion and sedimentation. The quality of water in the Tijuana River, particularly water from Mexico, is often heavily impacted by sediments, pollution, trash and debris. Poor water quality has resulted in numerous beach closures just west of the TRVRP. The TRVRP Trails and Habitat Enhancement Project will help reduce these disturbances by closing off unnecessary trails, restoring habitat, and educating the public about the importance of open space conservation.

3.1.1.1 Regulatory Setting

Land uses in the Tijuana River Valley are regulated by the City of San Diego Land Use and Zoning ordinances; City of San Diego MSCP Subarea Plan; The Army Corps of Engineers (ACOE) pursuant to the Clean Water Act (CWA); CDFG pursuant to the California Fish and Game Code; the San Diego Regional Water Quality Control Board (RWQCB); the Tijuana River Valley Task Force; other local, State, and Federal environmental protections; habitat conservation deed restrictions; and other property covenants. The United States Fish and Wildlife Service (USFWS) and the CDFG regulate biological resources in this area under the auspices of the MSCP, pursuant to the Federal Endangered Species Act (ESA) and California Endangered Species Act (CESA), respectively. The details of these local, State, and Federal regulations pertinent to the Proposed Project are outlined in **Appendix C-2**.

3.1.1.2 Regional Setting

Southern California is a region characterized by both unparalleled natural biodiversity and an enormous human population whose continued growth and expansion threaten many native species and habitats. The biodiversity of wildlife in the TRVRP is ecologically important to Southern California and more importantly to San Diego County. San Diego County is home to a diverse array of native and endemic plant and wildlife species.

Tijuana River Watershed

The Tijuana River Watershed is a bi-national watershed on the westernmost portion of the United States - Mexico border. The watershed encompasses approximately 1,700 square miles, with 1,245 square miles in Mexico and 455 square miles in the United States. The Tijuana River discharges into the Tijuana River Estuary in the U.S. In this discharge, experts have measured some of the highest concentrations of suspended solids, cadmium (Cd), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn), and polychlorinated biphenyls (PCB) in Southern California. These heavy metals can bioaccumulate in people and animals, causing health problems (TRW 2004). Surface water quality has been affected primarily by runoff from Mexico while ground water contamination has occurred as a result of seawater intrusion and waste discharges.

The Tijuana Estuary, located to the west of TRVRP, is one of the largest and most studied wetlands in the South Coast, and is designated as one of the National Oceanic and Atmospheric Administration's (NOAA) National Estuarine Research Reserves. Included within the Tijuana River National Estuarine Reserve (TRNERR) are the USFWS Tijuana Slough National Wildlife Refuge and California State Park's Border Field State Park. The TRNERR is home to six federally threatened and endangered species, including four endangered birds (light-footed clapper rail, California least tern, least Bell's vireo, and California brown pelican), one federally threatened bird, the western snowy plover, and one federally endangered plant, the salt marsh bird's beak. In addition, one State-listed endangered bird, Belding's savannah sparrow, occurs within the TRNERR.

3.1.1.3 Local Setting

Vegetation Communities

A total of 16 different vegetation communities were identified and mapped within the TRVRP (see **Exhibit 3.1-1**) (ERA 2004). Vegetation communities were classified according to the MSCP-modified Holland classification system. The classification system has a numeric coding system for distinct terrestrial vegetation communities that can be used for land management purposes. The numeric coding is a system used to group similar habitat types. Each of the following vegetation communities and habitat types include the MSCP Holland code in parenthesis. The communities are presented below in the order of the percentage of total cover in the TRVRP. Each vegetation community description consists of a general characterization, including dominant plant species and community subtypes, acreage, and locations within TRVRP (**Table 3.1-1**). Community subtypes are included to provide information about areas that are dominated by a single plant species or that show significant disturbance.

Southern Cottonwood-Willow Riparian Forest (61330)

Southern cottonwood-willow riparian forest occurs along major drainage courses throughout the Tijuana River Valley. The habitat is characterized by stands of Fremont cottonwood (*Populus fremontii*), Gooding's black willow (*Salix goodingii*) and arroyo willow (*Salix lasiolepis*), forming a closed canopy winter-deciduous riparian forest community. The understory is typically composed of shrubby arroyo willows and mule fat. This community frequently occurs on overflow lands along rivers and streams, where the dominant species require moist, bare mineral soil for germination and establishment. This is provided after floodwaters recede, leading to uniform-aged stands of cottonwoods and willows. Giant reed (*Arundo donax*), a highly invasive nonnative species, is present in colonies throughout the Tijuana River Valley, mainly at the edge of the riparian canopy. The riparian woodland community within the TRVRP also includes invasive exotic tamarisk (*Tamarix* spp.) and small amounts of tree tobacco (*Nicotiana glauca*).

By far the most extensive community type within the TRVRP, southern cottonwood-willow riparian forest occupies approximately 353.92 acres along the Tijuana River and its tributaries (21.4% of the total vegetative cover in the TRVRP).

Mule Fat Scrub (63310)

Mule fat (*Baccharis salicifolia*) strongly dominates this tall, open, herbaceous riparian scrub community. Other species in this scrub habitat are broom baccharis *(Baccharis sarothroides)* and coyote brush (*Baccharis pilularis*). This community is maintained by frequent flooding, without which most stands would succeed to cottonwood or sycamore dominated riparian forests or woodlands. Mule fat scrub is often a buffer between southern willow scrub or southern cottonwood-willow riparian forest and dirt roads and trails. In other areas of the TRVRP, mule fat scrub appears to transition to nonnative grassland habitats dominated by non-native garland chrysanthemum (*Chrysanthemum coronarium*) in areas outside the immediate river channel.

This association is likely a function of the higher elevations in these areas. Mule fat often occurs in slightly higher, drier conditions than willow scrub or riparian forests.

Mule fat scrub was found near the margins of the riparian habitat within the TRVRP on approximately 291.87 acres (17.65% of total TRVRP vegetation).

Diegan Coastal Sage Scrub (Coastal Form) (32510)

Diegan coastal sage scrub occurs along the TRVRP's southern edge along the mesa slopes near the U.S./Mexican border. This series is dominated by Coastal sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*), together with laurel sumac (*Malosma laurina*) and white sage (*Salvia apiana*). These species are primarily low growing, soft-woody subshrubs (<1m) that are most active in winter and early spring. Many plants are drought-deciduous.

Coastal sage scrub (CSS) is a highly variable community and is often broken into subassociations based on dominant species cover. Different subassociations provide varying quality of habitat for sensitive wildlife species.

The Diegan coastal sage scrub community represents approximately 13.61% of the vegetative cover within the TRVRP. Within the approximately 225.17 total acres of CSS cover, five separate subassociations were identified and are listed below.

Sagebrush-Buckwheat Dominated CSS

Coastal sagebrush and California buckwheat account for at least 50% of the cover in this community. This is the most dominant type of CSS habitat within the TRVRP covering approximately 172.95 acres along the mesa slopes (approximately 77% of the total CSS in the survey area) .

Viguiera-Dominated CSS

San Diego County viguiera (*Viguiera laciniata*) accounted for approximately 20-30% of the vegetative cover in this subassociation. The second most common CSS type, it is typically present in large patches along the western slope of Spooner's Mesa, and the upper slopes of Smuggler's Gulch, and accounts for approximately 29.32 acres (13%) of the total CSS in the survey area.

Goldenbush-Dominated CSS

This subassociation is characterized by monotypic stands of coastal goldenbush (*Isocoma menziesii*) and was mostly found in flat areas on the valley floor northwest of Spooner's Mesa that had been heavily disturbed. Goldenbush CSS accounts for approximately 12.73 acres (approximately 6% of the total CSS in the survey area).

Coyote Bush-Dominated CSS

This open canopy community is dominated by coyote bush (*Baccharis pilularis*) and broom baccharis (*Baccharis sarothroides*) with very little understory. This habitat type was observed on a small portion of the survey area, approximately 9.74 acres (4% of the total CSS), and is often found in areas subject to high frequency disturbance at the east end of the east mesa.

Monkeyflower-Dominated CSS

Sticky monkeyflower (*Mimulus aurantiacus*) accounts for approximately 75 percent of the total cover on a single, 0.43-acre, north-facing slope east of Smuggler's Gulch. Coastal sagebrush and lady fingers (*Dudleya edulis*) were the most common complementary species. Monkeyflower-dominated CSS therefore represents only 0.02% of the total CSS.

Non-Native Grassland (42200)

Non-native annual grasses dominate many areas throughout the Tijuana River Valley. Non-native annual grasslands are dominated by wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis ssp. rubens*), rye-grasses (*Lolium* spp), and fescues (*Vulpia* spp.), with non-native grasses comprising 50% or more of the cover during the growing season. Approximately 163.09 acres of non-native grassland were identified within the study area (9.86% of total cover).

Disturbed Habitat (11300)

Disturbed habitat is any land on which the native vegetation has been significantly altered by construction, or other land-clearing activities, and the species composition and site conditions are not characteristic of the disturbed phase of one of the plant associations within the study region.

Disturbed habitats are typically dominated by invasive non-native plant species. At least seven invasive plant species are present and represent a significant threat to the Tijuana River Valley ecology and hydrology. These include giant reed, tamarisk, garland chrysanthemum, tree tobacco, crystalline iceplant (*Mesembryanthemum crystallinum*), castor bean (*Ricinus communis*), and cocklebur. The non-native vegetative community has the lowest habitat value of all vegetative cover types in the TRVRP. A total of 207.83 acres (6.77% of cover within TRVRP) of disturbed habitat occurs in the study area. Approximately 95.83 acres of garland chrysanthemum monoculture has been mapped in the TRVRP, as well as 112.0 acres of iceplant. The most prevalent invasive exotic species are described below.

Giant reed is an exotic species that can wholly displace large areas of riparian forest and can significantly alter drainage patterns within a watershed. This bamboo-like plant can grow as tall as 30 feet and spreads by rhizomes and fragments that can survive and replant themselves after being exposed to extreme conditions. Currently, giant reed is restricted to a series of dense patches along the edges of and within the southern willow-cottonwood riparian forest and southern willow scrub communities, as well as three stands within a former dump area in the northwestern portion of the TRVRP.

Tamarisk, a Eurasian native, was introduced into Southern California and Arizona in the early 1880's as a stream bank stabilizer and ornamental shrub. It had no predators or diseases and it spread rapidly – more than 12 miles a year by one estimate – into virtually every river system in the arid West. Tamarisk (and giant reed) can out-compete native riparian vegetation such as cottonwoods and willow, while providing a significantly inferior resource for wildlife (Larmer 1998). As the native plants disappear so do the animals that depend on them, such as the grosbeak and least Bell's vireo. Stands of tamarisk are commonly found throughout the TRVRP mixed into the mule fat scrub community or bordering the mule fat scrub and southern willow scrub and cottonwood-willow riparian communities.

Garland chrysanthemum, a non-native garden escapee**,** occurs in fallow agricultural fields on the top of Spooner Mesa. In some areas, garland chrysanthemum is nearly 100 percent of the vegetative cover immediately adjacent to high quality coastal sage scrub and riparian habitats. In addition to chrysanthemum, non-native weedy herbs including wild radish (*Raphanus sativus*), black mustard (*Brassica nigra*) Russian thistle (*Salsola tragus*), fennel (*Foeniculum vulgare*), and cocklebur (*Xanthium strumarium*) are present. The areas dominated by garland chrysanthemum are highly disturbed and will require significant restoration efforts.

Tree tobacco is a naturalized exotic member of the nightshade family from South America. It can be very aggressive and is poisonous if ingested in large quantities. It is typically scattered through the TRVRP in disturbed areas at higher elevations than the tamarisk.

Crystalline iceplant, originally from South Africa, has colonized many areas of coastal habitat in North America at the expense of native plants. Within TRVRP, it occurs in large patches in the central western portion of the site, adjacent to riparian habitats. Because iceplant has an exceptional ability to absorb moisture from the soil, it can outcompete many native species for water. Additionally, the accumulation of released salts can retard the growth or establishment of native species.

Castor bean is a large perennial shrub with toxic dark green to reddish-purple leaves. Castor bean can grow up to 15 feet tall and produces large, globe shaped spiny capsular fruit. The seeds are highly toxic and can cause contact dermatitis with contact.

Cocklebur, a smaller, poisonous annual with barrel-shaped spiny burs, can dominate disturbed low lying river and side channels and floodplains. The seeds of these species can be spread by water and wind and the sandy and gravelly soils of the TRVRP are conducive to their spread, especially in areas of disturbance. Cocklebur and castor bean often dominate riparian habitats.

These six species should be the primary targets for continued invasive plant species control in the TRVRP. Implementation of the Tijuana River Valley Invasive Plant Control Program will address three of these species - tamarisk, arundo, and cocklebur.

Southern Willow Scrub (63320)

Several willow species (*Salix lasiolepis, Salix exigua, Salix lasiandra* and *Salix goodingii*) dominate this dense, broad-leafed, winter-deciduous riparian thicket community, with scattered emergent Fremont's cottonwood and California sycamore (*Platanus racemosa*). Most stands are too dense to allow much understory development. This early seral type requires repeated flooding to prevent succession to southern cottonwood-sycamore riparian forest. Southern willow scrub was identified within the riparian area of the survey area along the slightly lower elevation margins of the southern cottonwood-willow riparian forest, especially along the northeastern portion of the TRVRP's riparian corridor. It was distinguished from the other communities primarily by the presence of young arroyo willow and some smaller cottonwood with scattered mule fat. This community is present on 153.41 acres within the survey area (9.28% of total TRVRP vegetation).

Field/Pasture (18310)

Agriculture using low intensity equipment and manual labor still persists within the Tijuana River Valley outside the most regular water channels but well within the FEMA 100-year floodway. This vegetation type is primarily found north of the base of Spooner's Mesa and south of the Tijuana River and in fields in the north central portion of the TRVRP north of the river. There are active and inactive fields throughout this area totaling approximately 103.64 acres (6.27% of TRVRP) as of the summer of 2004, when the spring survey was completed.

However, the County has completed an evaluation of its potential land uses, and in early 2005, issued a request for proposal to lease approximately 130 acres of sustainable organic agriculture, of which as many as 50 acres were included in the Spring surveys. Another 60 acres were recently leased for general agriculture in early 2005.

Urban/Developed (12000)

Developed areas of the Tijuana River Valley include single family residences, small agricultural enterprises, as well as equestrian stables, fenced pastures, and barns. Where present, stables and residences have disturbed nearly 100 percent of the native habitat that formerly existed. Urban/Developed areas included paved roads (e.g. Dairy Mart Road, Monument Road, Hollister Street, and Saturn Boulevard), the numerous dirt roads and trails throughout the study area, and disturbances associated with the Mexican border (e.g., border fencing, patrol roads, and temporary/permanent lighting). CBP patrols regularly drive and walk most of these roads and trails in the course of their duties within and outside of the TRVRP. While most of the urban/developed cover type is dominated by bare ground, some of this cover type may be well vegetated. For example, residential areas that have sufficient landscape tree and shrub cover to meet the criteria for a forest community type have been placed in the urban/developed category. Throughout the entire survey area, urban developed areas account for approximately 83.85 acres (5.07% of the total cover in the TRVRP).

Row Crops (18320)

Row crops are areas currently utilized for more intensive agriculture than field/pasture areas. Within the survey area, this habitat type occurs along the northern boundary of the Tijuana River Valley near Hollister Street Bridge, at the base of Spooner's Mesa north of Monument Road, and just south of the Tijuana River on the eastern side. Row crops in the area are actively farmed, mostly for edible flowers, lettuces and some vegetables. This vegetation type comprises approximately 57.19 acres (3.46% of TRVRP), and is mixed with smaller patches of field/pasture.

Southern Mixed Chaparral (37120)

Within the TRVRP, this community is dominated by laurel sumac, lemonade berry (*Rhus integrifolia*) and toyon (*Heteromeles arbutifolia*). This community intergrades regularly with the adjacent CSS and maritime succulent scrub habitats along portions of the northern and eastern mesa slopes (where there is less fog drip) in the southern portion of the TRVRP and shares many of the understory components of both communities. Approximately, 39.27 acres was identified as southern mixed chaparral, (2.37% of the total vegetative cover in the TRVRP).

Maritime Succulent Scrub (32400)

Maritime Succulent Scrub (MSS) is classified as low, open cover scrub, with only 25-75% ground coverage. Drought-deciduous shrubs, accompanied by various stem and leaf succulents including cacti, dominate this community. The ground is more or less bare between the shrubs. Within the survey area this habitat is dominated by cliff spurge (*Euphorbia misera*), bushrue (*Cneoridium dumosum*), bladderpod (*Isomeris arborea*) and several species of cactus, including San Diego barrel cactus (*Ferocactus viridescens*) and golden-spined cereus (*Bergerocactus emoryii*). The community is confined to the southwest facing slopes of the upper bluffs of Spooner's Mesa in the southwest corner of the TRVRP, adjacent to the NERR. Approximately 30.17 acres of maritime succulent scrub were identified within the survey area (1.82%).

Southern Maritime Chaparral (37C30)

Wart-stemmed ceanothus (*Ceanothus verrucosus*) is the dominant plant in this community that is found on top of the eastern or Smuggler's Mesa and covers 21.80 acres (1.32 % of the total) within the study site. Southern maritime chaparral supports several rare plant species including Baja California birdbush (*Ornithostaphylos oppositifolia*), which was observed exclusively in this community.

Open Water (13100)

Open water habitat consists of standing water generally associated with ranching, agricultural and former sand and gravel mining practices. These ponds remain full throughout the year, either because they have been excavated to depths below the seasonal low water table or from spring runoff augmented by pumping. Vegetation includes aquatic species such as fennel-leaved pondweed (*Potamogeton pectinatus*), common water nymph (*Najas guadalupensis*), and

hornwort (*Ceratophylum demersum*); emergent hydrophytes including southern cattail (*Typha domingensis*), California bulrush (*Scirpus californicus*), tall flatsedge (*Cyperus eragrostis*), knotgrass (*Paspalum sp.*), and creeping spikerush (*Eleocharis palustris*); and terrestrial species such as swamp pricklegrass (*Crypsis schoenoides*), toad rush (*Juncus bufonius*), hyssop loosestrife (*Lythrum hyssopfolium*), and cocklebur (*Xanthium strumarium*).

Historically, the Tijuana River has meandered from north to south within the river valley. Currently, the Tijuana River flows within a 'main channel' situated in the center of the valley. That main channel is maintained by the City of San Diego. In 1993, a flood estimated at 35 cubic feet per second (cfs) created a new channel to the north of the main channel. An erodable earthen plug prevents water from flowing in the northern channel and maintains all flows within the main channel.

The main open water channel of the Tijuana River is approximately 40 feet wide as it passes Hollister Street. However, for much of the year, flow is underground through the alluvium in substantial sections of the Tijuana River Valley. The water table typically stays near the ground surface as indicated by young willows along the river channel and the occurrence of a sporadic understory of herbaceous hydrophytic vegetation.

There are two main ponds (at the northeastern portion of the TRVRP near Dairy Mart Road and Servanado) and three smaller ponds (at the northwestern portion of the TRVRP between the main and northern side-channel of the Tijuana River). These ponds cover approximately 11.8 acres within the TRVRP (0.71% of the total).

Eucalyptus Woodland (11100)

Eucalyptus groves have been extensively planted throughout the State since their introduction in the late 1800s (Santos 1997). Overstory composition is typically limited to one, or sometimes a few, species of the genus. Few native overstory species are present within eucalyptus planted areas. Eucalyptus occurs in California, usually at elevations below 1,600 feet, from San Diego and Imperial counties in the south, to Shasta in the north (ERA 2004). Most eucalyptus, however, is found around populated areas of southern and central California.

Within the study site, there is a total of 4.60 acres of eucalyptus woodland (0.28% of TRVRP). Eucalyptus groves are small and spread throughout the low-lying areas of the TRVRP. The understory consists almost entirely of leaf litter and sapling eucalyptus trees.

Freshwater Marsh (52400)

This series is dominated by perennial, emergent monocots up to 5m tall, often forming completely closed canopies. Plants grow in quiet sites permanently flooded by fresh water. Prolonged saturation permits accumulation of deep, peaty soils.

Within the TRVRP, freshwater marsh occurs primarily along a portion of the northern side-channel of the Tijuana River, and around the edges of ponds. The dominant species are cattails (*Typha* sp.), bulrushes (*Scirpus* sp.) and sedges (*Carex* sp.). These areas are subject to high flow

during the wet season, which creates variable regions of open water near the center of the marsh. Approximately 2.22 acres of freshwater marsh were identified within the survey area (0. 13% of total cover).

Native Grassland (42100)

The native grassland community is open grassland dominated by native perennial grasses. Total occurrence is low (much less than 0.1% of the Park), but a small area of grassland is markedly dominated by native species. Only one small area (0.06 acre), located in the western end of the project within a larger area of viguiera dominated coastal sage scrub was identified as distinct native grassland. In general, native grasses and associated annual flowers were found in low numbers throughout the survey site integrating with chaparral and scrub communities. This community was dominated by purple needlegrass (*Nassella pulchra*), and melic grass (*Melica imperfecta*), and accompanied by forbs such as golden yarrow (*Eriophyllum confertiflorum*), miner's lettuce (*Claytonia perfoliata*), common eucrypta (*Eucrypta chrysanthemifolia*), wind poppy (*Stylomecon heterophylla*) and Chinese houses (*Collinsia heterophylla*).

Special Status Plant Species

For the purposes of this EIR, a plant is considered a special status species if it is covered by the City's MSCP Subarea plan or as defined by the responsible agencies (USFWS or CDFG) or through professional standards (e.g. listed as rare by the California Native Plant Society (CNPS). The CNPS categorizes plants in five lists [1A, 1B, 2, 3 and 4] depending on their level of concern and related to their rarity, endangerment and distribution (CNPS 2001). It is mandatory that all plants on lists 1A, 1B, and 2 be fully considered during preparation of environmental documents relating to CEQA. List 1A plants are presumed extinct in California. All of the 29 plants constituting List 1A are eligible for State listing. List 1B plants are rare, threatened or endangered in California and elsewhere. The 1,021 plants of List 1B are rare throughout their range. All but a few are endemic to California. All of the plants constituting List 1B are eligible for State listing. List 2 plants are rare, threatened or endangered in California, but more common elsewhere. Except for being common beyond the boundaries of California, the 417 plants of List 2 would have appeared on List 1B. All of the plants constituting List 2 are eligible for State listing. List 3 consists of plants "about which we need more information". CNPS strongly recommends that List 3 plants be evaluated for consideration during preparation of environmental documents relating to CEQA. List 4 is a watch list of plants of limited distribution. Few, if any, of the plants constituting List 4 are eligible for State listing. Special-status plant species regulations are defined in **Table 3.1-2**.

Of the 40 special-status plant species known to occur in the region, a total of 13 species were observed in the project area (**Table 3.1-3**). These include the following 11 CNPS List 2 and List 4 species: San Diego sagewort (*Artemisia palmeri*), golden-spined cereus (*Bergerocactus emoryi*), wart-stemmed ceanothus (*Ceanothus verrucosus*), sea-dahlia (*Coreopsis maritima*), cliff spurge (*Euphorbia misera*), San Diego barrel cactus (*Ferocactus viridescens*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), Baja California birdbush (*Ornithostaphylos oppositifolia*), ashy spike-moss (*Selaginella cinerascens*), woolly sea-blight (*Suaeda taxifolia*) and San Diego County viguiera (*Viguiera laciniata*). In addition, two CNPS List 1B species

were observed onsite: one population of Nuttall's scrub oak (*Quercus dumosa*) and one population of Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*). Only two of the observed special status species are covered by the City's MSCP Subarea plan - wart-stemmed ceanothus and San Diego barrel cactus. **Exhibit 3.1-3** presents the mapped areas of these rare plant locations. No plants listed as federally or State endangered or threatened were found within the TRVRP.

Wildlife

The TRVRP supports a wide range of native wildlife species, from invertebrates to large mammals. A list of wildlife species observed or having the potential to occur is presented in wildlife compendium included in **Appendix C-1**. Numerous agencies and interest groups monitor regional biodiversity within San Diego County through research, preservation, conservation, and restoration of the native species and their ecosystems. These include the United States Geological Survey (USGS), the San Diego Natural History Museum (SDNHM), the San Diego Chapter of the Audubon Society, the USFWS, and CDFG.

Amphibians

Spadefoot toads (*Spea hammondii)* were observed in ephemeral pools created by depressions in the dirt roads in portions of the TRVRP at the larval (tadpole) phase of their life cycle. This is a Federal Species of Concern (FSC) and California Species of Concern (CSC) special status species, but is not covered by the City's MSCP Subarea Plan. The only other special status amphibian species with potential occurrence in the TRVRP, the arroyo toad (*Bufo californicus*), is federally endangered and covered by the MSCP Subarea Plan, but it was not observed in the study area. Further, it was determined that in its present condition, the onsite habitat is unsuitable for this species. Additional native species observed onsite include California tree frog *(Hyla cadaverina)* and Pacific chorus frog *(Hyla regilla*), which were observed throughout the reeds in freshwater marsh and open water areas, along with non-native bullfrogs (*Rana catesbeiana*) and African clawed frogs (*Xenopus laevus*).

Reptiles

Reptilian diversity and abundance in the TRVRP varies with plant communities. Most species occurring in open areas such as the agricultural and non-native grassland areas use rodent burrows for cover and protection from predators and extreme weather conditions. **Exhibit 3.1-4** depicts reptile species locations within TRVRP. The soils in the survey area are suitable for burrowing, and vegetation communities provide suitable cover for these species. The use of non-native grassland communities in TRVRP by reptiles is expected to vary during different times of the year. Perennial sources of water typically attract several species of snakes, although most reptiles prefer dry conditions and avoid wet areas.

Snakes, lizards and non-native freshwater pond turtles *(Pseudemys scripta elegans)* were observed primarily in the riparian areas. These areas are moist throughout the year and they have a high variability of vegetation with an abundance of prey. Coastal whiptail lizards *(Cnemidophorus tigris)*, side-blotched lizard (*Uta stansburiana*), and western fence lizards

(*Sceloporus occidentalis)* were the most frequently observed lizards in drier habitats primarily in the southern parts of the TRVRP.

The gopher snake (*Pituophis melanoleucus*) was the most common snake species observed in the 2004 survey of the TRVRP (ERA 2004). However, the glossy snake (*Arizona elegans occidentalis*), southern Pacific rattlesnake (*Crotalus oreganus helleri)*, San Diego night snake (*Hypsiglena torquata*), southwestern blind snake (*Leptotyphlops humilis humilis*) and yellow-bellied racer (*Coluber mormon*) are also present. A common non-native turtle, the red-eared slider (*Pseudemys scripta elegans*) is present in the freshwater marsh areas. Although this species is not native to Southern California it is not known to pose a conservation threat to any species within the TRVRP (ERA 2004).

The orange-throated whiptail (*Aspidoscelis hyperythrus beldingi*) was the only one of five special status reptile species of potential occurrence in the TRVRP that was observed onsite. This species is a CSC, and is covered by the City's MSCP Subarea Plan.

Birds

The land within the TRVRP is regarded as a very interesting and important bird watching area. The high diversity of migrants and breeding species supported by the TRVRP, TRNERR, and adjacent TSNWR and BFSP is unique due to a lack of large areas of continuous riparian habitat in Southern California. The locations of sensitive bird species within the TRVRP are depicted in **Exhibit 3.1-5**. The agricultural and upland habitats also provide habitat for wintering and breeding raptors, and several species of birds that are typically residents of coastal sage scrub habitat. Ponds and associated riparian wetlands provide habitat for rails, waterfowl and shorebirds.

The least Bell's vireo (*Vireo bellii pusillus*), which is state and federally endangered and covered by MSCP, has increased in numbers in the TRVRP following a successful campaign to reduce the number of brown-headed cowbirds that often target this vireo for nest parasitism. Currently, the riparian nesting habitat within the TRVRP is fully occupied by this species (see **Exhibits 3.1-6** through **3.1-9**). In addition, the riparian habitat is home to several species listed as CSC. Two of the most well-known western riparian specialist species are abundant in the TRVRP: the yellow warbler (*Dendroica petechia*) and the yellow-breasted chat (*Icteria virens*), with estimates of the populations of each species ranging from 300-400 pairs within the TRVRP (ERA 2004, Unitt, 2004). In addition, although no breeding pairs have been detected, the Southwestern willow flycatcher (*Empidonax traillii extimus*; State and federally endangered and covered by MSCP) has been recorded rarely (three observations) as unpaired migrants (see **Exhibit 3.1-10**).

Several other special status species have been observed in TRVRP within various other habitat types. This includes the light-footed clapper rail (*Rallus longirostris levipes*), which was observed in the Dairy Mart Ponds west of Dairy Mart Road during focused species surveys conducted for USFWS (see **Exhibit 3.1-11**). Two pair of rails were observed at the north end of the ponds in 2004 (Griffith Wildlife Biology), and two pair were observed in 2005 (Burkhart Environmental Consulting) (J. Konecny per comm.). One of the latter pair was observed very

close to the 2004 locality, and may be the same individuals observed in 2004. The other pair was observed approximately 180 meters to the southwest in open water. This species is State and federally endangered, and is covered by the City's MSCP Subarea Plan.

Upland habitats support numerous other special status species, including the CSC rufous-crowned sparrow (*Aimophila ruficeps canescens*), which prefers coastal sage scrub and mixed chaparral habitat, and the federally threatened/CSC coastal California gnatcatcher (*Polioptila californica californica*), which is an obligate coastal sage scrub species that occupies multiple locations in the study area (see **Exhibit 3.1-12**). Special status raptor species are also supported by various types of upland habitat throughout the project area. These are covered in more detail below.

Special mention should be made of the mountain plover (*Charadrius montanus*), which forages in grasslands and agricultural fields. This is one of the most seriously threatened birds in North America (Unitt, 2004). The main reason for this decline is thought to be due to habitat conversion in its breeding range on the Great Plains and intermountain plateaus. But much of its historical wintering habitat in southern California, primarily in the Tijuana River Valley (TRV), has been lost as well. Once a regular winter visitor to San Diego County, only one migrant has been recorded since 1991 (Unitt, 2004). The species was recorded from the TRV almost annually, as documented by Christmas Bird Counts and other observations, between 1962 and 1991. The mountain plover was last documented in the project area in November, 1991 (Unitt, 2004). Because of the important role that the TRVRP may play in the protection and possible recovery of this species, the County MSCP plan calls for area specific management directives for the TRV that specifically addresses the habitat requirements of the mountain plover.

Raptors

Raptors are afforded special status under the Migratory Treaty Bird Act and are often State and Federal species of concern. Within the TRVRP, there are several areas of excellent habitat for both wintering and breeding raptors. The open agricultural lands adjacent to riparian woodlands within the TRVRP provide ideal habitat for both wintering and breeding raptors. The open fields provide an excellent prey base of rabbits, rodents, snakes and lizards and ample hunting opportunities. The adjacent trees are used by raptors year-round for roosts and hunting perches. Woodlands provide roosting cover and, more importantly, nest sites for several of the breeding species. Wintering raptors include peregrine falcon (*Falco peregrinus*; a CE and MSCP covered species), prairie falcon (*Falco mexicanus*; CSC) and sharp-shinned hawks (*Accipiter striatus*). In addition, although not recorded in raptor surveys for this project, golden eagle (*Aquila chrysaetos*) juveniles have been observed foraging from the Tijuana River Valley in recent years. The golden eagle is a CSC and MSCP covered species, and is protected by the Bald Eagle Protection Act (BEPA).

Breeding raptors within the TRVRP include northern harrier (*Circus cyanus*); a CSC and MSCP covered species. This species, also known as marsh hawk, is most abundant in the winter when nearly a dozen may be seen hunting in the fields to the north of Monument Road, atop Spooner's Mesa and in the coastal marshes west of the TRVRP. White-tailed kite (*Elanus leucurus*), a FSC, State Fully Protected species, is common in the TRVRP. Suitable white-tailed kite habitat

in the TRVRP is present in areas with a combination of mature willow riparian and fallow fields. Cooper's hawk (*Accipiter cooperi*), a CSC and MSCP covered species, is a forest-dwelling accipiter (agile woodland birds of prey that often fly under the forest canopy). Within the TRVRP, these hawks typically nest high in the dense canopy inside stands of mature willows. The Cooper's hawk has also adapted well to human influence on the landscape, as evidenced by a nest with fledglings located in eucalyptus tree in Smuggler's Gulch (ERA 2004).

The red-shouldered hawk (*Buteo lineatus*) is a common soaring hawk that inhabits rural and even more urban developed areas of southern California. Within the TRVRP, this species is present and nests in several locations, including a eucalyptus tree near the ranger station on Monument Road. Other encounters with this species were frequent in the far northwest corner of the TRVRP and in the area just west of Monument Road, south of the Dairy Mart Ponds area. The red-tailed hawk (*Buteo jamaicensis*) is a relatively common and widespread raptor. This species is present and nesting in the TRVRP. The American kestrel (*Falco sparverius*), a small falcon, is also present and breeding in the TRVRP. Barn owls (*Tyto Alba*) were sighted east of Hollister Road. The riparian cover provides ample roost sites, and the presence of open space gives this largely aural hunter access to nocturnal rodents in the same areas where harriers and kites hunt their prey during the day. The barn owl and the American kestrel often utilize man-made structures for nest cavities. Although no night surveys have been performed, other owl species are likely to be present in the TRVRP and surrounding areas, including the great horned owl (*Bubo virginianus*), the western screech owl (*Otus kennicottii bendirei*), and the burrowing owl (*Athene cunicularia*), which is a FSC, CSC, and MSCP covered species.

Exotic Bird Species

The influence of the human population of Tijuana and San Diego on the Valley's avifauna can be witnessed in the presence of breeding northern cardinals (*Cardinalis cardinalis*) and black-throated magpie jays (*Calocitta colliei*). The occurrence of both species is likely a result of escaped or freed cage birds finding suitable refuge in the diverse habitats of the Tijuana River Valley. Other escaped caged birds observed included a white-collared seedeater (*Sporophila torqueola*) and an unidentified parrot (Subfamily: *Arinae*, probably *Amazona sp.*). Other individual sightings of species native to North America but only occasionally occurring in the study area include a male hooded warbler (*Wilsonia citrina*), male indigo bunting (*Passerina cyanea*), immature male American redstart (*Setophaga ruticilla*) and a male rose-breasted grosbeak (*Pheucticus ludovicianus*) (ERA 2004).

Mammals

Mammals in the TRVRP include coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), domestic sheep (*Ovis aries*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*) Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), San Diego pocket mouse (*Chaetodipus fallax fallax*; FSC/CSC species), black-tailed jackrabbit (*Lepus californicus*; CSC species), brush rabbit (*Sylvilagus bachmani*), Audubon's cottontail (*Sylvilagus audubonii*), and Virginia opossum (*Didelphis virginiana*). These mammals are all common species in California coastal sage scrub or chaparral dominated habitats in San Diego County.

Although no night-time surveys were performed to detect nocturnal species, bat habitat exists in association with the open water, freshwater marsh and riparian communities, where there is an abundance of insectivorous prey and crevices, cavities and dense riparian foliage for roosting cover. The USGS performed a bat inventory of the San Diego Country MSCP area, including along Cottonwood Creek (Marron Valley), approximately 20 miles east of the project area, in similar habitat (Stokes et al 2003). Using this inventory as a reference point, it is estimated that six bat species classified as FSC or CSC potentially occur in the TRVRP area, including California leaf-nosed bat (*Macrotus californicus*), small-footed myotis (*Myotis ciliolabrum*), Townsend's big-eared bat (*Corynorhinus townsendii*) pallid bat (*Antrozous pallidus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), and western mastiff bat (*Eumops perotis*). Due to the lack of information regarding the distribution and natural history of these bat species, none are covered by the MSCP.

Special-Status Wildlife Species

For the purposes of this EIR, an animal is considered a special status species if it is covered by the City's MSCP Subarea Plan, or as defined by the responsible agencies (USFWS or CDFG) or through professional standards (**Table 3.1-4**).

Literature research conducted for this EIR indicated that 56 special-status wildlife species may potentially occur in the vicinity of the Proposed Project. **Table 3.1-5** presents a listing of these species and their Federal and State status, and coverage by MSCP.

Invasive Species

In addition to a lack of resources for wildlife due to invasive plants, there are also invasive wildlife species in TRVRP that compete for resources such as space, food, shelter, and breeding grounds with native wildlife species. There are certain wildlife species within the TRVRP that pose severe threats to native wildlife and are confirmed as invasive by CDFG. Specific invasive wildlife species were observed in TRVRP that are known to directly compete, prey upon, or invade sensitive and common native species. These species (crayfish, American bull frog, African clawed frog, and brown headed cowbird) are discussed below.

Crayfish

In the project area, most of the crayfish (*Orconectes rusticus)* observed were found in the disturbed freshwater marsh areas where the water was receding and the vegetation was high. Crayfish were also found in the equestrian trails where there were depressions large enough to hold water, indicating that these areas are most likely long term water sources. They are predatory species that compete for shelter and food with native species, and prey on juvenile and larval stage amphibians, juvenile reptiles, invertebrate nests and eggs, and even small mammals.

American Bullfrog

In the project area, bullfrogs are isolated to open water and fresh water marsh areas most notably the Dairy Mart ponds and the ponds in the northwest portion of the TRVRP. Originally native to

eastern North America, the American bullfrog (*Rana catesbiana*) has been widely introduced in the western United States where it outcompetes and has caused population declines in native frog species and the Mexican garter snake (*Thamnophis eques*). Bullfrogs were observed breeding near a steep bank of the pond east of Dairy Mart Road.

African Clawed Frog

In the project area, the African clawed frog (*Xenopus laevis*) was observed in a trap and also in the Dairy Mart Ponds area of the Project site. Native to southern Africa, this species was introduced to the U.S. in the 1960's and feeds on native amphibian tadpoles. This species is the only totally aquatic frog in California and will move overland at night during rains or high humidity, as are typical within the TRVRP during the winter months. Only three individuals were observed due to their largely aquatic nature.

Brown-Headed Cowbirds

Most cowbird species are generalist parasites, laying their eggs in the nests of a wide range of other bird species. The brown-headed cowbird (*Molothrus ater*) has spread from its original home in the Great Plains through anthropogenic conversion of forests into farms and pastures. They tend to be associated with dairies, stables, and other areas where large domestic animals are present because they forage on the grain that is provided to the animals, as well as on the insects that are attracted to the animals' manure. The cowbird is now sufficiently numerous to pose a major threat to the continued survival of several avian species and subspecies that it regularly parasitizes. As a result, much research effort has recently been directed at understanding the breeding biology of brown-headed cowbirds. The brown-headed cowbird now has been recorded successfully parasitizing 144 of 220 species in whose nests its eggs have been observed. Of particular concern in the TRVRP are the least Bell's vireo and the southwestern willow flycatcher, two special status species that have experienced a great reduction in population size due to cowbird parasitism. In addition, the California gnatcatcher is another special status species that has been documented to serve as host to nest parasitism by the cowbird.

The brown-headed cowbird possesses several traits that make it an effective parasite. Cowbird eggs usually hatch slightly earlier than the host's eggs giving the cowbird nestling a distinct advantage. In addition cowbird nestlings usually are larger and grow faster than the host's young, which enable them to garner more than their fair share of the food brought to the nest. The presence of a cowbird egg or nestling in a host nest will often result in zero host productivity for that nest. This parasitism can have more of an impact than nest predation since re-nesting can occur soon after. Because their efforts are directed at feeding and defending the young cowbird, the adult hosts must wait several weeks until the cowbird is independent to attempt to build another nest.

Several sightings of brown-headed cowbirds were recorded within the TRVRP. A trapping program was initiated in the early 1990's in the Tijuana River Valley per suggestions made by the USFWS. Since beginning the trapping program, overall brown-headed cowbird numbers in the TRVRP have decreased, which has markedly benefited a number of nesting avian species (Varanus 2003). The presence of the traps almost certainly reduced the number of incidental

sightings by surveyors. Most of the occasional sightings occurred near the northwest corner of the TRVRP and only one or two reports of this species were from within the riparian corridor. A more detailed summary of brown-headed cowbird sightings can be found in the southwestern willow flycatcher and least Bell's vireo reports included in **Appendix C-1**.

3.1.2 Guidelines for the Determination of Significance

Methods

To determine potential impacts that could occur as a result of implementation of the Proposed Project, literature reviews, expert consultations, and field surveys were completed for the Proposed Project. Numerous recent biological surveys have been completed in the TRVRP, and these are incorporated herein by reference and contained in the Biological Resources Technical Report, which is **Appendix C-1** of this EIR. Among the documents that were reviewed were the Management Framework Plan (City of San Diego 1989), the Habitat Restoration Conceptual Plan for the TRVRP Habitat Restoration and Trails Planning Project (Bitterroot 2004), the Tijuana River Valley Regional Park Ecological Study (ERA 2004), the Biological Management Plan for the Tijuana River Valley Regional Park (LSA 2003) and the City of San Diego MSCP Subarea Plan (MSCP 2003).

Project specific field surveys were conducted in the year 2004 throughout the TRVRP study area, including along all proposed trail alignments around and to the top of Smuggler's and Spooner's Mesas; at sensitive areas within the proposed project site: at the habitat restoration site and freshwater marshes off Dairy Mart Road and in the northwest portion of the TRVRP; at the proposed Eastern Staging Area; and at the location of the proposed pedestrian/equestrian bridge crossing and new trail extension over the Tijuana River within the northwestern portion of the TRVRP. These field surveys represent the areas where the most development activity will occur, or where new trail segments or recreational linkages are proposed. Additional field surveys in October 2005 identified decommissioned trails that would require active restoration.

Field Survey Methods

Surveys referenced in this subchapter are attached in **Appendix C-1**, and include discussions of their respective methods. All USFWS protocol surveys are also included. Data regarding botanical and biological resources in the TRVRP were obtained from sources such as government and regulatory agencies, previous related studies in adjacent areas, regional projects, academia, and Internet databases. Databases such as the CNDDB (CDFG 2004), CWHR (CDFG 2002), and CNPS Inventory (2001) were thoroughly searched. Field guides and manuals were consulted prior to and during all surveys for confirmation of species identification. Following literature searches, field surveys were conducted to document vegetation communities and plant and animal species present, including reptiles, amphibians, birds, mammals, and plants. Focused surveys were conducted for raptors, 39 target rare plants, the endangered arroyo toad, endangered least Bell's vireo, southwestern willow flycatcher, light-footed clapper rail, and Pacific pocket mouse. Rare plant surveys were conducted in the spring and summer of 2004. Reptiles and amphibians were detected though a sample survey using pitfall traps. Mammals were detected by scat, track or direct observation. Two trapping surveys were conducted for Pacific pocket mouse in 1996.

Thresholds of Significance

Criteria for determining the significance of impacts are listed below. The following thresholds of significance are based on CEQA and Federal guidelines and applicable County of San Diego and City of San Diego draft thresholds of significance. An impact would be considered significant if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, covered, or special-status species in local or regional plans, including the MSCP, policies, or regulations, or by the CDFG or USFWS;

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS;

c) Be inconsistent with the MHPA Guidelines and Specific Management Policies and Directives for the Tijuana River Valley, as identified in the City of San Diego MSCP Subarea Plan;

d) Have a substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the City of San Diego Land Development manual or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS;

e) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, riparian, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

f) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

g) Conflict with the provisions of any adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional or State habitat conservation plan, either within the MSCP plan area or in the surrounding region, or any other local policies or ordinances that protect biological resources;

h) Introduce land use within or adjacent to the MHPA that would result in adverse edge effects;

i) Conflict with any City or County policies or ordinances protecting biological resources such as tree preservation policies or other ordinances; or

j) Result in an introduction of invasive species of plants into a natural open space area.

3.1.3 Analysis of Project Effects and Determination as to Significance

3.1.3.1 Overview

Implementation of the Proposed Project includes development of a formal recreational trail network, a trailhead and equestrian staging area (Eastern Staging Area), a recreational trail bridge (Pedestrian/Equestrian Bridge), an educational program (i.e. construction of interpretive signage, benches, site furnishings, and bird observation blinds), and habitat restoration. This will be accomplished by using and widening or narrowing trails that have already been established, adding two small connector segments to join existing trails to each other and to the new equestrian bridge, and revegetating the majority of existing, but unauthorized, trails in the TRVRP. The project also includes construction access and staging areas, and permanent access areas for the maintenance of the Tijuana River pilot channel.

The establishment of a formal trail system would include 22.5 miles of permitted recreational trails. There are currently 71.5 miles of mostly unauthorized dirt roads, trails, and pathways, herein generally referred to as "unauthorized trails", in the TRVRP. The majority of existing unauthorized trails will be closed and decommissioned. Closing dirt roads and pathways that are redundant and/or are located in sensitive environmental areas will serve to reduce existing disturbance to plant and animal species in these areas and reduce habitat fragmentation and related adverse effects on TRVRP natural resources. Although the County has not developed a formal revegetation plan to date, it is anticipated that approximately 30 percent of the closed trails will be actively restored (revegetated), and 70 percent will be passively restored. The County will focus active restoration efforts on those trails that are most vulnerable to disturbance and invasive weed invasion, including narrowed official trails and decommissioned trails that are adjacent to nonnative vegetation and disturbed areas.

The trails will be decommissioned using a variety of different methods, including "Area Closed" signs and physical barriers. Bollards, large boulders, or fencing may be placed in areas where it is most important to keep people, vehicles and horses out of sensitive or highly erodable areas. Heavier used and compacted trails and trails adjacent to areas dominated by invasive weeds will be decompacted and revegetated with appropriate native plants. In riparian areas, this plant pallet may include such species as California rose (*Rosa californica*) and mule fat. Dense plantings of native vegetation may also be used to prevent unauthorized access. This could include cactus (*Opuntia* spp.) and coyote brush (*Baccharis pilularis* ssp. *consanguinea*) at unauthorized dry upland trail access points. Native plantings will be established in combination with biodegradable structural barriers made of tree limbs, logs and vegetative debris. Overall, reduced habitat disturbance resulting from the closure of 40.9 miles of existing unauthorized trails is expected to be a beneficial effect of the Proposed Project.

Two new trail segments and a new pedestrian/equestrian bridge are proposed for this project to provide full recreational circulation in the TRVRP. One segment will connect the new pedestrian/equestrian bridge to the existing trail system, and the other segment will connect existing trails to one another. In addition, an equestrian staging area will be added to the trail system. Permanent impacts associated with these project elements, as outlined below, are expected to be minor and self mitigated through the proposed ecological restoration efforts.

The project also includes active and passive restoration of approximately 98.92 acres of native wetland and upland habitat. This will be accomplished through the restoration of a 60.20 acre parcel west of the Dairy Mart Ponds, closing and actively restoring approximately 10.24 acres of trails (i.e., 34.12 total acres of closed trails *x* 30 percent active restoration. (See sub-chapter 1.1.1.2)), closing and passively restoring 23.88 acres of trails, and narrowing approximately 4.60 acres of trails. Approximately 30 percent of the closed trails will be actively restored and revegetated through the application of various decompaction techniques, planting (e.g., seeding with native plant species of a similar composition as found in the surrounding native habitats), and monitoring and maintenance, including exotic species removal. The narrowing of the official trails will provide an expansion of native habitats consistent with the guidelines in the City of San Diego's MSCP Subarea Plan, provide a buffer between sensitive species and park users, and still provide a safe recreational trail for equestrians, bicyclers, and pedestrians.

As a result of project design and management practices (including avoiding the bird breeding season during construction; a regular cowbird trapping program; a manure removal program, fencing, regular ranger patrols, and visitor education), the potentially significant effects to biological resources from the Proposed Project are anticipated to result in a net benefit to biological resources within the TRVRP. While the Proposed Project will enhance the experience of most TRVRP users, it is not anticipated that hiking, equestrian, or other permitted TRVRP activities will increase over current levels, or elevate existing pressures on sensitive species or habitats.

In addition to analyzing impacts resulting from implementation of the Proposed Project, this section also reviews consistency with the MSCP. The Proposed Project has been designed to support the implementation of, and achieve consistency with, the MSCP through ongoing communication and coordination with the City of San Diego, California Department of Fish and Game and the United States Department of Fish and Wildlife Service. As the project was developed by the County over the last few years, these regulating entities have been involved in project refinements so that recreational enhancements are carefully balanced with mandates to ensure the protection, preservation and enhancement of the natural resources in the TRVRP, including an ongoing management program (**Appendix I**).

The criteria for qualifying significant mitigable effects (impacts) are described below. Following is an analysis of impacts (significant and non-significant) that are expected from the implementation of each element of the Proposed Project. Consistency of the project elements with the MSCP is also discussed.

3.1.3.2 Definition of Significant Mitigable Effects

This impact analysis considered the full range of potential direct and indirect, and permanent and temporary impacts on biological resources that may be associated with project implementation including:

- Potential habitat loss due to trail widening and new trail segments;
- Potential intrusion into sensitive areas due to eastern trailhead staging area development;

- Potential habitat fragmentation and disturbance due to area closures;
- Potential intrusion into sensitive areas due to trail enhancements;
- Potential disturbance of riparian habitats, sensitive species and wetlands due to installation of a new pedestrian/equestrian bridge crossing over the Tijuana River, connecting trail segment and maintenance vehicle access ramp;
- Potential introduction of invasive species of plants into a natural open space area due to road and pathway closure;
- Potential disturbance to noise sensitive listed species due to recreational activities, including biking and equestrian use; and
- Potential population increase of the nest-parasitic brown-headed cowbird due to increased use by equestrians and improper manure management.

Direct permanent impacts are those effects that remove habitat or result in "take" of a plant or wildlife species. Direct temporary effects include impacts from construction staging that can be restored after completion of construction. Indirect permanent impacts result from permanent surrounding influences, such as noise, light, and/or invasive species from a permanent source such as a road, or a lighted sports facility. Indirect temporary effects are surrounding effects such as during project construction.

3.1.3.3 Project Elements and Associated Impacts

An approximate quantification of the project's total significant but mitigable impacts to biological resources, including habitats and sensitive species is given below. An analysis of the total restoration of habitat is provided in a later sub-chapter (3.1.5). Impacts expected from the implementation of the Proposed Project are detailed in **Table 3.1-6**. Recommended mitigation ratios are based on the City of San Diego's Environmentally Sensitive Lands (ESL) regulations (see **Table 3.1-7** for wetland vegetation communities and **Table 3.1-8** for upland vegetation communities). Mitigable impacts were calculated as follows: (1) All significant impacts (27.12 acres, **Table 3.1-6**) were included in the mitigation calculation. (2) Because specific restoration sites have not been identified for decommissioned trails[1], it is not possible to calculate impact acreage for each vegetation community type due to trail closure and subsequent passive (significant impact) or active (non-significant impact) restoration. As such, it is not possible to calculate recommended mitigation acreage. Therefore, a conservative approach was taken, and all impacts due to decommissioning of trails, including 10.24 acres of actively restored trails, were included in the mitigation calculation. (3) Recommended mitigation measures include active restoration of all Tier I upland vegetation communities, which are the most sensitive habitat types and require a 2:1 mitigation ratio (per ESL guidelines). Therefore, impacts to all Tier I vegetation communities (2.17 acres, **Table 3.1-8**) will be reduced to a level below significance. Consequently, this acreage was subtracted from the mitigable impact acreage (**Table 3.1-8**). (4)

[1] Appendix C-4 contains the *Programmatic Restoration Concepts and Guidelines for the Tijuana River Valley Regional Park*, which provides specific guidance on site selection, restoration techniques, and performance criteria.

Significant impacts consist of 23.88 acres of temporary impacts due to the passive restoration of trails, and 3.24 acres of permanent impacts due to the other elements of the Proposed Project (**Table 3.1-6**). Passive restoration of trails is considered a temporary but significant impact because trails may become more vulnerable to invasion by non-native plants once compaction from trail use is eliminated. However, it is expected that within approximately five years, native vegetation will replace the exotic species. While approximately 35.30 total acres of wetlands and upland habitat will be impacted by the implementation of the Proposed Project (**Tables 3.1-7** and **3.1-8**), approximately 75 acres of native habitat will be actively revegetated along decommissioned trails (10.24 acres), along the edges of narrowed trails (4.60 acres) and at the restoration site located west of Dairy Mart Ponds (60.2 acres). (See **Table 3.1-9** and **3.1-10**.) Additionally, because the 23.88 acres of passively restored trails are expected to naturally re-establish with native vegetation, the ultimate restoration acreage associated with the proposed project will exceed 98.92 acres (see **Table 3.1-10**).

This section describes the potential significant but mitigable impacts to biological resources for each project element should the preferred action be implemented. Impacts that are not considered significant are summarized for each element as well. Each project element will be grouped according to the following categories (1) Establishment of a Formal Trail System (including new trail segments), (2) Establishment of an Equestrian Trailhead, (3) Construction of a Recreational Bridge over the Tijuana River, (4) Educational Program (i.e., construction of interpretive signage, benches, site furnishings, and bird observation blinds), and (5) Active Restoration west of the Dairy Mart Ponds. Each of these main categories will include a brief description, a discussion regarding consistency with the MSCP, and an analysis of the impacts to biological resources.

Establishment of a Formal Recreational Trail System

The establishment of a formal recreational trail system includes the retention and enhancement of approximately 22.5 miles of trails. Impacts to various habitat types would be affected through the widening of some trail segments to accommodate multiple uses, the creation of two new trail connector segments, and the closure of an additional 40.9 miles of existing unauthorized trails. The significant mitigable effects and non-significant effects to sensitive upland and riparian habitats and sensitive species (federally listed and MSCP-covered species) resulting from these project components is described below. Narrowing of approximately 9 miles of existing trails would not impact habitat, but rather would result in a net gain of restored habitat.

MSCP Consistency

The use of existing trails or dirt roads as the structure for the trail system, and the closing and restoration of unauthorized trails within sensitive habitat are consistent with MSCP goals and directives. Further, passive recreational use within the MHPA is encouraged. Although “passive use” is not clearly defined, examples are given “such as photography, bird watching and trail use.” Appropriate management efforts, such as extensive cowbird trapping, effective manure management, fencing, invasive species control, regular ranger patrols, and signage, would minimize any effects from equestrian use near riparian core habitats.

The City MSCP Subarea Plan calls for a maximum trail width of 4 feet in the MSCP core and linkages area (which encompasses the entire study area) or in wildlife habitat corridors whenever feasible. The 1989 Management Framework Plan, upon which the preserve boundary for this portion of the MSCP Subarea Plan is based, identifies a habitat preserve area along the central core of the riparian habitat, and a buffer surrounding this habitat on either side. Any trails planned for this area are recommended to be located at the outer edge of this buffer zone. However, the 1996 Interagency Trail Coordination MOU identifies a limited number of trails, some of which occur in this MSCP core area. This proposed project calls for expanding the MOU trails near the proposed pedestrian/equestrian bridge to a width of 6 feet to accommodate multiple recreational uses, including hiking, biking, and horseback riding. This trail widening component is consistent with the MOU. In addition, the project also calls for several multi-use trails in the core area that exceed 4-foot widths. However, most trails occur on existing trail footprints and do not require widening with the exception of a riparian trail segment paralleling the river in the western-central portion of the study area, and one 0.02 acre trail segment within nonnative grassland in the southeastern portion of the study area. Although the MSCP Subarea Plan recommends that all trails be located outside the MSCP core area, and that recreational uses within habitat be limited to passive recreation on trails not exceeding 4 feet wide, the guidelines regarding the ability to accommodate wider recreational trails within the core area are inconclusive. The MSCP Subarea Plan states that exceptions may include "areas where necessary to safely accommodate multiple uses or disabled access" as long as protective fencing or other barriers are used to protect sensitive resources.

Effects to Biological Resources

A. Multi-Use Trails (Trail Widening and Narrowing)

Significant Impacts. The formalization of informal trails requires that some trails be widened to accommodate multiple uses. In addition some trails will be narrowed (**Table 1-2**). Narrowed trails will be restored along the outer edges, and all restoration activities will be conducted within the trail footprint. Therefore, no impacts are expected due to the narrowing of trails.

However, significant impacts are expected from trail widening. Because 4 to 6-foot multi-use trails are proposed to be constructed on the existing trail footprint, the widening of these trails will impact 0.56 acre of riparian habitat and 0.19 acre of non-native grassland. The riparian impact includes wetlands under the jurisdiction of the California Department of Fish and Game and the U.S. Army Corps of Engineers, habitat occupied by the least Bell's vireo, habitat suitable for the southwestern willow flycatcher and other MSCP-covered riparian species. Increased use of trails by equestrians, specifically those trails located within the riparian core habitat area, or improper manure management could increase populations of brown-headed cowbirds. The primary invasive wildlife species of concern in the TRVRP is the brown-headed cowbird, which is a nest parasite on least Bell's vireo, other sensitive riparian birds and the California gnatcatcher. In addition, increased use of trails by bicycles, especially in riparian habitats, might cause some of these trails to degrade more rapidly, especially if the bikers wander off-trail. Public education will play an important role in mitigating this impact.

Significant impacts from trail widening can be summarized as follows:

- Direct impacts to 0.37 acres of wetlands (0.08 acre of riparian forest and 0.29 acre of riparian scrub),
- Direct impacts to 0.19 acre of uplands (non-native grasslands),
- Indirect impacts caused by construction related noise above 60 decibels to sensitive bird species, including the least Bell's vireo, southwestern willow flycatcher, the light-footed clapper rail, and the coastal California gnatcatcher;
- Indirect impacts associated with equestrian use resulting in the attraction of parasitic cowbirds and a subsequent increase in nest parasitism of sensitive avian species;

Non-Significant Impacts. Impacts that are not considered to be significant include indirect impacts to sensitive biological resources due to trail use (noise, hikers, bicyclists, horses, etc.). Trail use is a pre-existing condition, and increase in trail use is not expected since the project proposes to formalize a trail network within the TRVRP. Construction impacts related to the widening of trails is expected to be non-significant. Impacts to adjacent vegetation will be limited to pruning up to a ten-foot vertical clearance from the trail surface (overhanging limbs will be pruned to a lead branch). Backfilling, compacting, and grading is not expected to impact adjacent vegetation because preventative measures will be assured.

B. New Connector Trail Segments

Significant Impacts. Two new trail segments are proposed; a 500-foot connector segment will connect the new recreational bridge to the existing trail system, and a second 900-foot segment will connect existing trails to one another. The bridge connector segment is a curvilinear trail that starts at the south end of the bridge and extends to the southwest, joining an existing east-west trail through southern cottonwood-willow riparian forest. Although this multi-use trail will avoid existing willow trees as much as feasible, the trail will impact the drip/root zone of these trees through compaction and construction activities. Approximately 0.07 acre of riparian habitat that is occupied by the least Bell's vireo (see above) and suitable for southwestern willow flycatcher will be permanently impacted. Large patches of non-native riparian species, such as the giant reed, will be removed during construction of the new trail segment. The second connector trail segment is located east of the Community gardens (east of Hollister Street), and will impact 0.12 acre of fallow agricultural land.

Impacts to Jurisdictional Waters: Construction of the new trail segment that is associated with the bridge would result in impacts to Army Corps of Engineers (ACOE) jurisdictional waters of the U.S. (vegetated wetlands), Regional Water Quality Control Board (RWQCB) jurisdictional waters of the State and California Department of Fish and Game (CDFG) jurisdiction. Details regarding the acreage impact are described in the Construction of a Recreational Trail Bridge over Tijuana River section to follow. These impacts would require a permit from the U.S. Army Corps of Engineers, the California Department of Fish and Game, and the Regional Water Quality Control Board.

Non-Significant Impacts. A total of approximately 0.64 acres (0.23 acre of cottonwood-willow forest, and 0.41 acre of agricultural land) will be temporarily impacted within a construction buffer of 10 feet on either side of each new trail segment. Construction-related impacts include pruning up to a ten-foot vertical clearance from the trail surface. Backfilling, compacting, and

grading is not expected to impact adjacent vegetation because preventative measures will be assured. Vegetation that is cut down will be removed by truck along the newly blazed trail. Other non-significant impacts include indirect impacts to sensitive biological resources due to trail use (noise and disturbance from hikers, horses, and bicycles). Trail use is a pre-existing condition, and increase in trail use is not expected due to the decommissioning of many existing informal pathways.

C. Closure of Existing Informal Trails and Dirt Roads

Significant Impacts. The project proposes to close and revegetated approximately 41 miles (34.12 acres) of informal trails in the study area that have been established over time. A combination of passive management, and active management, combined with careful monitoring, will be implemented along closed trails where they cross sensitive habitats. These include trails that cross or are adjacent to riparian and CSS/MC habitat that are not part of a designated restoration area.

While the overall closure of trails ultimately benefits the ecosystems functions in the Tijuana River Valley, closed trails must be *actively* and intensely managed until native vegetation is fully established and natural site conditions have returned. For the reasons described below, decommissioned trails that will only be *passively* restored, allowing the natural recruitment of native species, are considered a temporary significant, but mitigable impact for the Proposed Project. It is important to note that wetlands tend to respond better to passive restoration than upland habitat. Riparian areas typically have better native recruitment success because the trails are less compacted (sandy soils), there is more water, and willow and mulefat species grow faster.

The closure of unauthorized dirt roads and pathways has the potential to lead to the spread of non-native invasive plant species in the absence of active restoration. Non-native plants may have an opportunity to expand into closed areas. Invasive exotic plant species generally provide less value to wildlife than the native habitats they invade. Often, these plants are not edible, birds are unable to successfully nest in them, and many do not provide adequate shelter from native predators. The more noxious invasive plants in the TRVRP include giant reed, tamarisk, castor bean, and garland chrysanthemum. Other invasive plants include tree tobacco, eucalyptus, iceplant and a number of exotic annual and perennial weeds. These species are often adapted to out-compete natives in becoming established in disturbed and open areas. Some of these plants have seeds that are easily transported by wind, water and animals. Other species reproduce vegetatively by rhizomes, and can easily invade abandoned trails for extensive distances.

Approximately 70% (23.88 acres) of all closed trails will be passively restored. Impacts to specific vegetation communities affected by trail closure are summarized in **Table 1-3.** Once specific restoration sites have been identified, it will be possible to determine the amount of these impacts that are attributable to passively (significant impact) vs. actively (non-significant impact) restored trails. A conservative approach was taken in analyzing the significant impacts to native habitat, and impacts for *all* closed trails (passively and actively restored trails) were included in the impact calculations. **Tables 3.1-7** and **3.1-8** illustrate the required wetland and upland mitigation ratios for this project. Even with the conservative approach, mitigation acreages for all vegetation community types (except for Tier I upland habitats) exceed the minimum acreages

required by the mitigation ratios. Tier I upland habitat includes maritime succulent scrub, and maritime chaparral. Trail restoration may include mandatory active restoration for these most sensitive habitat types, which will reduce the impact acreage for the Tier I habitats for the Proposed Project to zero, and the overall mitigation requirements will be met.

Non-Significant Impacts. The County plans to actively restore approximately 30 percent of all closed trails, which will result in a temporary, non-significant impact to 10.24 acres of upland and riparian vegetation. Active restoration involves decompacting the soil, removal and control of exotic plant species, planting native species where locally needed, and consistent follow up monitoring.

Establishment of an Equestrian Trailhead (Eastern Staging Area)

The proposed staging area is located on a long (1,100 feet), relatively narrow (average 200 feet) disturbed paved slab between the old and current Dairy Mart Road. An alternatives analysis revealed this area as the least environmentally sensitive for equestrian and trailhead staging since it is already paved and would not directly affect any sensitive biological resources. There will be a significant mitigable effect to riparian habitats and sensitive wildlife resources (habitats of federally listed and MSCP-covered species) from construction and operation of the Eastern Staging Area.

MSCP Consistency

The City of San Diego MSCP requires a 300-500 foot buffer from adjacent wetlands, and the Coastal Commission requires a 100-foot buffer from sensitive resources in the coastal zone, in which this project is located. A City riparian habitat mitigation area is directly adjacent to this staging area. Although it is infeasible to provide a substantial buffer between this narrow pad and the riparian mitigation area because of the location of the existing asphalt pad, native landscaping will provide a transition zone between the two. Additional measures will be implemented to reduce impacts to the riparian habitat, such as interpretive signage, fencing, transitional mule fat buffer vegetation, cowbird trapping, manure removal, and regular ranger patrols. No lighting will be allowed in this area, and night time use of this area will be prohibited.

Effects to Biological Resources

D. Eastern Trailhead Staging Area

Significant Impacts. Implementation of the eastern trailhead staging area project element is expected to impact sensitive riparian habitat, such as mule fat scrub (0.38 acre), disturbed southern cottonwood willow riparian forest (0.06 acre) and southern willow scrub (0.001 acre) habitats.

As part of project design, islands of mule fat scrub will be protected with exclusionary fencing and trailhead development will be planned away from these resources. Only three trailheads are proposed to extend from this staging area. Native landscaping and interpretive signage at these trailheads will fill in the areas between the mule fat scrub and the staging area and as a buffer

and transition to the restored southern cottonwood-willow riparian woodland just to the northwest.

Non-Significant Impacts. Improvements to this area and creation of a formal trail head and equestrian staging area may have a temporary noise impact on adjacent riparian habitats and associated wildlife. Native landscaping will create a buffer, and interpretive/educational signage and fewer trailheads will have a net benefit. Staging area improvements and construction staging will remain completely on the existing disturbed pad.

Construction of a Recreational Trail Bridge over the Tijuana River

A steel semi-truss pre-fabricated trail bridge would be constructed over the restored pilot channel of the Tijuana River. This bridge will accommodate multi-use recreation, including hiking, biking, and equestrian use. Construction staging areas will be needed and permanent access ramps for bridge and channel maintenance will be constructed across the invert and bank of the pilot channel. The bridge will be constructed over the floodplain in riparian habitat that includes invasive species, and is subject to the jurisdiction of the ACOE, RWQCB and CDFG.

MSCP Consistency

The construction of a trail bridge over the Tijuana River is not identified in the MSCP Subarea Plan. However, a trail leading across the river is identified in the 1989 Management Framework Plan, upon which some of the MSCP recommendations for this area are based. The proposed trail leading to the bridge is located near an existing MOU trail alignment, but has been shifted to the west to minimize impacts to sensitive resources.

Effects to Biological Resources

E. Bridge

Significant Impacts. The new trail bridge crossing over the Tijuana River, connector trail segment, and maintenance vehicle access ramp, could potentially impact riparian habitats, jurisdictional wetlands, and sensitive species. Bridge construction would result in permanent impacts to 0.03 acres of Southern Cottonwood-Willow Riparian Forest habitat. However, the bridge crossing is proposed where a thicket of the invasive giant reed is 30 feet wide on the north bank and about 90 feet wide on the south bank. The bridge footings for the abutments on top of the bank will be installed by removing about 30 feet of giant reed (approximately 20-25 feet deep) on each bank, which will have a beneficial effect on the native riparian habitat.

In addition to habitat impacts, impact to the least Bell's vireo is expected due to the location of the bridge/trail connector, which lies within a documented territory (see **Exhibit 3.1-13**). Impact to the southwestern willow flycatcher, which occurs in similar habitat, is also possible. Mitigation will occur through restoration of project components within occupied vireo habitat in the core of the study area and restoration of the 60.2-acre parcel west of the Dairy Mart Ponds, as described below. In addition, construction would avoid the bird breeding season (February 15 through September 15) to minimize the effect on nesting and fledging birds.

Impacts to Jurisdictional Waters and Wetlands: The Proposed Project pedestrian/equestrian bridge will result in impacts to approximately 260 square feet (0.006 acre) of Army Corps jurisdictional waters of the United States and RWQCB jurisdictional waters of the State and approximately 9,215 square feet (0.21 acre) of Corps and RWQCB jurisdictional wetlands (**Table 3.1-6**). Impacts will result from the construction of the bridge, access ramp, and new trail segment connecting the bridge to the existing trail (refer to **Appendix C-3** for a copy of the Jurisdictional Delineation summary). In addition, the pedestrian/equestrian bridge and associated components will result in impacts to approximately 9,475 square feet (0.22 acre) of CDFG and City of San Diego jurisdiction. These impacts would require permits from the ACOE, CDFG and RWQCB.

Non-Significant Impacts. The restoration of the pilot channel back to its original location is proposed to retain the location of the proposed bridge (the relocation of the pilot channel is not part of this project and was, therefore, not analyzed under the proposed action.). The channel location has changed during recent flood events. The proposed bridge footings will be set back from the top of each bank of the dredged pilot channel, and rest approximately five feet above the river bottom. Therefore, the bridge would completely free span the 40-46 feet wide channel on a 60-foot truss bridge.

Other non-significant impacts include indirect impacts to sensitive biological resources due to trail use (noise and disturbance from hikers, horses, and bicycles). Trail use is not expected to increase from existing conditions as the project proposes to formalize the trail network within the TRVRP. Temporary, bridge-related construction in a construction buffer zone around the bridge would result in 0.08 acre impact to Southern Cottonwood-Willow Riparian Forest. However, once construction is finished, the buffer areas will be recontoured and actively restored (revegetated). Therefore, the habitat impacts are considered non-significant.

F. Vehicle Access Ramp

Significant Impacts. The City of San Diego uses maintenance equipment in the Tijuana River channel to remove sediment and undesirable vegetation and maintain channel conveyance to minimize flooding. This equipment is too large to fit under the proposed pedestrian/equestrian bridge, and the bridge is not strong enough to support vehicular crossing. Therefore, a proposed maintenance vehicle access ramp has been identified on the north side of the river, west of the bridge. This access ramp will need to be constructed in riparian habitat potentially occupied by the least Bell's vireo and suitable to the southwestern willow flycatcher. This will impact approximately 0.02 acres of Southern Cottonwood-Willow Riparian Forest habitat.

Avoiding riparian trees and locating construction in areas occupied by exotic species will minimize impacts to riparian habitat. One location has been identified on the north bank that includes a 50-foot wide patch of giant reed, a single 8 inch-diameter, 40-foot high willow on the upstream (eastern) side, and a small cluster of 3 to 6 inch-diameter, and 20-25 feet high willows on the downstream (western) end. The proposed access ramp will go from the riverbed, through the patch of giant reed, to the existing dirt access road on the north side, and will avoid native riparian vegetation. This dirt road will continue eastward to the existing low water equestrian trail crossing where maintenance vehicles can re-enter the channel about 250 feet east or

upstream of the bridge. Although the ramp will be constructed in non-native vegetation as much as feasible, impacts to jurisdictional wetlands and sensitive bird habitat will be unavoidable.

Impacts to Jurisdictional Waters and Wetlands: Please refer to the details outlined in the bridge impacts section above.

Non-Significant Impacts. Construction access for a small pile driver would require constructing a small ramp, approximately 8 feet wide and 20 feet long, on the north bank of the river. Because the river will be dry during this construction, no water bypass or diversion structure would be needed. In the event that the river is flowing during pile driving operations, the contractor's stabilizing platform will incorporate temporary culvert pipes to convey the flowing water under the platform. The access ramp would be constructed at the same time as the bridge under the same NWP #33 for equipment access.

G. Construction Staging

Significant Impacts. None.

Non-Significant Impacts. A construction staging area north of the bridge construction footprint will be used for all construction-related staging. The area is currently being used by the City of San Diego for staging of maintenance activities. The pad is currently cleared, however this was not captured in the vegetation communities delineation, due to the scale of mapping. Therefore, the staging area is shown entirely within riparian woodland habitat.

Impacts to Jurisdictional Waters and Wetlands: Please refer to the details outlined in the bridge impacts section above.

Educational Program (Directional and Interpretive Signage, Benches, and Bird Blinds)

The educational program will include the installation of some or all of the following: interpretive signage, benches, bird blinds, hitching posts and bike racks. Directional and interpretive signage on the mesas will provide information on local coastal sage scrub and chaparral communities and rare plants and provide vistas to the river valley and coastal habitats.

MSCP Consistency

This educational program including the trail enhancements will provide environmental education and improve the public experience, a goal which is consistent with the MSCP.

Effects to Biological Resources

H. Directional and interpretive signage, benches, bird blinds

Significant Impacts. None.

Non-Significant Impacts. Trailheads, interpretive signage, hitching posts and bike racks, benches, and bird blinds are considered positive additions to the trail system. These enhancements would be located in bare, disturbed or non-native habitats. They are intended to support the user experience, provide environmental education and will be located in areas that are minimally intrusive for wildlife viewing opportunities. Trailheads, interpretive signage, hitching posts and bike racks, benches, and bird blinds have been specifically designed and located to minimize impacts on sensitive habitat and disturbance of wildlife. This element of the Project would not result in a significant adverse impact on biological resources.

Restoration

MSCP Consistency

The proposed 60.2 acre habitat restoration site (see **Exhibit 3.1-14**) west of the Dairy Mart Ponds is consistent with the MSCP, which specifically calls for the restoration and widening of the riparian corridor in Tijuana River Valley. One of the goals for the MHPA management areas is to enhance and restore native habitat in strategic locations to provide habitat linkages and functional wildlife movement corridors, thereby reducing the negative effects of habitat fragmentation. The restoration element of the Proposed Project will substantially increase the amount of riparian scrub and riparian woodland habitat and link it to similar existing riparian and aquatic community types along the main channel of the river, creating a large block of contiguous high value habitat in the western half of the TRVRP's river valley. It will also create a buffer from the adjacent residential development to the north. Riparian habitat is home to several sensitive species of plants and animals, and therefore, the restoration efforts will also support MSCP goals of protecting sensitive species and their associated habitat.

Effects to Biological Resources

I. Restoration of Site West of Dairy Mart Ponds

Significant Impacts. None.

Non-Significant Impacts. Active restoration west of the Dairy Mart Ponds is expected to result in a net benefit to biological resources within the TRVRP. Removal of non-native invasive species and restoration of native habitat is expected to mitigate for the significant impacts from the Proposed Project to a level below significance. Long-term monitoring and maintenance requirements will assure that success criteria will be met and will allow for adaptive management as needed.

The 60.2-acre restoration site west of Dairy Mart Ponds will be staged near the existing ballfields on International Road. Staging for habitat restoration will occur in dedicated construction staging areas described in this document, within the footprint of the habitat restoration area, if feasible, and along already disturbed access roads and easements. Onsite staging will be phased and all staging areas within the habitat restoration footprint will be restored to native habitat conditions. These temporary impacts are considered non-significant.

3.1.4 Cumulative Impact Analysis

The Proposed Project is not anticipated to have a significant, cumulative impact within the southern San Diego County region. Six projects have been identified for the cumulative impact analysis: (1) U.S. Customs and Border Protection 14-mile Border Infrastructure System Project; (2) Goat Canyon Enhancement Project; (3) California Coastal Trail Planning; and (4) Border Field State Park and Tijuana River Estuary Visitor Center enhancements; (5) Rio Walk Subdivision; and (6) San Diego Water Authority Tijuana River Mitigation Bank. These cumulative projects were chosen because all the projects are found within the South Coast Ecoregion of San Diego County.

Implementation of the Proposed Project would impact riparian, wetland and upland vegetation communities. In addition, the project would impact areas potentially occupied by the endangered least Bell's vireo and suitable to the southwestern willow flycatcher. Quantifiable impacts from the cumulative projects listed in Section 1-6 are illustrated in **Table 3.1-11** and summarized in detail below.

U.S. Customs and Border Protection Infrastructure System Project: The Border Infrastructure project (BIS) will have significant permanent impacts to a variety of sensitive vegetation communities (**Table 3.1-11**) and species, including sensitive plant species. Impacts to vegetation communities and salt panne will be left to naturally revegetate on their own. Disturbed salt panne will be left barren. Reference has been made in the environmental document that impacts to ACOE jurisdictional wetlands will be mitigated as indicated in the permit conditions through the restoration of southern willow scrub. The project is committed to mitigating a total of 236 acres of habitat through restoration, enhancement (including exotic species removal), and creation. The project will also conserve habitat, decommission 145 miles of roads and restore those that are located on public lands, and salvage populations of the sensitive Baja California birdbush to be replanted in the project vicinity, north of the project footprint. 140 acres of this area in Spring Canyon will be conserved in a permanent preserve that will be transferred to a conservation agency. In addition, construction of the project will be conducted outside the bird breeding season in sensitive habitats. Noise monitoring, abatement and specific lighting design will reduce and mitigate impacts to sensitive biological resources.

Goat Canyon Enhancement Project: This project directly impacts a variety of biological resources, including sensitive vegetation communities and jurisdictional wetlands (as indicated in **Table 3.1-11**), and the least Bell's vireo (through habitat removal). Indirect impacts from construction noise may affect the least Bell's vireo, California gnatcatcher, and Belding's savannah sparrow. The mitigation is proposed in form of revegetation and habitat restoration/creation, avoidance of the bird breeding season, preconstruction surveys and construction monitoring. Mitigation will reduce all significant impacts to a level below significance.

California Coastal Trail Planning: The California Coastal Trail alignment has not yet been selected, and no biological resources data are available at this time to quantify cumulative impacts in the region.

Border Field State Park: An environmental review conducted in 2003 by the State Department of Parks and Recreation evaluated construction of the project, including a visitor center and entrance kiosk. Neither existing biological conditions nor impacts were quantified in the document. The project will avoid any sensitive biological resources as much as practicable, including the bird breeding season during construction of the visitor center to avoid indirect impacts to noise-sensitive species. The documents state that no significant impacts to sensitive biological resources would be expected. In consultation with the resources agencies, mitigation design measures will be incorporated into the construction of the buildings. No other mitigation is proposed in the environmental review document.

Rio Walk Subdivision: Detailed information regarding impacts to sensitive biological resources is currently unavailable for this project. A biological resources analysis is currently in preparation. According to the City of San Diego, the footprint of this project will be located in previously disturbed areas, and no impacts to sensitive biological resources are expected.

San Diego County Water Authority Tijuana River Mitigation Bank: This project is a mitigation bank to compensate for the Water Authority's capital project impacts on riparian and wetland habitats. The Water Authority proposes to create 32 acres of riparian and wetlands habitats within a 148 acre site south of the Tijuana River within the confines of the Tijuana River Park. A site analysis, including soil and hydrological studies, is currently underway that attempts to locate the project in the least environmentally sensitive area. The project will mainly affect fallow and prime agricultural lands. The project is currently undergoing environmental review, and detailed quantifiable information is not yet available.

All projects are expected to mitigate all of their associated impacts to a level below significance. Implementation of compensatory mitigation at ratios for impacts from the list of cumulative projects would be required pursuant to City of San Diego, ACOE and CDFG requirements for other projects in the area. It should be noted that project (1) "US Customs and Border Protection Infrastructure System Project" has been exempted from environmental review and/or permitting by federal authorities under the USA Patriot Act of 2001; however this project is committed to mitigating its impacts.

The Proposed Project is a habitat enhancement project that would have a net beneficial effect on biological resources in the Region, with the implementation of the measures specified in Section 3.1.5, and will support compliance with the City and County MSCP polices and management directives as addressed above.

Project implementation will result in a significant impact to approximately 27.12 acres, and a non-significant impact to 10.96 acres of uplands, riparian habitat, and jurisdictional wetlands as described in Section 3.1.3.3. The required mitigation, as described in Section 3.1.5 for these impacts is approximately 13.01 acres of upland habitat, and 17.46 acres of riparian habitat. However, active and passive restoration efforts as part of the overall project amount to 29.18 acres of uplands and 70.55 acres of wetlands, which far exceed the minimum mitigation requirements. Further, restoration of closed trails will result in a reduction of habitat fragmentation and edge effects, both of which are detrimental to the local flora and fauna. Lastly, public outreach efforts in the Proposed Project will educate users of the TRVRP about the

importance of the natural resources within the park. This is expected to result in a sense of ownership, protection, and responsibility from the park users. Therefore, the restoration and enhancement of habitat and subsequent reduction of habitat fragmentation, coupled with educational outreach is expected to enhance, rather than further impact the TRVRP, resulting in a net beneficial effect. Given these considerations, the Proposed Project will not contribute to a significant cumulative impact to Biological Resources.

3.1.5 Mitigation Measures

An important component of the mitigation measures for the Proposed Project includes onsite native habitat restoration. The City of San Diego MSCP Subarea Plan calls for restoration efforts in the Tijuana River Valley that are beyond the scope of this project. For example, the Subarea Plan recommends the restoration of Spooner's Mesa and the removal of berms along the river. It is not the intention of this project to include all restoration components recommended in the Subarea Plan. Restoration of the entire valley may be included as a long-term goal for the TRVRP as funding has been secured and suitable sites have been identified. The County will cooperate with the City's Flood Control towards implementing their 25 year plan, and with the San Diego County Water Authority's potential mitigation bank, which may include breaching berms. As discussed in the in the Project Description (Chapter 1.0), the trails will remain on top of the berms as proposed.

Nevertheless, the Proposed Project includes a substantial amount of restoration. Project-related restoration efforts will more than compensate for and will fully mitigate any impacts caused by the Proposed Project. Significant impacts to biological resources will be mitigated by restoration as part of this project, as described in the project description and the following section. This mitigation will reduce significant impacts to biological resources to a level below significance. Recommended mitigation ratios are based on the City of San Diego's Environmentally Sensitive Lands Code.

Mitigation Measures

Habitat Restoration

The project will result in the restoration of more than 100 acres of native habitat through active restoration of a 60.2-acre parcel site west of Dairy Mart Ponds, active restoration of approximately 11 acres (30%) of closed trails, active restoration of approximately 4 acres of narrowed trails, and passive restoration of approximately 25 acres (70%) of closed trails (see **Appendix C-4**). The narrowing of trails will provide an expansion of sensitive habitats, provide a buffer between sensitive species and park users, and still provide a safe recreational trail for equestrians, bikers, and hikers. Habitat restoration efforts will be beneficial to wildlife, native plant communities, and sensitive rare plants, especially when planned contiguous to existing native habitat (riparian, CSS or maritime chaparral). Habitat restoration is anticipated to reduce existing habitat disturbances and fragmentation within the TRVRP.

The proposed 60.2 acre habitat restoration site (see **Exhibit 3.1-14**) west of the Dairy Mart Ponds would substantially increase the amount of riparian scrub and riparian woodland habitat

and would link to similar existing riparian and aquatic community types along the main channel of the river, creating a large block of contiguous high value habitat in the western half of the TRVRP's river valley. It would also create a buffer from the adjacent residential development to the north.

Staging for habitat restoration will occur onsite within the footprint of the habitat restoration area, as practicable, and in the dedicated construction staging areas described in this document. The 60.2-acre restoration site west of Dairy Mart Ponds will be staged in phases along the City's right-of-way and other existing onsite roadways surrounding and traversing the property. All restoration staging that occurs within the habitat restoration footprint will be ultimately restored to native habitat conditions.

The restoration site includes an appropriate container planting palette and herbaceous seed mix. These project changes are considered a significant beneficial effect of the Proposed Project, which would mitigate significant effects to a level below significance. Long-term monitoring and maintenance requirements will assure that success criteria will be met and will allow for adaptive management as needed. The plans include soil and water testing, and in some cases excavation, to ensure that appropriate plant species are planted at the correct depth relative to the seasonally variable water table. Removal of topsoil in disturbed areas to lower the depth to the water table will minimize the seed bank of invasive weeds such as garland chrysanthemum.

Habitat Management

1. The County will draft a formal long-term habitat management plan for the TRVRP, detailing management responsibilities and area-specific management directives, including a regular cowbird trapping program; manure removal program; sensitive species monitoring program as directed by the MSCP; regular ranger patrols; restoration as directed by the MSCP; and recreational user education. The management plan will also include a mechanism to evaluate the impacts of the trial system on sensitive habitats, along with a commitment to eliminate or relocate trails as needed, and consistent with the MSCP, to ensure that the long-term viability of these habitats is not compromised, re-evaluated locations, usage and number of trials as habitat restoration plans evolve, and to ensure funding is consistently available to implement the plan.
2. Native plants, including rushes, sedges, and other grasses that can grow equally well in riparian and upland habitat, should be expanded to increase habitat diversity and function as nurse crops for the establishment of a successional native vegetation community. This includes removal of invasive exotic plant species, targeting giant reed, tamarisk, eucalyptus, tree tobacco and invasive herbaceous species, including garland chrysanthemum. Suggested species for introduction include southern cattail (*Typha latifolia*), Mexican rush (*Juncus mexicanus*), three square rush (*Scirpus americanus*), and California bulrush (*Scirpus californica*) in freshwater marsh/seep habitats. Tall umbrella sedge (*Cyperus eragrostis*), creeping spike rush (*Eleocharis macrostachya*), San Diego sedge (*Carex spissa*), and knotgrass (*Paspalum distichum*) may be appropriate along waterways and in areas with seasonal high water. Spiny rush (*Juncus acutus* ssp. Leopoldi) would be successful in moist, alkaline seeps, and Santa Barbara sedge (*Carex*

barbarae) and toad rush (*Juncus bufonius*) could be planted in more seasonally wet to mesic upland areas.

3. Areas that are proposed to be closed and are adjacent to coastal sage scrub, maritime chaparral, and riparian habitat should be managed by active prescriptive management and restoration to encourage the establishment of natives and prevent the re-invasion of noxious plants in sensitive riparian and upland habitats. Closed areas that traverse non-native grassland, fields, or row crop vegetation communities could be passively managed.
4. Recommended species for the restoration of closed areas and the rehabilitation of habitats on the mesa's include: California sagebrush (*Artemisia californica*), California buckwheat (*Erigonum fasciculatum*), laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), toyon (*Heteromeles arbutifolia*), and white sage (*Salvia apiana*). San Diego County Viguiera (*Viguiera laciniata*) should be added to the planting palette at appropriate locations on south facing slopes of both mesas and bladderpod (*Isomeris arborea*) should be added to restored areas in the maritime succulent shrub community on the southwest face of Spooner's Mesa. Scarifying compacted mesa trails may be required. Biological barriers such as cacti and thorny plants could be used as entrance points.
5. Closed areas on top of the mesa should be restored in the future, requiring decompaction and planting with upland scrub and grassland species. A weed abatement program to curtail garland chrysanthemum propagation would be needed. Additional plants to be added to the palette for restoration of the mesas may include coast goldenbush (*Isocoma menziesii*), rattleweed (*Astralagus trichopodus*), golden tarweed *(Hemizonia fasiculata*), wart-stemmed ceanothus (*Ceanothus* verrucosus), golden-spined cereus (*Bergerocactus emoryi*), and deerweed *(Lotus scoparius*). Native xeric grasses such as melic grass (*Melica imperfecta*) and purple needlegrass *(Nasella pulchra*), should also be included in the seed mix for the mesa tops.
6. The County should continue to coordinate efforts with TSNWR, Border Field State Park, and the Tijuana River Valley Equestrian Association (TRVEA) to educate horse stable owners and equestrian users in proper manure management to minimize nuisance attraction of cowbirds. This would help reduce the annual effort required for the cowbird trapping program.
7. The existing and ongoing brown-headed cowbird-trapping program has been very successful, along with riparian habitat restoration, in increasing the number of nesting vireos in TRVRP and should be continued. However, brown-headed cowbirds are attracted to manure as a food source for seeds, larvae and the insects typically associated with manure. Continuation of the existing successful trapping program and implementation of a manure management education program by equestrian user groups will minimize this potential impact. A manure management program is also recommended to reduce the potential introduction of exotic species from seeds carried in the manure.
8. Areas adjacent to core habitats and sensitive riparian and upland vegetation communities should be buffered from recreational use through the planting of transitional vegetation adjacent to and outside of the sensitive vegetation communities, fencing, and signage.

Active ranger patrols should provide education of trail users and should enforce environmental protection regulation.

Construction Monitoring and Training

1. Prior to construction, focused surveys pursuant to USFWS protocols will be performed for all sensitive riparian and upland bird species, including the least Bell's vireo, southwestern willow flycatcher, light-footed clapper rail, and California gnatcatcher. Construction and vegetation clearing will take place outside the breeding season of the respective bird species, but protection of occupied habitat should be provided during construction.
2. Prior to any on site construction work, the limits of the Project Impact Area (including access and staging) will be surveyed, staked, and fenced.
3. A qualified biologist will delineate the boundaries of the project footprint with orange snow fencing to avoid surface disturbance to the surrounding areas. Movement of vehicles and equipment will be confined within these delineated areas. The limits of the project footprint will be clearly delineated upstream and downstream of the project footprint.
4. Jurisdictional wetlands and sensitive habitats should be protected from construction activities using silt fencing and orange snow fencing. If trail widening and associated project components in the floodplain or in riparian wetlands require dredging or filling of wetlands or seasonal streambeds and/or removal of riparian vegetation, permits from the ACOE, CDFG and RWQCB will be necessary.
5. A biological monitor (qualified biologist) will be present to monitor and enforce environmental protection measures, including the installation and maintenance of BMPs, maintenance of fences, and all construction-related provisions identified in this document to minimize and mitigate impacts.
6. Personnel will be trained prior to the action by experienced biologists. All employees that will work on the project will be educated and instructed of the following: to limit and restrict their activities, vehicle and equipment use, and construction materials to the designated construction/staging areas and routes of travel. Impact areas will be the minimal area necessary to complete the project.
7. To meet the protection measures of the Migratory Bird Treaty Act, construction activities will be conducted outside of the bird breeding season (February 1 – September 15) whenever feasible. However, if such activities must occur within the breeding season, a qualified biologist will conduct a preconstruction survey of the project site and surrounding habitat within one week prior to the start of construction, to determine if there are active nests within the project area including raptors and ground nesting birds. The survey should begin no more than three days prior to the beginning of construction activities. It is recommended that if an active nest is observed in the Project area, a 300 foot buffer will be established between the construction activities (clearing, grubbing, building, etc.) and the nest so that nesting activities are not interrupted, and the buffers should be in effect as long as construction is occurring and/or until the nest is no longer active.

8. Siltation and erosion in and around the project site will be controlled with BMPs, including silt fences, gravel bags, fiber rolls, and slope stabilization by hydroseeding with binders and tackifiers.
9. Construction personnel will apply appropriate erosion control measures, where appropriate, and adhere to BMPs as directed by County guidelines.
10. Construction personnel will also avoid onsite fuel changes and use appropriate facilities for equipment repair. All transport, handling, use, and disposal of substances such as petroleum products, solvents, and paints related to construction of the sewer line will comply with all Federal, State, and local laws regulating the management and use of hazardous materials.
11. Construction traffic will be minimal and confined to the well-traveled access roads and the fenced action area.

Public Education

Trail enhancements have been specifically designed to support user experience, to provide environmental education, and to minimize impacts to sensitive habitat and disturbance of wildlife. Benches and directional and interpretive signage on the mesas will provide information on local coastal sage scrub and chaparral communities and rare plants and provide vistas to the river valley and coast habitats; valley trails with benches and interpretive signage will provide information on sensitive riparian communities and some of the species they support; bird blinds for wildlife observation will also provide environmental education and improve the public experience; and signage pertaining to the importance of staying on the trails will educate the public about the negative impacts to natural habitat when bicyclists, pedestrians, or equestrians wander off-trail and that unauthorized use of the area may result in closure of the habitat areas to all use.

Specific Design Mitigation Measures

Formal Recreational Trail System

The impact from trail widening and construction of new trail segments will be more than offset and mitigated by the 60.2 acre habitat restoration site, by the narrowing of trails, and by the closure of 42.5 miles of existing, but unauthorized dirt roads and pathways, by encouraging native species to establish, and by controlling exotic and invasive plant species.

The Project includes the following approach to passive and active restoration of closed areas:

- Closed areas in native habitat – combination passive/active management (natural re-establishment of native vegetation, active and regular monitoring, early weed control and localized native planting to keep noxious weeds from establishing)
- Closed areas in sensitive upland and riparian habitat – active habitat restoration and regular monitoring. Mandatory active restoration of upland Tier I habitats (maritime succulent scrub and southern maritime chaparral)

- Closed areas traversing non-native areas – passive management (mowing before seed set recommended)

Approximately one-third of the closed areas will be actively restored and revegetated. The remaining closed areas will be restored naturally and passively over time. With proper exotics removal/control, plant installation including additional grasses, monitoring and maintenance, the 60.2 acres of riparian habitat restoration at the West of Dairy Mart Road site will be successful and create a large block of riparian habitat that will support special status species, create linkages and provide a buffer to the urban area to the north, consistent with the MSCP Subarea Plan (see **Exhibit 3.1 -14**).

The County will issue a formal habitat restoration program, including conceptual restoration plan, and restoration plans and specifications, detailing restoration techniques and long-term monitoring of all restoration efforts associated with this project.

Equestrian Trailhead Staging Area

- Existing mule fat scrub and planted mule fat buffer at the eastern trailhead staging area will be protected with exclusionary fencing and trailhead development confined to the highest two thirds (elevation) of the site.
- Native landscaping and interpretive signage at the trailheads are recommended.

Recreational Trail Bridge

Sandbar and/or arroyo willow cuttings, mugwort and beardless wild ryegrass (*Leymus tritcoides*) will be planted to stabilize the recontoured bank and black willow and mule fat will be planted to restore disturbed areas on top of the bank adjacent to the access ramp and road. Removal of giant reed and planting temporarily disturbed areas not needed for equipment access would more than offset the impact of construction of the ramp and reduce the likelihood that the disturbed area not used by the equipment would be reinvaded by giant reed, tamarisk or non-native species.

Significant biological effects will also be minimized by environmental design considerations and the installation and maintenance of BMPs. Recommended mitigation measures, environmental design features and BMPs include:

1. For the construction of the proposed pedestrian/equestrian bridge, the existing 9 inch-diameter, 40 foot tall black willow on the east side and 6 inch- diameter, 20 to 25 feet tall willow on the west side of the north bank should be protected with pads and slatted or well staked exclusionary fencing for protection during bridge construction. Existing mule fat scrub to the west of the staging area would be fenced to protect it from disturbance. The staging area will be located in an area that is already disturbed and partially graded and contains non-native species such as wild radish, black mustard, garland chrysanthemum, cocklebur, castor bean, fennel, and eucalyptus seedlings. Staging in this disturbed area, followed by restoration with native black willow, arroyo willow, sandbar

willow, mugwort, mule fat and other appropriate species would result in a substantial improvement over existing conditions.

2. On the south bank of the river near the location of the proposed bridge, there is a large black willow, greater than 10 inches in diameter and approximately 60 feet tall, on the west bank. This willow and its large branch, which would arc about 15-20 high over the bridge, will need to be protected or well staked with exclusionary fencing. The giant reed that has to be removed to construct the bridge supports would be cut near the base and completely removed and disposed of properly. AquaMaster or a similar approved herbicide would be sprayed or painted immediately on the cut bases. Monitoring is recommended to identify new shoots that may need to be treated.
3. Sandbar willow and/or arroyo willow cuttings, mugwort, California blackberry (*Rubus ursinus*) and beardless wild ryegrass (*Leymus tritcoides*) should be planted to stabilize the recontoured riverbank after bridge placement activities are complete.

3.1.6 Conclusions

Significant temporary and permanent impacts to biological resources will be mitigated by the project itself to a level below significance. A total of approximately 27.12 acres of temporary and permanent significant impacts would be offset by 98.92 acres of active (75.04 acres) and passive (23.88 acres) habitat restoration. Active restoration will occur on the site west of Dairy Mart Ponds, along closed trails, and along the edges of narrowed trails, specifically for trails adjacent to disturbed areas and areas dominated by nonnative and invasive plant species. Restoration efforts will involve the removal of noxious invasive plants such as giant reed, tamarisk, castor bean, garland chrysanthemum and other non-native species that provide minimal functional habitat for wildlife species, and subsequent revegetation with native riparian trees, shrubs and seed mix. Additionally, approximately 23.88 acres of closed trails will be passively restored and are expected to recover in about five years. These restoration efforts will result in a net habitat enhancement that will more than offset and mitigate for the temporary and permanent impacts of the Proposed Project. Potential impacts to sensitive species, such as the least Bell's vireo, southwestern willow flycatcher, California gnatcatcher, light-footed clapper rail, and yellow-breasted chat will be minimized by confining all construction activities to the period outside of the nesting and fledgling season. Other potential significant impacts will be mitigated through public education efforts, signage and fencing where necessary.

The above-recommended environmental design mitigation measures will be incorporated into the project as specific areas are developed to enhance the quality of the biological resources of the park, and to reduce any potential negative impacts.

TABLES

TABLE 3.1-1
VEGETATION COMMUNITIES WITHIN THE TIJUANA RIVER VALLEY REGIONAL PARK

Holland/ Oberbauer Vegetation Communities[1]	Category[2]	Acres	% Cover in TRVRP
Southern Cottonwood-Willow Riparian Forest (61330)	**Riparian**	**353.92**	**21.40%**
Disturbed Southern Cottonwood-Willow Riparian Forest	*Riparian*	*0.8*	
Mule Fat Scrub (63310)	**Riparian**	**291.87**	**17.65%**
Disturbed Mule Fat Scrub	*Riparian*	*21.07*	
Diegan Coastal Sage Scrub (Coastal Form) (32510)	**Coastal Sage Scrub**	**225.17**	**13.61%**
Sagebrush-Buckwheat Dominated CSS	*Coastal Sage Scrub*	*172.95*	
Viguiera Dominated CSS	*Coastal Sage Scrub*	*29.32*	
Disturbed CSS	*Coastal Sage Scrub*	*15.15*	
Goldenbush Dominated CSS	*Coastal Sage Scrub*	*12.73*	
Coyotebush Dominated CSS	*Coastal Sage Scrub*	*9.74*	
Monkeyflower Dominated CSS	*Coastal Sage Scrub*	*0.43*	
Non-Native Grassland (42026)	**Non Native Grassland**	**163.09**	**9.86%**
Southern Willow Scrub (63320)	**Riparian**	**153.41**	**9.27%**
Disturbed Southern Willow Scrub	*Riparian*	*1.61*	
Disturbed Habitat (11300)	**Non-Native**	**112**	**6.77%**
Chrystanthemum subunit (42026.01)	*Non-Native*	*95.83*	
Field/Pasture (18310)	**Non-Native**	**103.64**	**6.27%**
Urban/Developed (12000)	**Non-Native**	**83.85**	**5.07%**
Row Crops (18320)	**Non-Native**	**57.19**	**3.46%**
Southern Mixed Chaparral (37120)	**Chaparral**	**39.27**	**2.37%**
Disturbed Southern Mixed Chaparral	*Chaparral*	*5.44*	
Maritime Succulent Scrub (32400)	**Coastal Sage Scrub**	**30.17**	**1.82%**
Disturbed Maritime Succulent Scrub	*Coastal Sage Scrub*	*1.33*	
Southern Maritime Chaparral (37C30)	**Chaparral**	**21.8**	**1.32%**
Disturbed Southern Maritime Chaparral	*Chaparral*	*1.16*	
Open Water	**Wetland**	**11.8**	**0.71%**
Eucalyptus Woodland (11100)	**Non-Native**	**4.6**	**0.28%**
Freshwater Marsh (52400)	**Wetland**	**2.22**	**0.13%**
Native Grassland (42100)	**Grassland**	**0.06**	**0.00%**

Note: italicized communities are subunits of the community type listed above

[1] Vegetation Communities are listed in order of percent cover within TRVRP with Holland/ Oberbauer code included

[2] Categories were chosen by major habitat types

TABLE 3.1-2

SPECIAL STATUS PLANT SPECIES DEFINITIONS

Regulation	Definition
50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species	Plants listed or proposed for listing as threatened or endangered under the Federal ESA
City of San Diego MSCP Subarea Plan for the MHPA Preserve System	Plants covered by the MSCP Subarea Plan and included in the take permit issued to the City by USFWS and CDFG.
State CEQA Guidelines, Section 15380	Plants that meet the definitions of rare or endangered species under CEQA
Lists 1B and 2 in Skinner and Pavlik, 1994	Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered" in California
14 CCR 670.5	Plants listed or proposed for listing by California as threatened or endangered under the CESA
California Fish and Game Code 1900 et seq.	Plants listed under the California Native Plant Protection Act

TABLE 3.1-3
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURING WITHIN THE TRVRP STUDY AREA

Scientific Name	Common Name	Status[1]	Covered by MSCP	Habitat	TRVRP occurrence
Adolphia californica	California adolphia	--/--/2	No	Coastal bluffs, chaparral, coastal scrub, valley foothill grassland. Blooms December- May	Not encountered during focused rare plant surveys.
Agave shawii	Shaw's agave	--/--/2	Yes	Coastal bluffs, slopes, chaparral, coastal scrub, valley foothill grassland. Blooms September - May	Limited potential. Recorded in coastal bluff scrub in 1995. Not encountered during focused rare plant surveys.
Ambrosia chenopodiifolia	San Diego bur-sage	--/--/2	No	Coastal scrub Blooms April - June	Not encountered during focused rare plant surveys.
Ambrosia pumila	San Diego ambrosia	FE/--/1B	Yes	Creek beds, seasonal drainages and floodplains. Lowlands in TR Valley and along edges. Blooms May-October	Not encountered during focused rare plant surveys.
Artemisia palmeri	San Diego sagewort	--/--/4	No	Chaparral; coastal scrub; riparian forest; riparian scrub; riparian woodland. Blooms May-September	OBSERVED. One population present within riparian area in NW portion of TRVRP.
Atriplex coulteri	Coulter's saltbush	--/--/1B	No	Coastal bluff scrub; coastal dunes; coastal scrub; valley and foothill grasslands. Blooms March-October	Not encountered during focused rare plant surveys.
Atriplex pacifica	South Coast saltscale	--/--/1B	No	Coastal bluff scrub; coastal dunes; coastal scrub. Blooms March-October	Limited potential. Tiny population recorded in coastal scrub in 1996 and in BFNR in 2001. Not encountered during focused rare plant surveys.
Atriplex parishii	Parish's brittlescale	--/--/1B	No	Chenopod scrub, playas, vernal pools. Blooms June - October	Not encountered during focused rare plant surveys.
Bergerocactus emoryi	golden-spined cereus	--/--/2	No	Closed cone coniferous forest; chaparral; coastal scrub. Blooms May-June	OBSERVED. Present on southwest-facing slopes of the bluffs in SW corner of TRVRP. Not encountered during focused rare plant surveys.
Calandrinia maritima	seaside calandrina	--/--/4	No	Coastal bluff scrub; coastal scrub; valley and foothill grasslands. Blooms February-August	Not encountered during focused rare plant surveys.
Camissonia lewisii	Lewis's evening-primrose	--/--/3	No	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland. Blooms March – June	Not encountered during focused rare plant surveys.
Ceanothus verrucosus	wart-stemmed ceanothus	--/--/2	Yes	Dry hills, mesa, open chaparral. Blooms Dec-April	OBSERVED. Several populations present on mesa tops east of Smugglers' Gulch.
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	--/--/1B	No	Coastal bluff scrub and coastal dune habitat. Blooms January – August.	OBSERVED. Small population present on the bluffs east of Smuggler's Gulch.
Chorizanthe orcuttiana	Orcutt's spineflower	--/--/1B	No	Chamise chaparral. Blooms April – June.	Not encountered during focused rare plant surveys.
Clarkia delicata	delicate clarkia	--/--/1B	No	Oak woodland, chaparral. Blooms April – May.	Not encountered during focused rare plant surveys.
Colubrina californica	Las Animas colubrina	--/--/2	No	Creosote bush scrub. Blooms April- May.	Not encountered during focused rare plant surveys.
Comarostaphylos diversifolia ssp. *diversifolia*	summer holly	--/--/1B	No	Chaparral. Blooms May - June	Not encountered during focused rare plant surveys.
Convolvulus simulans	small- flowered morning glory	--/--/4	No	Chaparral, coastal scrub, valley and foothill grassland. Blooms March – July.	Not encountered during focused rare plant surveys.
Cordylanthus maritimus ssp. *maritimus*	salt marsh bird's beak	FE/CE/1B	Yes	Coastal dunes, marshes and swamps, coastal salt. Blooms May-October.	Limited potential. Recorded in NWR/NERR in 1998. Not encountered during focused rare plant surveys.
Cordylanthus orcuttianus	Orcutt's bird beak	--/--/2	Yes	Coastal scrub. Blooms March – September.	Recorded on Spooner's Mesa in 1989. Not encountered during focused rare plant surveys.
Coreopsis maritima	sea dahlia	--/--/2	No	Coastal scrub. Blooms March- May	OBSERVED. Eighteen populations on north-facing slopes or mesa tops north of Spooner's Mesa and east of Smuggler's Gulch.
Corethrogyne filaginifolia var incana	San Diego sand aster	--/--/1B	Yes	Chaparral; coastal bluff scrub, coastal scrub. Blooms June – September.	Not encountered during focused rare plant surveys.
Deinandra conjugens	Otay tarplant	FT/CE/1B	Yes	Coastal scrub, valley and foothill grasslands. Blooms May-June	Not encountered during focused rare plant surveys.
Dichondra occidentalis	western dichrondra	--/--/4	No	Chaparral; coastal scrub. Blooms Mar – May.	Not encountered during focused rare plant surveys.

TABLE 3.1-3
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURING WITHIN THE TRVRP STUDY AREA

Scientific Name	Common Name	Status[1]	Covered by MSCP	Habitat	TRVRP occurrence
Dudleya attenuata spp. *orcuttii*	Orcutt's dudleya	--/--/2	No	Sea bluffs. Blooms May – July.	Limited potential on west facing bluffs of Spooner's Mesa, given distance from actual coastal bluffs. Recorded in BFNR in 1996. Not encountered during focused rare plant surveys.
Dudleya variegata	varigated dudleya	--/--/1B	Yes	Chaparral, cismontane woodlands, coastal scrub, valley and foothill grasslands, vernal pools. Blooms May-June.	Not encountered during focused rare plant surveys.
Euphorbia misera	cliff spurge	--/--/2	No	Maritime succulent scrub (MSS), coastal bluff scrub, coastal scrub. Blooms December – August.	OBSERVED. Eight populations on south-facing slopes in the SW corner of the TRVRP, in MSS habitat.
Ferocactus viridescens	San Diego barrel cactus	--/--/2	Yes	Maritime succulent scrub, chaparral, coastal scrub, valley and grasslands, vernal pools. Blooms May-June.	OBSERVED. Seven populations in SW corner of TRVRP on south-facing slopes in MSS.
Iva hayesiana	San Diego marsh-elder	--/--/2	No	Marshes and swamps. Blooms April – September.	Not encountered during focused rare plant surveys.
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	--/--/4	No	Mule fat scrub, coastal dunes, meadows and seeps, marshes and swamps. Blooms May-June.	OBSERVED. Small population mapped within riparian forest area west of Saturn Road. Most plants in a large opening dominated by mule fat scrub.
Ophioglossum californicum	California adder's tongue	--/--/4	No	Chaparral, valley and foothill grassland, vernal pools. Blooms December- June.	Not encountered during focused rare plant surveys.
Opuntia parryi var. *serpentina* *(Cylindropuntia californica)*	snake cholla	--/--/1B	Yes	Diegan coastal sage scrub. Blooms April – May.	Not encountered during focused rare plant surveys.
Ornithostaphylos oppositifolia	Baja California birdbush	--/--/2	No	Southern mixed chaparral or southern maritime chaparral. Blooms January-April.	OBSERVED. Seventy-eight (78) individual plants observed on mesa tops in SE portion of TRVRP.
Quercus dumosa	Nuttall's scrub oak	--/--/1B	No	Southern mixed chaparral, coastal sage scrub. Blooms February-April.	OBSERVED. One small population mapped along north-facing slope of a small drainage in SW portion of TRVRP.
Rosa minutifolia	small-leaved rose	--/CE/2	Yes	Chaparral, coastal scrub. Blooms January-June.	Not encountered during focused rare plant surveys.
Selaginella cinerascens	ashy spike-moss	--/--/4	No	Mixed chaparral, coastal sage scrub.	OBSERVED. Present in open stands of CSS and chaparral on near eastern edge of mesas.
Senecio aphanactis	rayless ragwort	--/--/2	No	Chaparral, cismontane woodland, coastal scrub. Blooms January- April	Limited potential. Unreliably recorded on Spooner's Mesa in 2001. Not encountered during focused rare plant surveys.
Suaeda esteroa	estuary sea-blight	--/--/1B	No	Marshes and swamps. Blooms May-June.	Not encountered during focused rare plant surveys.
Suaeda taxifolia	wooly sea-blight	--/--/4	No	Coastal bluff scrub, coastal dunes, marshes and swamps. Blooms January-December.	OBSERVED. Present at W end of dikes along River and in adjacent field
Viguiera laciniata	San Diego County viguiera	--/--/2	No	Maritime succulent scrub, Diegan coastal sage scrub. Blooms February-June.	OBSERVED. Present in southern portion of TRVRP within Diegan CSS and MSS

[1] **Status Federal/State/CNPS List**

Federal
-- = no Federal status
FE = Federally endangered
FT = Federally threatened

State
-- = no State status
CE = State endangered
CT = State threatened

CNPS List
List 1B – Plants rare and endemic to California
List 2 – Plants rare in California
List 3 – Plants without sufficient information
List 4 – Plants of limited distribution, a Watch List

TABLE 3.1-4

SPECIAL STATUS WILDLIFE SPECIES DEFINITIONS

Regulation Wildlife Species	**Definition**
50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species	Animals listed or proposed for listing as threatened or endangered under the Federal ESA
State CEQA Guidelines, Section 15380	Animals that meet the definitions of rare or endangered species under CEQA
City of San Diego MSCP Subarea Plan for the MHPA Preserve System	Animals covered by the MSCP Subarea Plan and included in the take permit issued to the City by USFWS and CDFG.
14 CCR 670.5	Animals listed or proposed for listing by the State of California as threatened and endangered under the ESA
California Fish and Game Code, Section 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians)	Animal species that are fully protected in California

TABLE 3.1-5
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURING WITHIN PROJECT AREA

Scientific Name	Common Name	Status[1]	Covered by MSCP	Habitat	TRVRP occurrence
Invertebrates					
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/--	Yes	Endemic to vernal pools on San Diego Co. mesas. Survives in depressions and ruts.	No surveys performed. Recorded occurrence south of Wruck Canyon.
Euphydryas editha quino	Quino checkerspot	FE/--	No	Larvae require *Plantago erecta* or *Castilleja exserta* , especially in sage-scrub habitat.	No surveys performed. Not observed in general wildlife surveys. Some *Plantago erecta* was present
Euphyes vestries harbisoni	Harbison's dun skipper	FSC/--	No	Endemic to western San Diego Co., restricted to riparian areas, intermittent streams, and oak woodlands where its larval host plant, San Diego sedge (*Carex spissa*) is present.	No surveys performed. No *Carex spissa* observed during floristic surveys.
Lycaena hermes	Hermes copper butterfly	FSC/--	No	Mixed woodlands, chaparral, and coastal sage scrub. Restricted range from San Diego Co. and adjacent Baja California Norte. Many colonies lost to development or threatened by fire.	No surveys performed. Host plant, spiny redberry (*Rhamnus crocea*), absent from chaparral habitats Unlikely at lower elevations of TRVRP.
Mitoura thornei	Thorne's hairstreak butterfly	--/CSC	Yes	Hilly, rocky areas. Small population in San Diego Co. Because of its small range and susceptibility to fire, this butterfly is of a high conservation priority. Critically imperiled due to fires.	No surveys performed. Unlikely at lower elevations of TRVRP. Host plant, spiny redberry (*Rhamnus crocea*) absent from chaparral habitas.
Panoquina errans	Saltmarsh skipper	FSC/--	Yes	Salt marshes; also tidal marshes and meadows near cord grass marshes.	No surveys performed. Unlikely within TRVRP, possible in NERR.
Streptocephalus woottoni	Riverside fairy shrimp	FE/--	Yes	Endemic to San Diego Co. in areas of tectonic swales/earth slump basins in grassland & CSS. Inhabit seasonally pools filled by rain. Hatch in warm water later in season.	No surveys performed. Suitable vernal pool habitat not present within TRVRP.
Amphibians and Reptiles					
Aspidoscelis (Cnemidophorus) hyperythra	Orange-throated whiptail	FSC/CSC	Yes	Low-elevation CSS, chaparral, valley-foothill hardwood. Prefers washes & other sandy areas w/patches of brush and rocks. Perennial plants necessary for its major food – termites.	Present. Primarily caught in riparian areas; also in CSS.
Bufo (microscaphus) californicus	Arroyo toad	FE/CSC	Yes	Coastal southern California from Salinas River Basin to Arroyo San Simón in northern Baja California. Prefers riparian habitats with sandy streambeds with cottonwood, sycamore, and willow trees.	Not present. Focused survey concluded that onsite habitat is unsuitable.
Charina (Lichanura) trivirgata	Rosy boa	FSC/--	No	In coastal areas, inhabits rocky chaparral-covered hillsides and canyons.	Not detected in focused herpetological surveys.
Clemmys marmorata pallida	Southwest pond turtle	FSC/CSC	Yes	Small range in So. Cal. and northern Baja California;. Permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, irrigation ditches, and reservoirs. Sometimes found in brackish water. Often uses basking sites (e.g., logs, vegetation mats, rocks).	Not detected in focused herpetological surveys.
Crotalus ruber ruber	Northern red-diamond rattlesnake	--/CSC	No	Chaparral, woodland, grassland & desert areas. Occurs in rocky areas & dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Not detected in focused herpetological surveys.

TABLE 3.1-5
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURING WITHIN PROJECT AREA

Scientific Name	Common Name	Status[1]	Covered by MSCP	Habitat	TRVRP occurrence
Phrynosoma coronatum blainvillei	San Diego horned lizard	--/CSC	Yes	Coastal sage, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest. Key elements are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with limited overstory for basking and low, but relatively dense shrubs for refuge.	Has been observed in dune habitats of TRNERR and TSNWR. Not detected in focused herpetological surveys.
Spea (Scaphiopus) hammondi	Western spadefoot toad	FSC/CSC	No	Require temporary rainpools with cool water temperatures that last 3 weeks and lack fishes, bullfrogs, and crayfishes.	Present. Tadpoles found in a border patrol road water-filled depression.
Birds					
Accipiter cooperii	Cooper's hawk	--/CSC	Yes	Year –round resident of San Diego Co. Prefers oak, riparian, and eucalyptus woodlands, from the coast to the mountains. Hunt over CSS, chaparral, and suburban landscaping. Nest in dense stands of oak or riparian woodland and have been reported nesting in exotic trees, such as eucalyptus (late-March and late-May).	Present and breeding. Nesting high in dense canopy inside stands of mature willows, and in eucalyptus tree in Smugglers Gulch.
Agelaius tricolor	Tricolored blackbird	FSC/CSC	Yes	Breed, forage and roost in large colonies- historically in marshes- also in upland and agricultural areas.	Not detected.
Aimophila ruficeps canescens	Rufous-crowned sparrow	FSC/CSC	Yes	Southern CA CSS and mixed chaparral. Frequents relatively steep, often rocky hillsides w/ grass & forb patches.	Present.
Amphispiza belli belli	Bell's sage sparrow	FSC/CSC	No	Generally uncommon to fairly common inhabitants of dense brushlands, ranging from the Cascade Mountains southward into Baja California. They are locally uncommon in coastal sage scrub and open chaparral vegetation in San Diego Co.	Not detected.

TABLE 3.1-5
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURING WITHIN PROJECT AREA

Scientific Name	Common Name	Status[1]	Covered by MSCP	Habitat	TRVRP occurrence
Aquila chrysaetos	Golden eagle	BEPA/CSC	Yes	In forested areas, nesting territories of golden eagles usually contain large openings such as burns, marshes, and meadows. Golden eagles feed primarily on small mammals, particularly rabbits, and on carrion. Nests on cliff ledges, and in trees.	Not recorded in raptor surveys for this project. Many sightings in recent years of foraging juveniles in the Tijuana River Valley.
Athene cunicularia	Burrowing owl	FSC/CSC	Yes	Burrow sites in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent on burrowing mammals.	Likely present. Recorded in TR Valley. In 1989, including NERR.
Buteo regalis	Ferruginous hawk	--/CSC	Yes	Semiarid grasslands with scattered trees, rocky mounds or outcrops, and shallow canyons that overlook open valleys. They may occur along streams or in agricultural areas in migration.	Not detected. Unlikely, not typical habitat.
Buteo swainsoni	Swainson's hawk	--/CT	Yes	Swainson's hawks are restricted to portions of the Central Valley and Great Basin regions where suitable nesting and foraging habitat is still available. Central Valley populations are centered in Sacramento, San Joaquin, and Yolo counties.	Not detected. Unlikely, outside of range.
Campylorhynchus brunneicapillus cousel	Coastal cactus wren	FSC/CSC	Yes	Southern CA CSS. Wrens require tall opuntia cactus for nesting and roosting.	Not detected. Low Potential. Recorded in Otay region in 1991, but host cactus not reported in TRVRP.
Charadrius alexandrinus nivosus	Western snowy plover	FT/CSC	Yes	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not detected, TRVRP too far from suitable nesting habitat.

TABLE 3.1-5
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURING WITHIN PROJECT AREA

Scientific Name	Common Name	Status[1]	Covered by MSCP	Habitat	TRVRP occurrence
Charadrius montanus	Mountain Plover	FSC/CSC	Yes	Level areas with very short grass, and areas of bare ground. Show a strong affiliation for sites that are heavily grazed by domestic livestock	Not detected. Winter range includes southern California. Recorded regularly in TRVRP until 1991, when last individuals were recorded. No other reports of the species in the County since then except for a single migrant.
Circus cyaneus	Northern harrier	--/CSC	Yes	Resident of California marshes and fields. Communal flocks roost on the ground in agricultural fields, abandoned fields and salt marshes. Breeding occurs in marshes, grasslands, meadows and cultivated fields. It appears that coastal areas are preferred, but inland areas are used when coastal habitats are limited.	Present and breeding. Abundant in winter hunting in fields north of Monument Rd., atop Spooner's Mesa and in coastal marshes west of TRVRP.
Dendroica petechia	Yellow warbler	--/CSC	No	Willow-cottonwood riparian areas.	Present and abundant in TRVRP.
Elanus leucurus	(White-tailed) Black-shouldered kite	FSC/fully protected	No	In San Diego Co. black-shouldered kites prefer to nest in riparian woodland, live oaks, or in groves of sycamores, where these border grassland and open fields. Kites hunt for food in any open grassy area and are often seen hovering even over weedy margins of highways. Their prey consists primarily of small rodents, but they also feed on terrestrial insects.	Present, breeding and foraging in combination of mature willow riparian and fallow fields.
Empidonax traillii extimus	Southwestern willow flycatcher	FE/CE	Yes	Breeds in dense riparian habitats along rivers, streams, or other wetlands - prefers dense growths of willows (Salix sp.), broom (Baccharis sp.), or other shrubs and medium-sized trees, within 20m of water or very saturated soil, supporting riparian vegetation	No breeding SW willow flycatchers detected (only 3 unpaired migrants observed over several years in a heavily surveyed area)
Falco mexicanus	Prairie falcon	--/CSC	No	Grasslands, plains, open regions. Requires sheltered cliff ledges for cover. Breeds from mid-February through mid-September, with peak April - early August.	Potential. Not recorded during focused raptor survey.
Falco peregrinus	Peregrine falcon	FD/CE	Yes	Nesting sites are typically on ledges of large cliff faces, but some pairs are nesting on city buildings and bridges. Nesting and wintering habitats are varied, including wetlands, woodlands, other forested habitats, cities, agricultural areas and coastal habitats.	Present. Recorded soaring over TRVRP in 2004.
Haliaeetus leucocephalus	Bald eagle	FD, BEPA/CE	Yes	Winters throughout most of California at lakes, reservoirs, river systems, and some rangelands and coastal wetlands. Breeding range is mainly in mountainous habitats near reservoirs, lakes and rivers, mainly in the northern two-thirds of the State, in the Central Coast Range, and on Santa Catalina Island. Large nests are normally built in the upper canopy of large trees, usually conifers	Not detected. Unlikely, as typical habitat for this species is not present.
Icteria virens	Yellow-breasted chat	--/CSC	No	Willow-cottonwood riparian areas.	Present and abundant in TRVRP
Numenius americanus	Long-billed curlew	FSC/CSC	Yes	Preferred winter habitats include large coastal estuaries, upland herbaceous areas, and croplands. On estuaries, feeding occurs mostly on intertidal mudflats.	Not present in TRVRP but present in suitable habitats within TSNWR.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	FSC/CE	Yes	Inhabits coastal salt marshes, from Santa Barbara Co. through San Diego Co. Nests in Salicornia on and bout margins of tidal flats.	Not present within TRVRP but present in relatively high numbers within picklweed marsh habitats of the TSNWR.
Pelecanus occidentalis californicus	California brown pelican	FE/CE	Yes	Builds nests of sticks on the ground, typically on islands or offshore rocks. Nests from the Channel Islands of southern California southward along the Baja California coast and in the Gulf of California to coastal southern Mexico.	Not present within TRVRP but may be present within suitable habitats within NERR and TSNWR.

TABLE 3.1-5
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURING WITHIN PROJECT AREA

Scientific Name	Common Name	Status[1]	Covered by MSCP	Habitat	TRVRP occurrence
Plegadis chihi	White-faced ibis	FSC/CSC	Yes	Not known to breed regularly anywhere in California Prefers shallow, grassy marshes.	Not present
Polioptila calfornica californica	Coastal California gnatcatcher	FT/CSC	Yes	Obligate, permanent resident of CSS below 2500 ft in southern CA. Low, CSS in arid washes. On mesas and slopes. In San Diego Co., occurs most commonly in CSS scrub vegetation with high proportions of California sage and flat-topped buckwheat and less commonly in sub-associations dominated by black sage, lemonade-berry or broom baccharis.	Present. Six pairs recorded within suitable habitat in the bluffs surrounding the mesas at the S end of the TRVRP.
Rallus longirostris levipes	Light-footed clapper rail	FE/CE	Yes	Found in salt marshes where cordgrass and pickleweed are the dominant vegetation, and in certain brackish and freshwater situations.. Feeds on mollusks and crustaceans.	Present. Two pairs detected in NE portion of TRVRP.
Sterna antillarum browni	California least tern	FE/CE	Yes	Nests along the CA coast. Colonial breeder on bare or sparsely vegetated, flat substrates, alkali flats, land fills, or paved areas.	Not detected. Unlikely in TRVRP. Least tern colony occurs at TSNWR and BFSP.
Sterna elegans	Elegant tern	FSC/CSC	Yes	Although thousands of Elegant Terns from Mexico spend the summer and fall along the California coast, the only breeding colony in the United States is in the salt work dikes at the south end of San Diego Bay where some 50-200 pairs nest.	Not detected. Unlikely within TRVRP.
Vireo bellii pusillus	Least Bell's vireo	FE/CE	Yes	Summer resident of southern CA in low riparian in vicinity of water or dry river bottoms; below 2000 ft. Margins of bushes or on twigs projecting into pathways, usually willow, baccharis, mesquite.	Present and abundant. Breeding in riparian areas of TRVRP.
Mammals					
Antrozous pallidus	Pallid bat	--/CSC	No	Deserts, grasslands, shrublands, woodland, forests. Most common in open, dry habitats w/ rocky areas for roosting. Roosts must protect bats from high temperatures. Known in Anza-Borrego State Park.	No surveys conducted. Not detected. Potentially present.
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	FSC/CSC	No	Coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland. In San Diego Co., mainly in arid coastal and desert border areas with highest densities in rocky/gravelly areas with a yucca overstory, and in desert scrub near or in the pine-juniper belt.	Present. Captured in pitfall traps during reptile surveys (ERA 2004)
Corynorhinus townsendii	Townsend's big-eared bat	FSC/CSC	No	Caves, mines, buildings, oak woodland, riparian woodland, chaparral.	No surveys conducted. Not detected. Potentially present.
Dipodomys stephensi	Stephens' kangaroo rat	FE/CT	No	Prefers annual and perennial grassland habitats, but may occur in CSS or sagebrush with sparse canopy cover, or in disturbed areas. Preferred perennials are buckwheat and chamise; preferred annuals are brome grass and filaree.	No surveys conducted. Not detected. Potentially present.
Eumops perotis	Western mastiff bat	FSC/CSC	No	Cliffs, crevices, chaparral, grassland, coastal sage scrub.	No surveys conducted. Not detected. Potentially present.
Felis concolor	Mountain lion	--/CA protected	Yes	Widespread, uncommon permanent resident, ranging from sea level to alpine meadows. Found in nearly all habitats, except xeric regions of the Mojave and Colorado deserts that do not support mule deer populations. Most abundant in riparian areas, and brushy stages of most habitats. Numbers appear to be increasing.	Unlikely. No mule deer in area and moderate human use would discourage occupation.

TABLE 3.1-5
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURING WITHIN PROJECT AREA

Scientific Name	Common Name	Status[1]	Covered by MSCP	Habitat	TRVRP occurrence
Lepus californicus bennetti	San Diego black-tailed jackrabbit	FSC/CSC	No	Coastal sage scrub habitats in southern CA. Intermediate canopy stages of scrub habitats and open shrub/herbaceous/tree/edges.	Potential. Black tailed jackrabbit present.
Macrotus californicus	California leaf-nosed bat	--/CSC	No	Desert riparian, desert wash, desert scrub. Needs rocky, rugged terrain with mines or caves for roosting	No surveys conducted. Not detected. Potentially present.
Myotis ciliolabrum	Small-footed myotis	FSC/--	No	Arid habitat associated with cliffs. Hibernates in caves and mines. Found in cracks, crevices in rocks and old buildings.	No surveys conducted. Not detected. Potentially present.
Neotoma lepida intermedia	San Diego desert woodrat	--/CSC	No	Coastal southern CA from SD County to SLO County. Woodland or tall shrub Canopies preferred. Particularly abundant in rock outcrops and rocky cliffs.	Potential. Not detected.
Nyctinomops femorosaccus	Pocketed free-tailed bat	--/CSC	No	Variety of arid areas in So. Cal. Pine-juniper woodlands, desert scrub, palm oasis, desert wash. Rocky areas with high cliffs. Roost in San Diego County in abandoned granite quarry.	No surveys conducted. Not detected. Potentially present.
Odocoileus hemionus fuliginata	Southern mule deer	--/CA game species	Yes	Occur in early to intermediate successional stages of most forest, woodland, and brush habitats. Prefer a mosaic of various-aged vegetation that provides woody cover, meadow and shrubby openings, and free water.	Unlikely. None observed or reported.
Perognathus longimembris pacificus	Pacific pocket mouse	FE/CSC	No	Inhabits the narrow coastal plains from the vicinity of the Mexican border, northward to El Segundo, Los Angeles Co.	Potential. Not detected in focused trapping surveys conducted in 1996.
Taxidea taxus	American badger	--/CSC	Yes	Uncommon, permanent resident found throughout most of the state, except in the northern North Coast area (Grinnell et al. 1937). Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Not detected. Unlikely, prefers higher and drier habitats than typically found in TRVRP.

[1] Status (Federal/State)

Federal
FE = Federally endangered
FT = Federally threatened
FSC = Federal Species of Concern
FD = Federally delisted
PT = Proposed for Federal listing as threatened
BEPA = Bald Eagle Protection Act
-- = No Federal Status

State
CE = State endangered
CT = State threatened
CSC = State species of special concern
CA Protected = moratorium on hunting
-- = no State status

TABLE 3.1-6
TOTAL AMOUNT OF IMPACTS TO EXISTING VEGETATION COMMUNITIES

Project Elements	Acres of Impact		Habitat Type
	Significant	Non-significant	
Establishment of a Formal Trail System			
A. Multi-Use Trails (trail widening)	**0.56**	**0**	
	0.08		Southern Cottonwood-Willow Riparian Forest
	0.15		Mule Fat Scrub
	0.14		Disturbed Mule Fat Scrub
	0.19		Non-Native Grassland
B. New Connector Trail Segments	**0.19**	**0.64**	
	0.07		Southern Cottonwood-Willow Riparian Forest
	0	0.23	Southern Cottonwood-Willow Riparian Forest
		0.41	Agricultural Land
	0.12		Agricultural Land
C. Closure of Existing Informal Trails and Dirt Roads	**23.88**	**10.24**	
Actively Restored	0	10.24	Variable, including Tier I uplands (see Table 1-3)
Passively Restored	23.88	0	Variable, including Tier I uplands (see Table 1-3)
Establishment of an Equestrian Trailhead			
D. Eastern Trailhead Staging Area	**2.44**	**0**	
	0.06	0	Disturbed S. Cottonwood-Willow Riparian Forest
	0.38	0	Mule Fat Scrub
	<0.01	0	Restored Southern Willow Scrub
	2	0	Urban/Developed
Construction of a Recreational Bridge over the Tijuana River			
E. Bridge	**0.03**	**0.08**	
	0.03	0	Southern Cottonwood-Willow Riparian Forest
	0	0.08	Southern Cottonwood-Willow Riparian Forest
F. Vehicle Access Ramp	**0.02**	**0**	
	0.02		Southern Cottonwood-Willow Riparian Forest
G. Construction Staging	**0**	**1.16**	
	0	1.16	Southern Cottonwood-Willow Riparian Forest
Educational Program			
H. Interpretive signage, benches, bird blinds, etc.	**0**	**0**	

TABLE 3.1-6
TOTAL AMOUNT OF IMPACTS TO EXISTING VEGETATION COMMUNITIES

Project Elements	Acres of Impact		Habitat Type
	Significant	**Non-significant**	
TOTAL	***27.12***	***10.96***	**17.46**
Jurisdictional Impacts, Recreational Trail Bridge			
Project Elements	**Acres of Impact**		**Habitat Type**
	Significant	**Non-significant**	
Impacts to jurisdictional waters			
	0.006		ACOE and RWQCB
	0		CDFG and City of San Diego
Impacts to jurisdictional wetlands			
	0.21		ACOE and RWQCB
	0.22		CDFG and City of San Diego
TOTAL	***0.436***	***0***	
Notes:			
ACOE = Army Corps of Engineers; CDFG = California Department of Fish and Game; RWQCB = Regional Water Quality Control Board			

TABLE 3.1-7
WETLAND MITIGATION RATIOS - IMPACT AND MITIGATION WITHIN THE MHPA

Habitat Type	Mitigable Take[1] (Acres)	Required Mitigation Ratio	Required Mitigation (Acres)	Actual Project Restoration (Acres)	Actual Restoration Ratio[2]
Riparian Woodland	0.26	3:1	0.8	26.61	102:1
Riparian Scrub	8.34	2.1	16.7	43.94	5:1
Freshwater Marsh	0	2:1	0.0	N/A	N/A
Natural Flood Channel	0	2:1	0.0	N/A	N/A
TOTAL:	***8.6***			***70.55***	***8:1***

Note: recommended mitigation ratios are based on the City of San Diego's Environmentally Sensitive Lands Code

[1] Because trail restoration sites will be identified and restored per guidelines in Appendix C-4, it is not possible to determine the amount of these impacts that are attributable to passively vs. actively restored trails. Therefore, the most conservative approach is taken here, by including impacts to ALL closed trails.

[2] Includes restoration of the site west of the Dairy Mart Ponds, and restoration due to closed and narrowed trails. Restoration of passively restored trails is included since these trails are expected to revert back to the native habitat community within approximately five years, after which time invasive exotic plant species will not be a significant threat to surrounding habitat.

TABLE 3.1-8
UPLAND MITIGATION RATIOS - IMPACT AND MITIGATION WITHIN THE MHPA

Tier	Habitat Type Within the TRVRP	Approximate Take (acres)[1]	Required Mitigation Ratio	Required Mitigation (Acres)	Approximate Project Restore (acres) [2]	Actual Restoration Ratio
I (rare uplands)	Maritime succulent scrub Maritime chaparral Native grassland	0 [3]	2:1	0.0	2.17	1:1
II (uncommon uplands)	Coastal sage scrub (CSS) CSS/Chaparral	10.02	1:1	10.02	10.29	1:1
IIIA (common uplands)	Non-native grasslands	2.99	1:1	2.99	3.17	1:1
IV (other uplands)	Disturbed land Agriculture Eucalyptus Woodland Ornamental Plantings	13.54	0:1	0.0	13.55 acres of upland and riparian habitats[5]	1:1
TOTAL:		***26.6*** [4]		***13.01***	***29.18***	***1:1***

Note: recommended mitigation ratios are based on the City of San Diego's Environmentally Sensitive Lands Code

[1] Because restoration sites will be restored per Guidelines in Appendix C-4, it is not possible to determine the amount of these impacts that are attributable to passively vs. actively restored trails. Therefore, a conservative approach is taken here, by including impacts to Tier II and III upland vegetation of ALL closed trails. Acreage calculations have been rounded to the nearest tenth.

[2] Restoration of passively restored trails is included since these trails are expected to revert back to the native habitat community in approximately five years, after which time invasive exotic plant species will not be a significant threat to surrounding habitat.

[3] Mitigation for this project includes active restoration of all Tier I upland habitat for closed trails; therefore, these are not considered significant impacts.

[4] This total includes acreage of impact from only vegetation communities that require mitigation (Tier I - III).

[5] Due to closure and narrowing of trails. Vegetation communities of disturbed and agricultural areas that are to be restored have not yet been determined.

TABLE 3.1-9
HABITAT RESTORATION SITE
EXISTING AND PROPOSED ACREAGE

Vegetation Community	Existing Acres at Restoration Site	Proposed Acreage[1]
Riparian Woodland		
Southern Cottonwood Willow Riparian Forest	0	26
Tamarisk	7.3	Removed
Arundo	0.3	Removed
Riparian Scrub		
Mule Fat Srub	18.2	32
Southern Willow Scrub	2.2	2
Non-Native/Disturbed		
Non-Native Grass/Ruderal	29.4	Converted
Non-Vegetated Areas	2.5	Converted
TOTAL:	***59.9***	***60***

[1] Approximate values of enhanced and/or replanted habitat; rounded to the nearest acre

K:\095432014\New EIR\Trails Revisions 050806\[Final Tables 07 13 06.xls]Table 3.1-9

TABLE 3.1-10
TOTAL RESTORATION OF VEGETATION COMMUNITIES

Project Elements	Acres of Restoration	Habitat Type[1]
RESTORATION		
Active Restoration		
A. Active Restoration of decommissioned trails	**10.24**	Refer to Table 3.1-6 for details
B. Narrowing of Trails	**4.60**	Refer to Table 1-2 for details
C. Restoration of site west of Dairy Mart Ponds	**60.2**	
	32	Mulefat Scrub
	2	Southern Willow Scrub
	26	Southern Cottonwood-Willow Riparian Forest
SUBTOTAL: ACTIVE RESTORATION:	***75.04***	
Passive Restoration		
A. Passive Restoration of decommissioned trails	**23.88**	Refer to Table 3.1-6 for details
SUBTOTAL: PASSIVE RESTORATION:	***23.88***	
COMBINED TOTAL RESTORATION:	***98.92***	

[1] Enhanced existing habitat and/or newly planted habitat

[2] Rounded to the nearest acre

TABLE 3.1-11
QUANTIFIABLE CUMULATIVE IMPACTS
VEGETATION COMMUNITIES

Holland/ Oberbauer Vegetation Communities	Border Infrastructure System	Goat Canyon Enhancement	Proposed Project	Total Cumulative Impacts (a)
Southern Cottonwood-Willow Riparian Forest (61330)			1.73	1.73
Mule Fat Scrub (63310)	2.8	6.66	0.67	10.13
Southern Willow Scrub (63320)	2	0.53		2.53
Restored Southern Willow Scrub	(b)		0.01	0.01
Diegan Coastal Sage Scrub (Coastal Form) (32510)	25.8	0.00		25.8
Maritime Succulent Scrub (32400)		0.68		0.68
Southern Mixed Chaparral (37120)	14.3	0.00		14.3
Southern Maritime Chaparral (37C30)	2.5			2.5
Open Water				0
Freshwater Marsh (52400)		0.00		0
Coastal Salt Marsh	2.6	0.00		2.6
Salt Panne	1.4	0.00		1.4
Native Grassland (42100)				0
Non-Native Grassland (42026)	33.1		0.19	33.29
Disturbed Habitat (11300)				0
Field/Pasture (18310)	(b)		0.53	0.53
Row Crops (18320)	(b)			0
Eucalyptus/Nonnative Woodland (11100)	0.2			0.2
Jurisdictional Waters [ACOE, RWQCB, CDFG and City of SD]	3.2		0.0006	3.206
Jurisdictional Wetlands [ACOE, RWQCB, CDFG and City of SD]	(b)		0.43	0.43

Note: ACOE = Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFG = California Department of Fish and Game

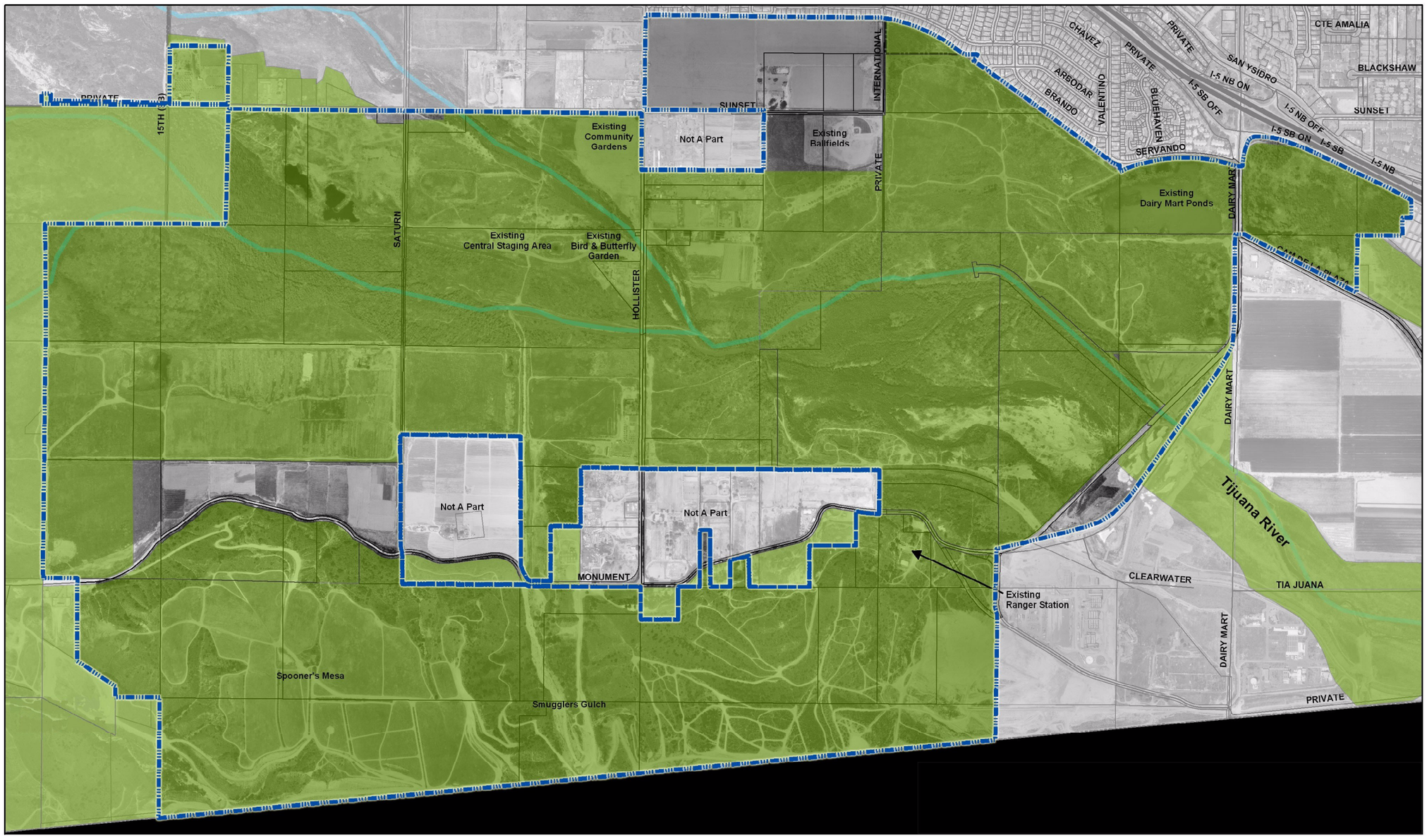
(a) Total impact, not accounting for mitigation

(b) Not quantifiable

Note: Blank cells indicate that this vegetation community is not present within the project footprint, or the project does not have an impact on these communities.

EXHIBITS

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Legend

- Tijuana River Valley Regional Park
- City of San Diego Multiple Habitat Planning Area (MHPA)

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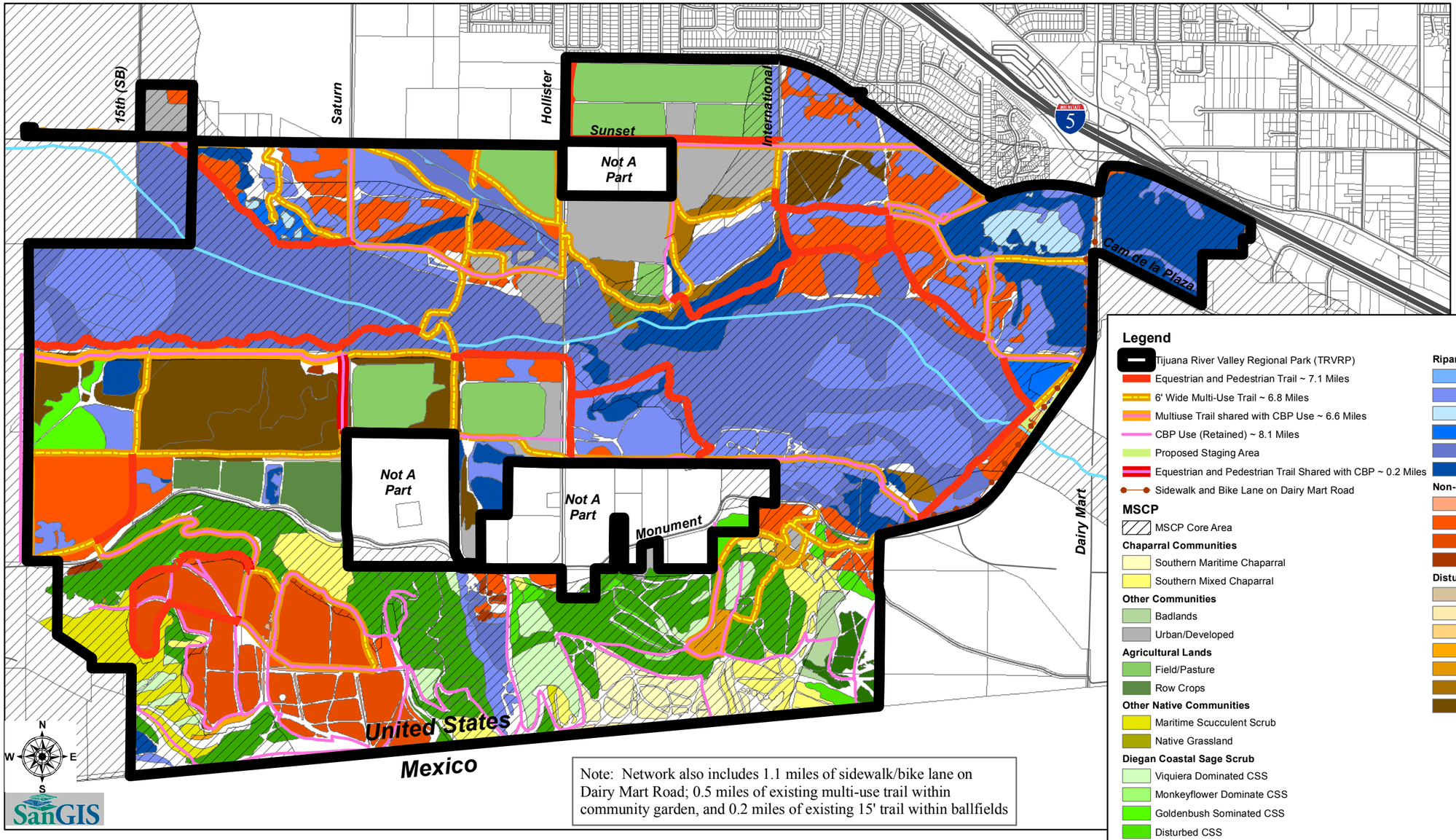
Source: Van Dyke LLP

Exhibit 3.1-1

City of San Diego Mulitple Habitat Planning Area (MHPA)

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Note: Network also includes 1.1 miles of sidewalk/bike lane on Dairy Mart Road; 0.5 miles of existing multi-use trail within community garden, and 0.2 miles of existing 15' trail within ballfields

Legend

- Tijuana River Valley Regional Park (TRVRP)
- Equestrian and Pedestrian Trail ~ 7.1 Miles
- 6' Wide Multi-Use Trail ~ 6.8 Miles
- Multiuse Trail shared with CBP Use ~ 6.6 Miles
- CBP Use (Retained) ~ 8.1 Miles
- Proposed Staging Area
- Equestrian and Pedestrian Trail Shared with CBP ~ 0.2 Miles
- Sidewalk and Bike Lane on Dairy Mart Road

MSCP
- MSCP Core Area

Chaparral Communities
- Southern Maritime Chaparral
- Southern Mixed Chaparral

Other Communities
- Badlands
- Urban/Developed

Agricultural Lands
- Field/Pasture
- Row Crops

Other Native Communities
- Maritime Scucculent Scrub
- Native Grassland

Diegan Coastal Sage Scrub
- Viquiera Dominated CSS
- Monkeyflower Dominate CSS
- Goldenbush Sominated CSS
- Disturbed CSS
- Sagebrush-Buckwheat Dominated CSS
- Coyote Brush Dominated CSS

Riparian Plant Communities
- Fresh Water Marsh
- Mule Fat Scrub
- Open Water
- Restored Southern Willow Scrub
- Southern Cottonwood-Willow Riparian
- Southern Willow Scrub

Non-Native Communities
- Tamarisk Woodland
- Non-Native Grassland
- Chrysanthemum
- Eucalyptus Woodland

Disturbed Habitat
- Disturbed Southern Willow Scrub
- Disturbed Southern Maritime Chaparral
- Disturbed Southern Cottonwood-WIllow Riparian Forest
- Disturbed Maritime Succulent Scrub
- Disturbed Southern Mixed Chaparral
- Disturbed Mule Fat Scrub
- Disturbed Habitat

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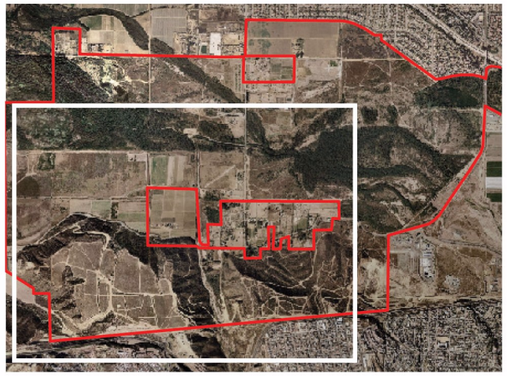
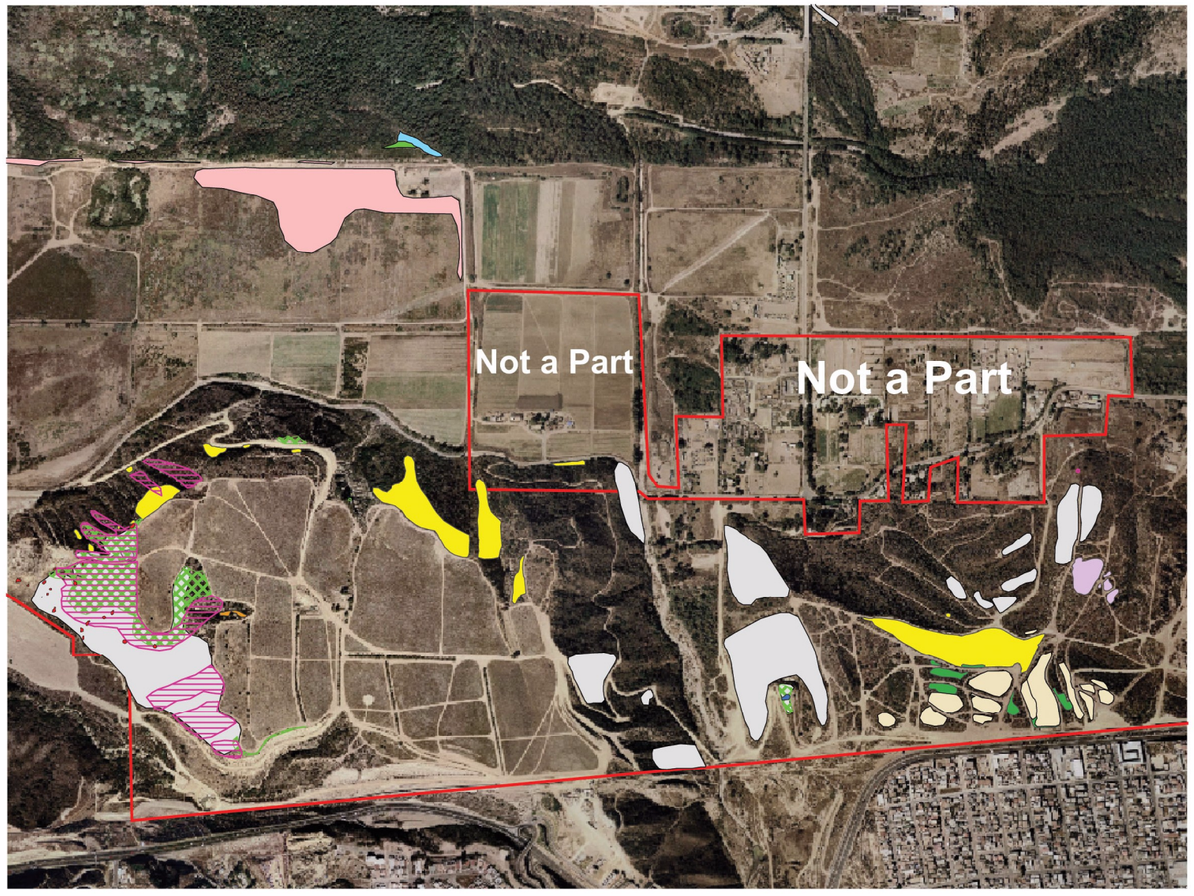
Sources

Exhibit 3.1-2
Formal Trail Network and Existing Vegetation Communities

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project

EcoSystems Restoration Associates
Planning • Design • Implementation • Maintenance • Monitoring





Legend

- San Diego sagewort (Artemisia palmeri)
- Orcutt's pincushion (Chaenactis glabriuscula)
- Woolly seablight (Suaeda taxifolia)
- Southwestern spiny rush (Juncus acutus)
- Wart-stemmed ceanothus (Ceanothus verrucosus)
- Golden spined cereus (Bergerocactus emoryi)
- Nuttall's scrub oak (Quercus dumosa)
- Cliff spurge (Euphorbia misera)
- Baja California birdbush (Ornithostaphylos oppositifolia)
- San Diego Barrel Cactus (Ferocactus viridescens)
- Ashy spike-moss (Selaginella cinerascens)
- Sea-dahlia (Coreopsis maritima)
- San Diego County Viguiera (Viguiera laciniata)

Data Source: County of San Diego
Spring Survey - 2004
Prepared by: EcoSystems Restoration Associates

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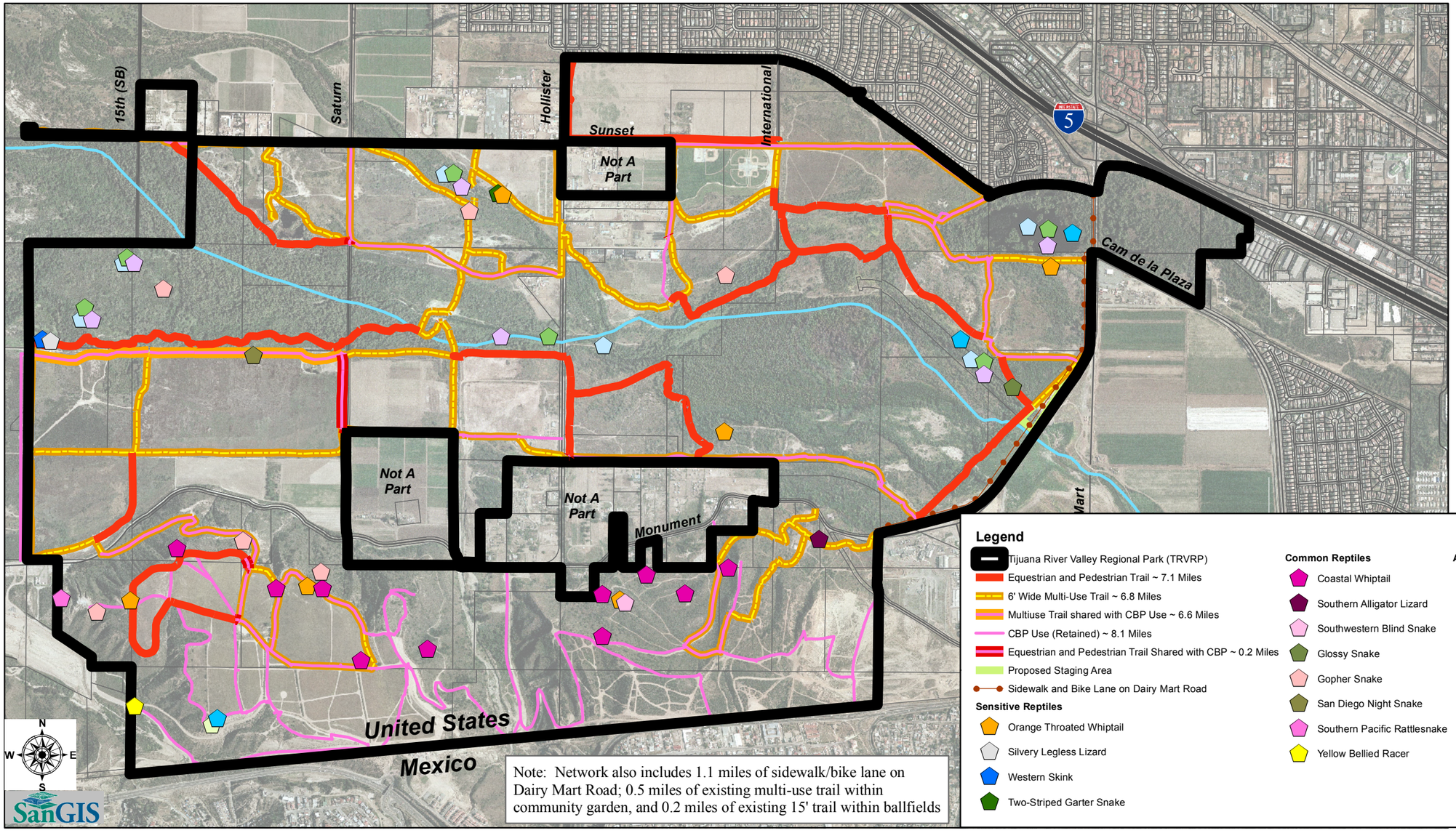
Sources

Exhibit 3.1-3
Rare Plant Locations

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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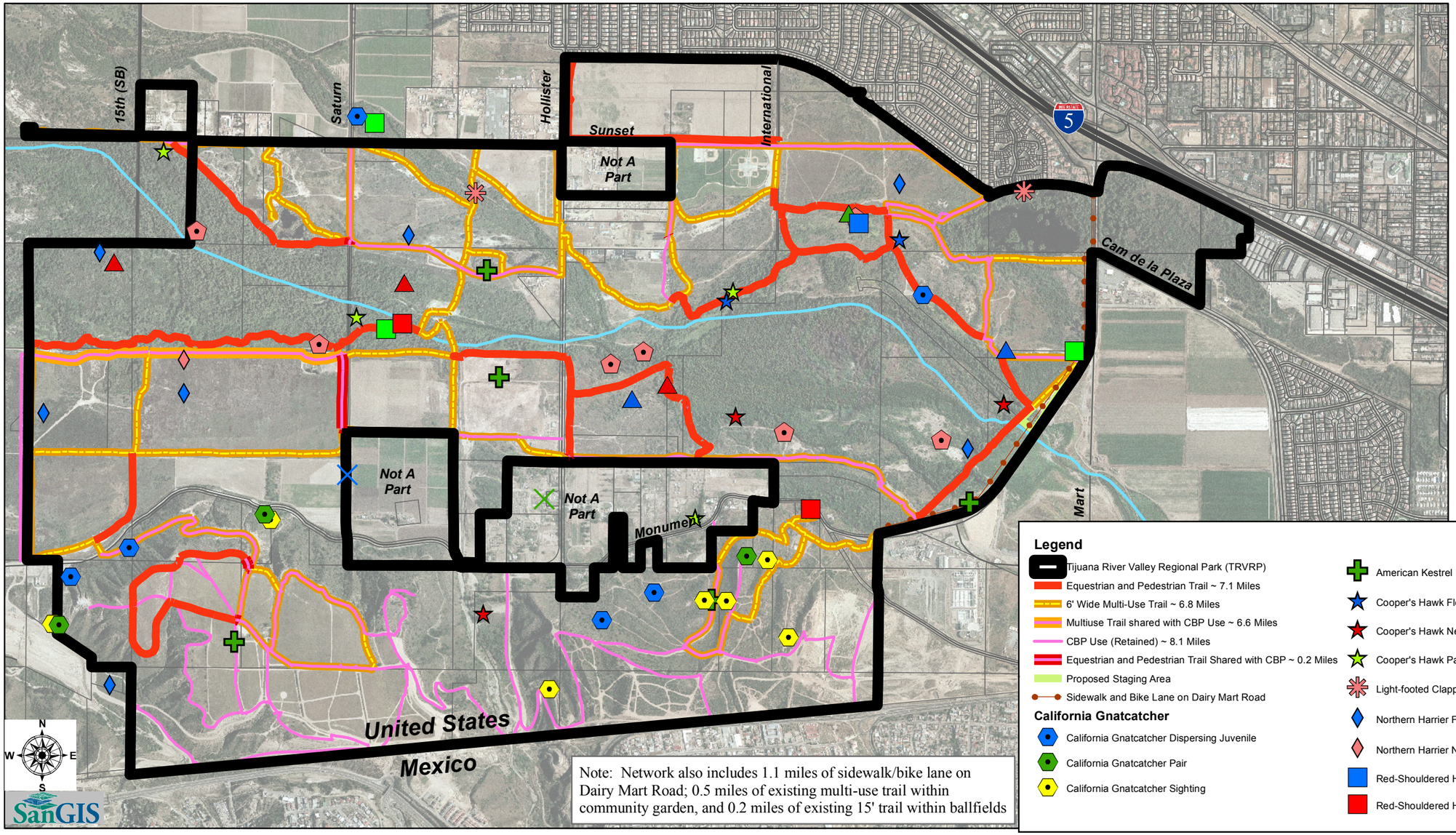
Data Source: County of San Diego Spring Survey - 2004

Exhibit 3.1-4
Herptile Species

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Note: Please refer to Exhibit 3.1-9 for Least Bell's Vireo locations

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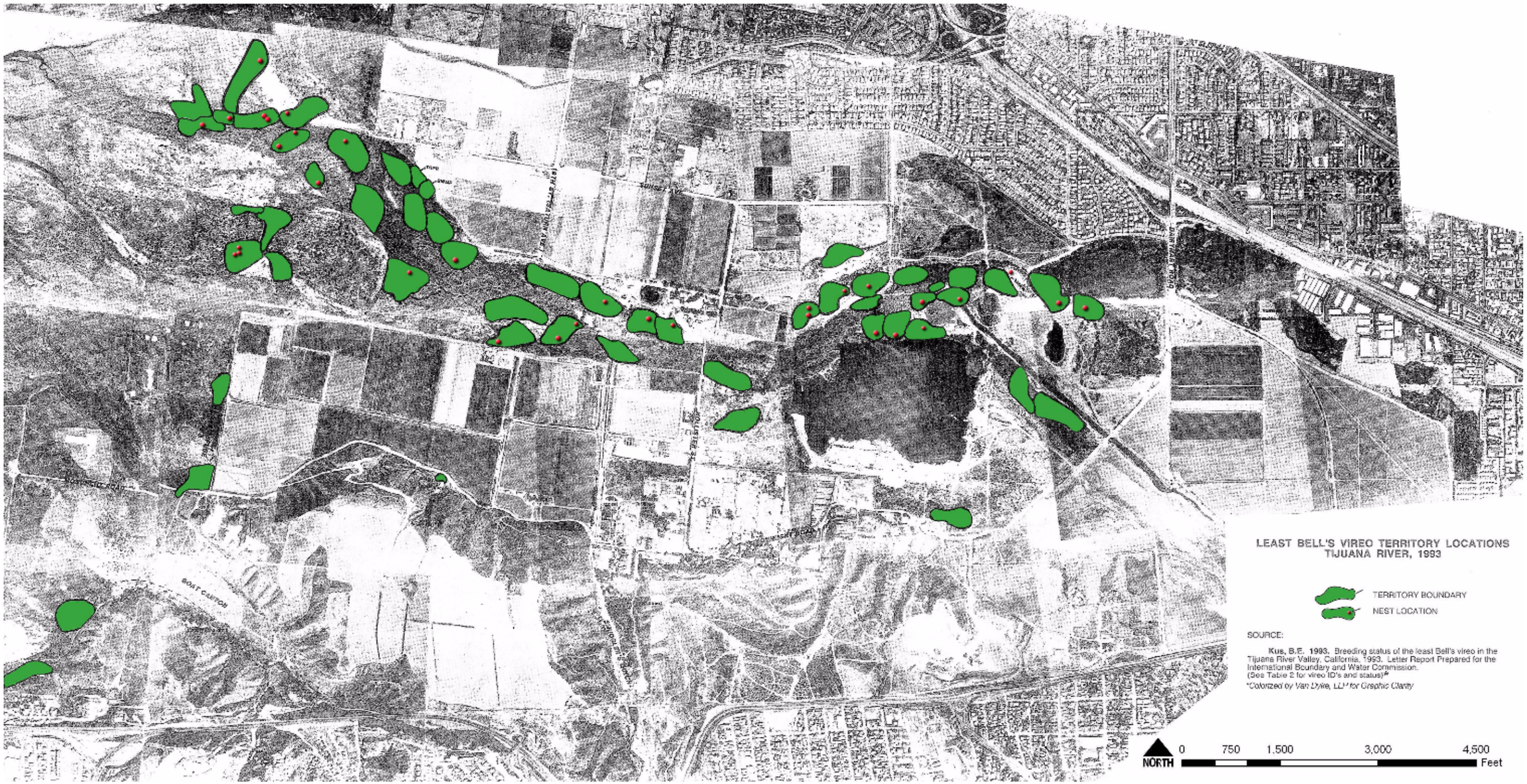
Data Source: County of San Diego Spring Survey - 2004

Exhibit 3.1-5
Sensitive Bird Species

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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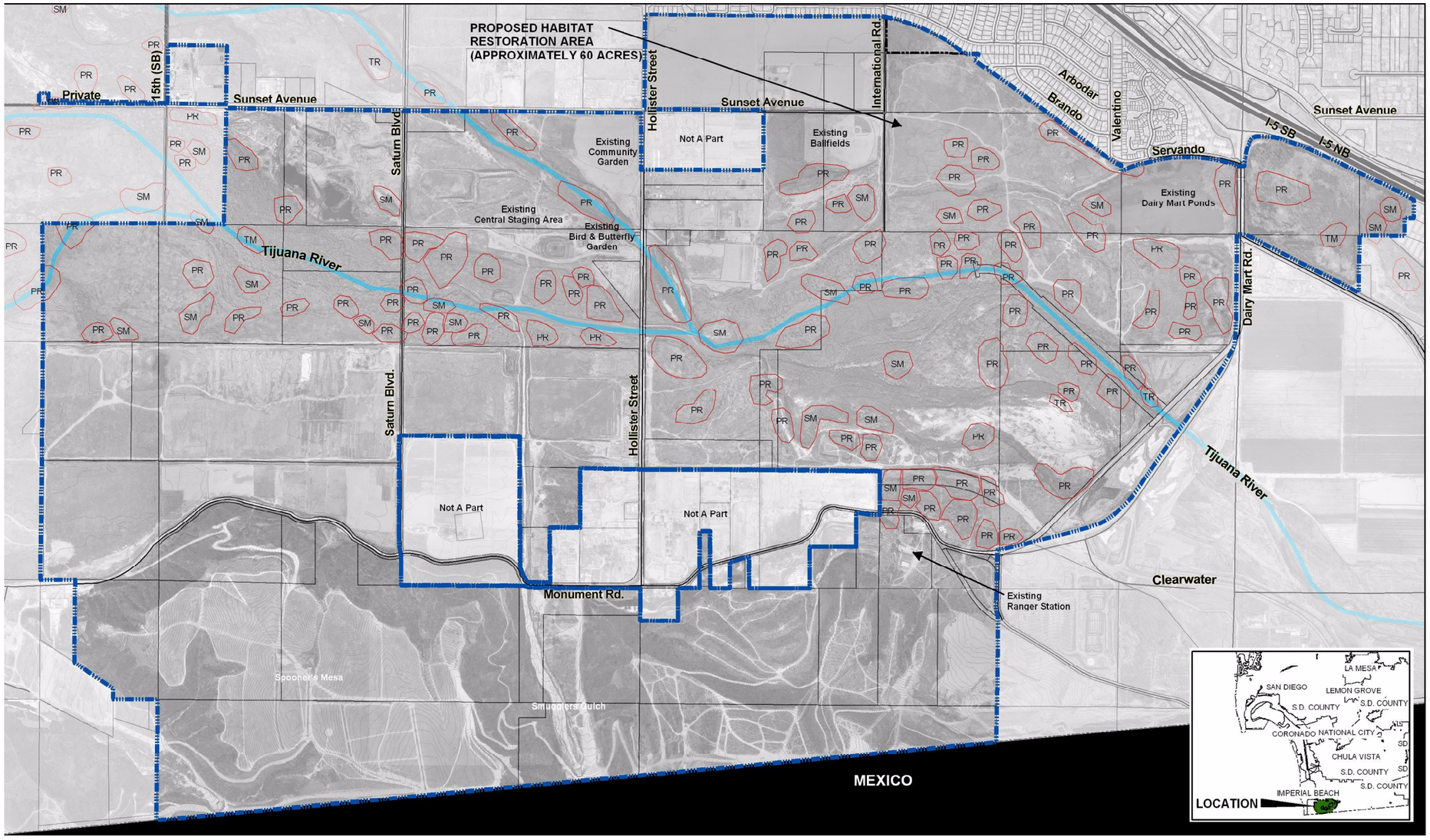
Sources

Exhibit 3.1-6

Least Bell's Vireo Locations, 1993

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Legend

- Tijuana River Valley Regional Park
- Tijuana River
- Least Bell's Vireo Locations (1998 Tijuana River Valley Least Bell's Vireo Monitoring & Territory Mapping Program, TW Biological Services)
- PR Breeding Pair
- SM Single Territorial Male
- TM Territorial Male
- TR Transient Male (present < 30 days)

*Source: TRVRP Habitat Restoration & Trails Planning Phase I Report, Technology Associates International Corporation (TAIC), 2004

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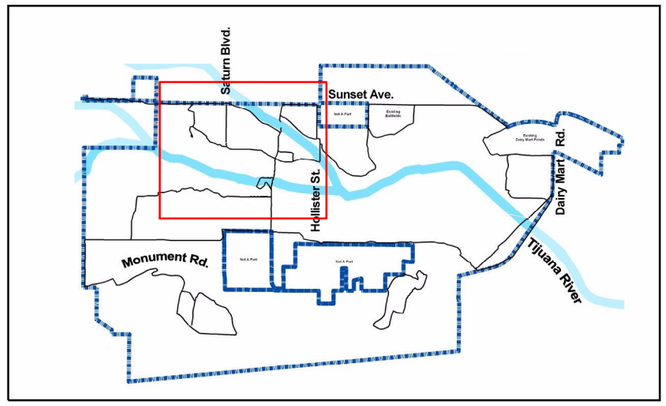
Source: Van Dyke LLP

Exhibit 3.1-7

Least Bell's Vireo Locations, 1998

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



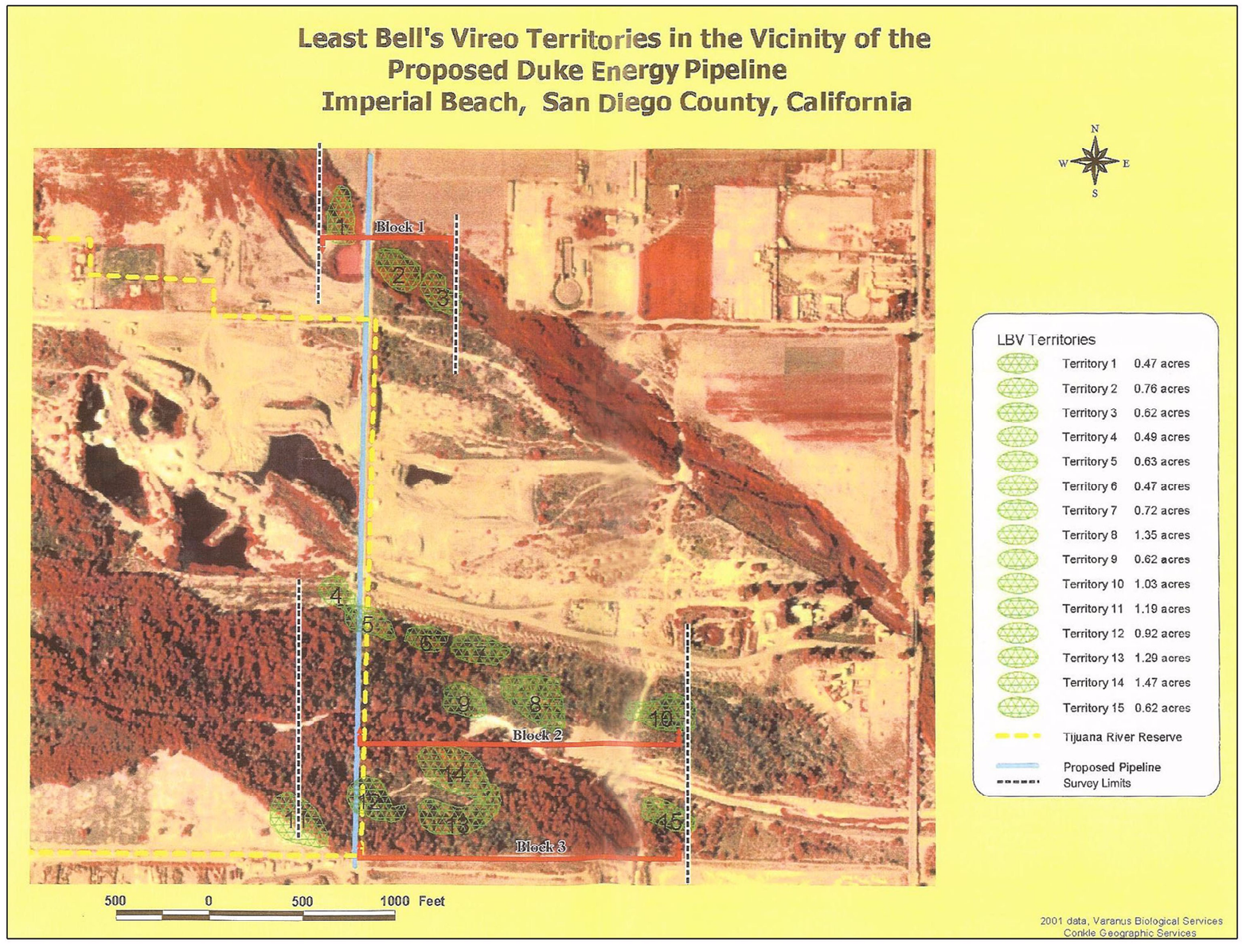


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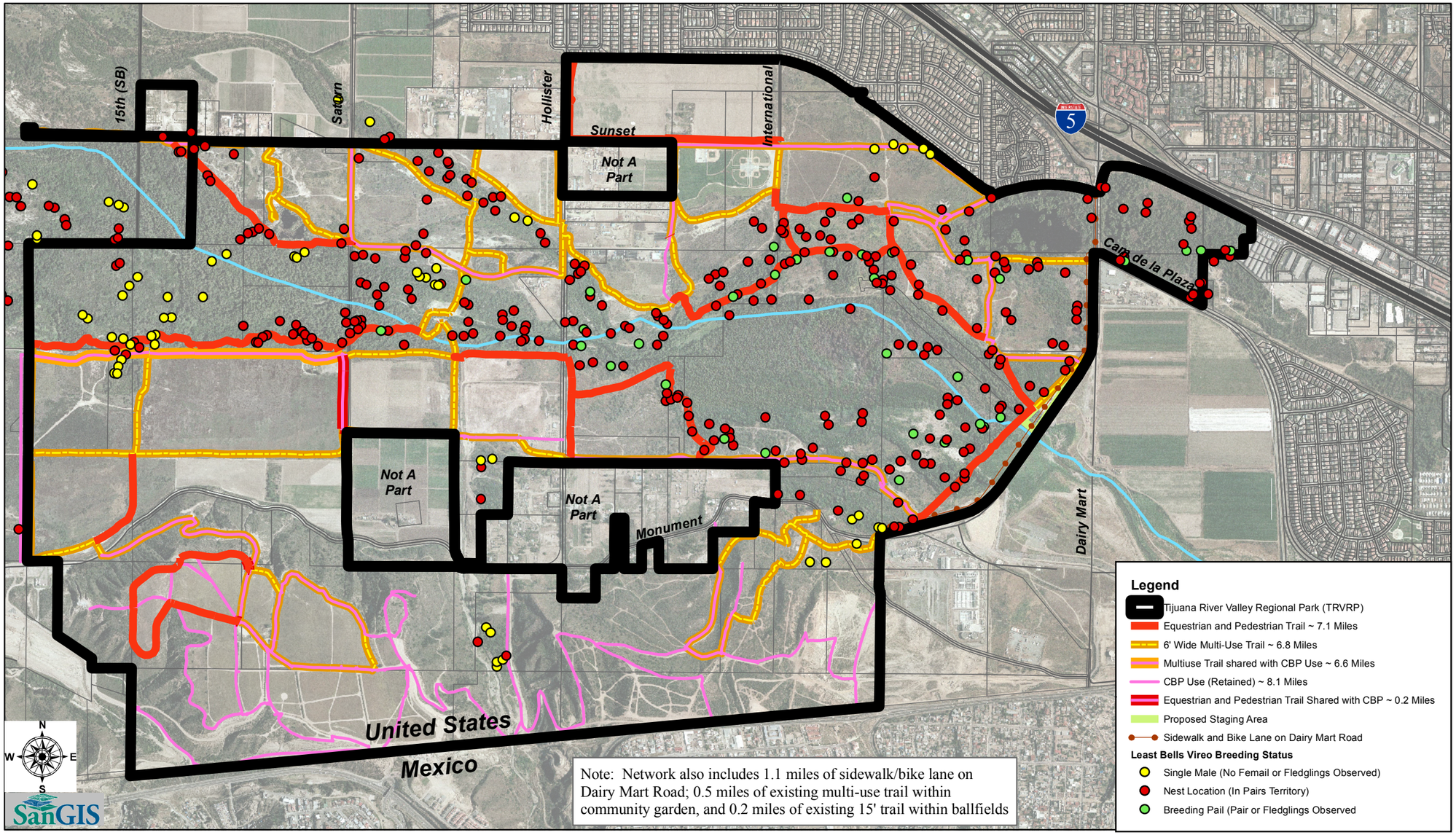
Exhibit 3.1-8

Least Bell's Vireo Locations, 2001

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



K:\095432014\GIS Exhibits\x-formal trail network with vegetation.mxd

Data Source: County of San Diego Spring Survey - 2004

Exhibit 3.1-9

Least Bell's Vireo Locations, 2004

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project

EcoSystems Restoration Associates
Planning • Design • Implementation • Maintenance • Monitoring

Data Source: County of San Diego
Spring Survey - 2004
Prepared by: EcoSystems Restoration Associates

K:\09543201\4\GIS Exhibits\x-migrant willow flycatcher locations.mxd

Sources

Exhibit 3.1-10
Migrant Willow Flycatcher Locations

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project

EcoSystems Restoration Associates
Planning • Design • Implementation • Maintenance • Monitoring

Data Source: County of San Diego
Spring Survey - 2004
Prepared by: EcoSystems Restoration Associates

K:\095432014\GIS Exhibits\x-light-footed clapper rail locations.mxd

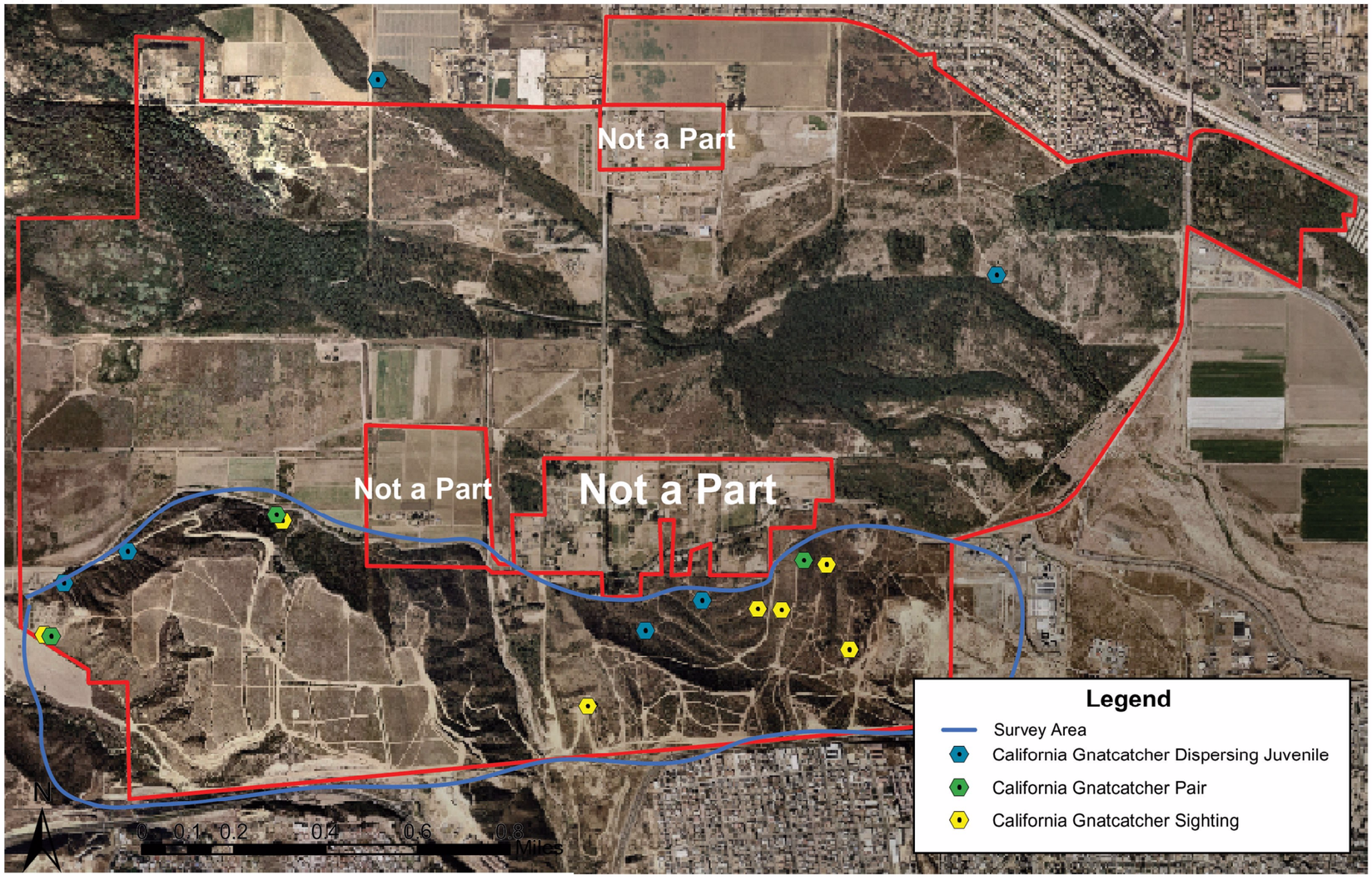
Sources

Exhibit 3.1-11

Light-footed Clapper Rail Locations

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project

EcoSystems Restoration Associates
Planning • Design • Implementation • Maintenance • Monitoring



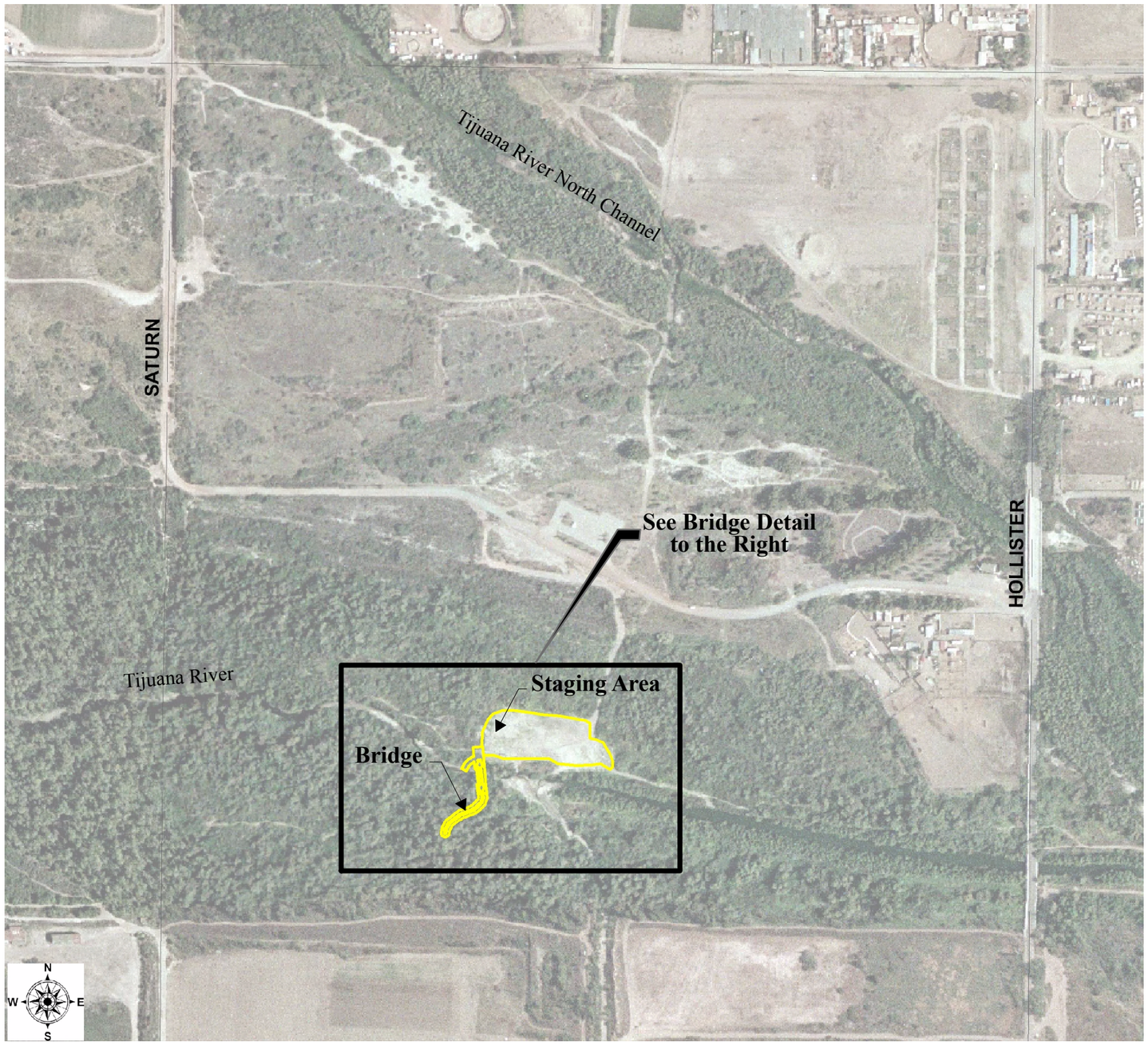
Data Source: County of San Diego
Spring Survey - 2004
Prepared by: EcoSystems Restoration Associates

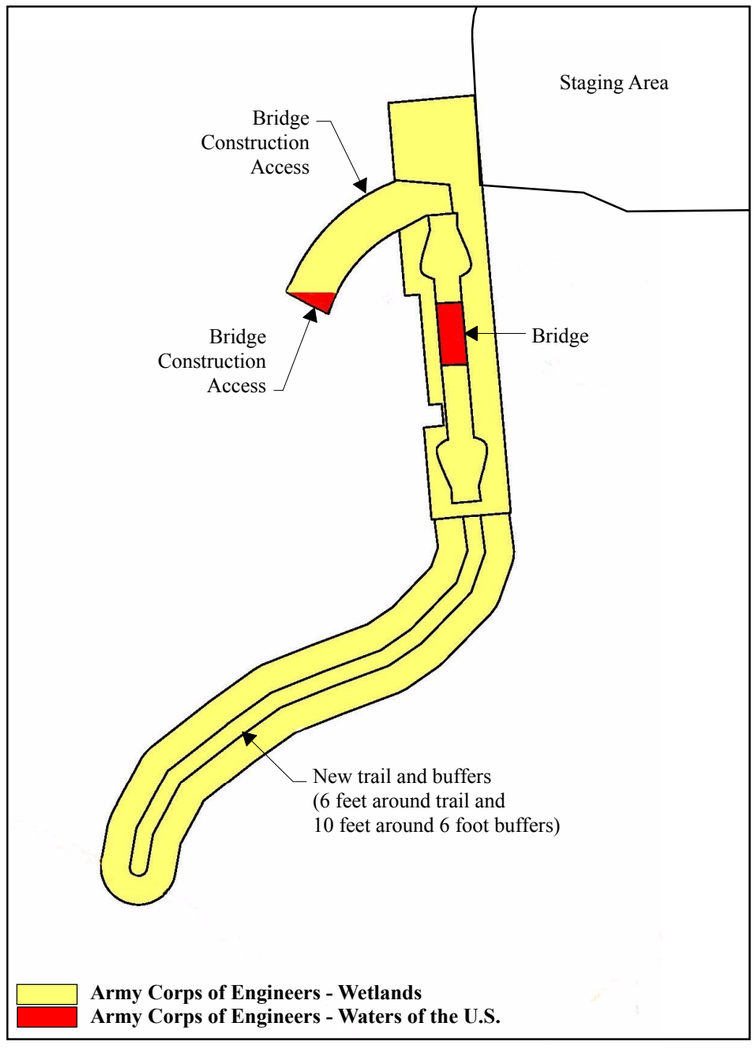
K:\095432014\GIS Exhibits\x-california gnatcatcher locations.mxd

Sources

Exhibit 3.1-12
California Gnatcatcher Locations

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project





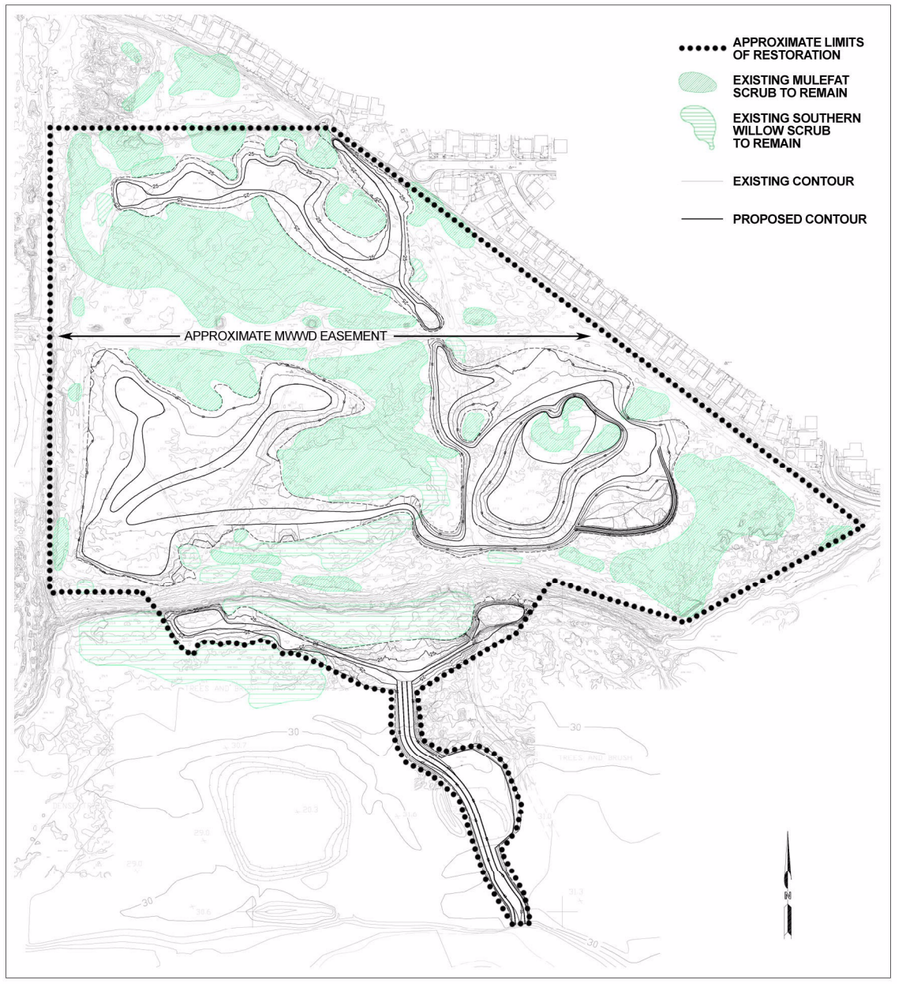
Bridge Detail
Not to Scale

K:\095432014\GIS Exhibits\xxxxx.mxd 5-2-05

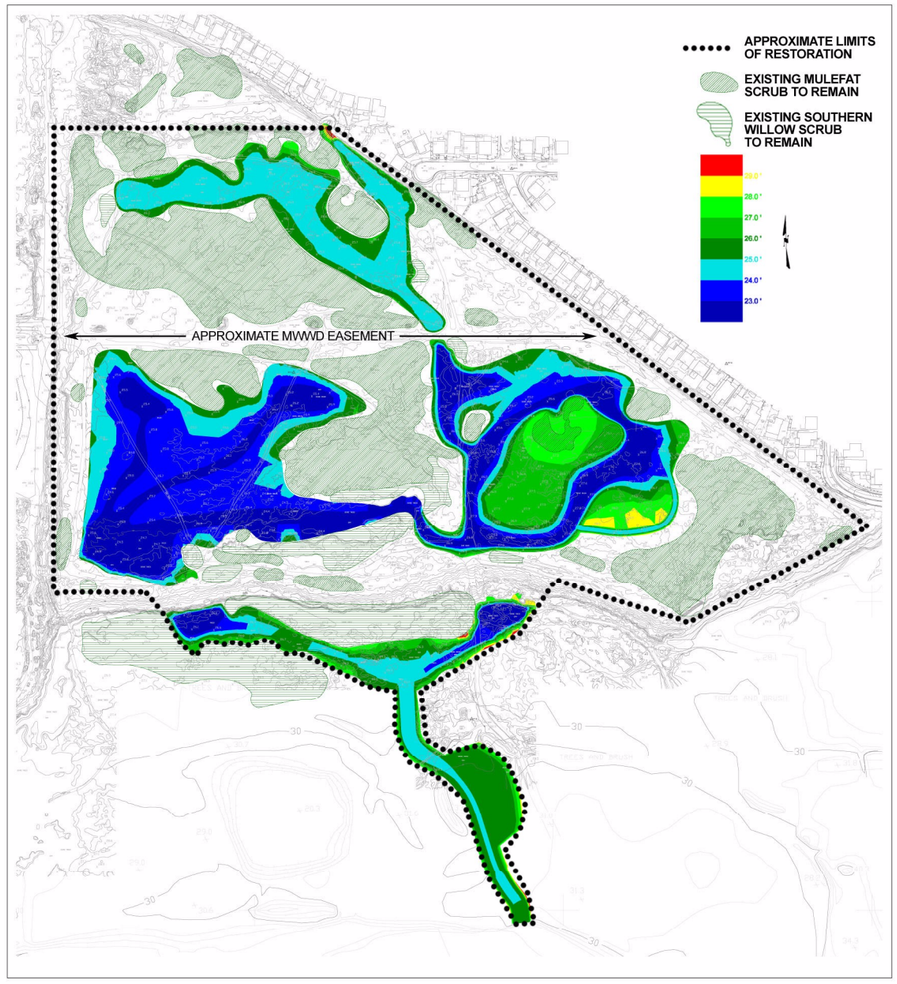
Sources

Exhibit 3.1-13
Impact Footprint for Equestrian/Pedestrian Bridge, New Trail and Associated Construction and Maintenance Access and Staging

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Proposed Grading



Proposed Elevations

K:\09543201\4\GIS Exhibits\x-habitat restoration concept plan.mxd

Sources

Exhibit 3.1-14

Habitat Restoration - Concept Plan

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SUB-CHAPTER 3.2 CULTURAL AND PALEONTOLOGICAL RESOURCES

3.2 Cultural and Paleontological Resources

This sub-chapter presents an assessment of the impacts of the Proposed Project on cultural and paleontological resources. The information presented herein is based upon a report entitled *Cultural Resources Study for the Tijuana River Valley Regional Park Trails and Habitat Restoration Enhancement Project Environmental Impact Report/Environmental Assessment* prepared by SWCA Environmental Consultants in November 2004. The technical report is contained in **Appendix D** of this EIR.

3.2.1 Existing Conditions

Local Conditions

The physical geography of the Proposed Project area is a relatively flat river valley floor that slopes up to the tall mesas to the south that serve as the US/Mexico international border. The Proposed Project is bordered on the west by Border Field State Park and extends east nearly to Interstate 5. For a complete prehistoric, ethnographic, and historic background see **Appendix D** of this EIR.

Record searches and a literature review from the South Coastal Information Center, San Diego State University, the San Diego Historical Society, and the San Diego County Historian, Department of Parks and Recreation, revealed that 43 cultural resource studies have been previously conducted within one-quarter mile of the Proposed Project, 32 of which are located within, or include portions of the Proposed Project area (see **Exhibit 3.2-1**). However, only 22 of these studies have been completed within the past ten years.

The current archaeological survey of selected portions of the TRVRP (SWCA 2004) resulted in the recordation of nine previously unrecorded prehistoric cultural resources and the updating of records for one previously recorded prehistoric site. In regard to historic resources, the survey resulted in the recordation of one previously unrecorded historic structure. The cultural resources survey was conducted for approximately 240 acres on August 3 through 6, 2004 (see **Exhibit 3.2-2** for survey area). The portions of the TRVRP surveyed for the current project include the following areas:

1) Community Garden Area (Includes one Future Habitat Restoration area);
2) West of Dairy Mart Ponds Proposed Habitat Restoration Area;
3) Fallow Agricultural Areas;
4) Active Agricultural Areas;
5) Proposed Recreational Trail Bridge and New Trail Segment;
6) Proposed New Trail Segment (Tomato Trail); and

7) Additional Areas Surveyed (subsequently dropped from the project).

The survey areas were determined based on areas that had not been previously surveyed for cultural resources in the last ten years and were within areas of the TRVRP that were considered to be potentially affected by the Proposed Project.

Due to limitations in SWCA's scope of work and revisions in project design subsequent to the completion of survey work, some areas where restoration is proposed are located in areas not surveyed for cultural resources within the past ten years and in addition were not surveyed as part of the current study. These areas will require surveying and evaluation before the proposed active or passive restoration efforts can be implemented.

The cultural resource sites include prehistoric artifacts and features, as well as historic archeological sites. Artifacts at the prehistoric archeological sites within the Proposed Project consist predominantly comprised of local metavolcanic lithics and marine shell.

Table 3.2-1, lists the previously recorded sites, including the site number, site description, resource eligibility, the proposed project impact, and recommended mitigation

3.2.2 Guidelines for the Determination of Significance

Methodology

Cultural Resources

A records search was conducted at the South Coastal Information Center (SCIC) of the California Historical Resources Inventory System located at San Diego State University for a quarter-mile radius of the project area. The records search indicated that portions of the project area have been inventoried for cultural resources by many archaeologists over a wide span of years. At least 43 archaeological investigations have been conducted within a one-mile radius of the project area, including 32 that covered a portion of the project area. These and other investigations have resulted in the identification of 50 cultural resources within a quarter-mile radius of the project area, including 32 that are located in the project area. An additional four resources were identified in the project area through technical studies not on file at SCIC, resulting in a total of 36 previously recorded sites within TRVRP. Many of these sites are temporary camps and habitation areas often associated with the rich marine resources of the area. Historic research included archival research at the office of the San Diego County Historian, Dr, Lynne Christenson, the San Diego Historical Society, and the Fairchild Aerial Photograph Collection at Whittier College.

Native American consultation was an important aspect of the project. SWCA contacted the Native American Heritage Commission (NAHC) on May 28, 2004 requesting identification by the NAHC of any areas or geographic features in the project area that are listed within the NAHC's Sacred Lands File. SWCA also requested that the NAHC provide a list of Native American groups for individuals listed by the NAHC for San Diego County. Eight NAHC-listed individuals were contacted by SWCA by mail or phone on June 11 and November 10 and 15,

2004, requesting additional information regarding sacred sites and/or traditional cultural properties (TCPs) listed within the TRVRP. No concerns were raised by the contacted groups or individuals.

The cultural resources field survey of the project area was conducted by SWCA archaeologists Alex Wesson, Kevin Hunt, Luis Burgos, Matt Tennyson, and Michael Cruz. The survey of approximately 240 acres of land within the 1,800 acre TRVRP was conducted from August 3-6, 2004. The survey was conducted using parallel transects space 10-15 meters apart and utilizing compasses and a handheld Global Positioning System (GPS) unit to maintain transect accuracy. Several small portions of the survey area were not investigated due to extremely dense vegetation, which severely limited access and ground visibility.

All cultural resources encountered during the survey were formally recorded. Recordation consisted of locating each resource using a handheld GPS unit, measuring and defining site boundaries based on the surface expression, photographing and sketching the site, and creating detailed descriptions of each site and its elements. No artifacts were collected during the survey.

Paleontological Resources

Prior to the field survey, published and unpublished geological and paleontological literature were obtained from the San Diego Natural History Museum on June 16, 2004. These materials were reviewed and evaluated to develop a baseline Paleontological inventory of TRVRP, and assess the potential paleontological productivity of stratigraphic units present. The literature review was supplemented by museum locality and specimen database searches to 1) determine whether any previously documented significant fossil localities occur within the project area; 2) assess the potential for disturbance of these localities as a result of project implementation; and 3) evaluate the Paleontological potential of the rock formations and/or surficial deposits underlying the project area.

The field survey of the project area was conducted on August 3-5, 2004. The purpose of the survey was to look for surface fossils; exposures of potentially fossilferous rocks or surficial sediments; and areas in which fossilferous rocks or potentially fossilferous surficial deposits could be exposed or otherwise impacted during implementation of the project.

Thresholds of Significance

Cultural Resources

Due to the potential for Federal, State and County review, cultural resource investigations must comply with a variety of laws, regulations, and ordinances. Many of these laws are complementary and provide similar protection for cultural resources at various jurisdictional levels.

The importance of cultural resources under State law as defined in CEQA has recently been refined to coincide with those of the California Register. The criteria used to evaluate cultural

resources are specified by recent revisions to CEQA. Specific to cultural resources is Section 15064.5. "Determining the Significance of Impacts to Archeological and Historical Resources."

This section introduces the term "historical resources" defining them as:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852) including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

(4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

Section 15065 of the CEQA Guidelines mandates a finding of significance if a project would eliminate important examples of major periods of California history or pre-history.

In addition, pursuant to Section 15064.5 of the CEQA Guidelines, a project could have a significant effect on the environment if it "may cause a substantial adverse change in the significance of an historical resource." A "substantial adverse change" means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is impaired." Material impairment means altering "in an adverse manner those characteristics of an historical resource that convey its historical significance and its eligibility for inclusion in the California Register Resources."

Pursuant to Section 15064.5 of the CEQA Guidelines, an historical resource (including both built environment and archaeological resources) is presumed significant if it is listed on the California Register or has been determined to be eligible for listing by the State Historical Resources Commission. A historical resource may also be considered significant if the lead agency determines, based on substantial evidence, that the resource meets the criteria for inclusion in the California Register. Any resource that is listed on, or considered eligible for inclusion on, the National Register of Historic Places is automatically considered eligible for the California Register.

Cultural resource work was conducted in accordance with the National Historic Preservation Act (NHPA) and its respective implementing regulations and guidelines. Section 106 of the NHPA requires a Federal agency to take into account the effect of the undertaking on properties included, or eligible for inclusion, in the National Register of Historic Places (National Register). It also affords interested parties and the Advisory Council on Historic Preservation a reasonable opportunity to comment. The National Park's Service National Register regulations (36 CFR 60) lay out the National Register Criteria, as follows:

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and
>
> (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) that are associated with the lives of persons significant in our past; or
>
> (c) that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) that has yielded, or may be likely to yield, information important in prehistory or history.

According to the Advisory Council on Historic Preservation:

> *Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:*
>
> (a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
>
> (b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
>
> (c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.
>
> (d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
>
> (e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or
>
> (f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
>
> (g) A property achieving significance within the past 50 years if it is of exceptional importance.

Paleontological Resources

According to the CEQA Guidelines, a project would result in significant paleontological impacts if it were to:

- Directly or indirectly destroy a unique paleontological resource or site.

3.2.3 Analysis of Project Effects and Determination as to Significance

Cultural Resource Overview

Fifty-four cultural resource sites have been previously documented within the Tijuana River Valley. Thirty-six of these previously recorded sites are located within or partially within the TRVRP resource area.

Four of the 54 previously recorded resources are isolated prehistoric artifacts. Of the remaining 50 cultural resources, 41 sites contain prehistoric components, 12 contain historic components, and three sites are described as having possible ethnographic period components.

Archaeological Resources

Four new unrecorded archaeological sites and five unrecorded archaeological isolates were discovered August 2 through 6, 2004 during field observations. However, none of these sites are located in specific areas of project construction (i.e., trail bridge, new trail segments, staging area and habitat restoration area). Isolates, by nature, are not considered significant. All unevaluated archaeological sites are assumed to be significant (i.e., California Register Historic Resources (CRHR) / National Register of Historic Places (NRHP-eligible)). Because they are not located in areas of project construction, none of the newly recorded archaeological resources were evaluated for NRHP and CRHR eligibility. An evaluation of the eligibility of these resources will be necessary.

Historical Resources

One historic structure was recorded during the current survey and formally evaluated for NRHP and CRHR eligibility. The Hollister Street Bridge over the Tijuana River has been formally evaluated as eligible for inclusion on the CRHR/NRHP under Criteria A and C, as it is associated with events that have made a significant contribution to the broad patterns of California and United States history and embodies the distinctive characteristics of a type of construction. Eight other historic resources or multi-component sites with a historic component are located within the TRVRP. The eight resources (TJ-3H, TJ-4H, SDI-8595, SDI-8773, SDI-11095, SDI-11947, SDI-11948H, SDI-12962H have not been evaluated for their CEQA significance and only SDI-11095 has been evaluated for its NHPA significance and was found not to be a significant resource. SDI-8595 and SDI-8773 have not been formally evaluated for their NHPA significance but were recommended as ineligible but SHPO concurrence with this recommendation is unknown. A significance evaluation of these properties is beyond the scope of the current effort and for the purposes of this project only; the eight resources will be treated as National Register eligible resources. Sites TJ-3H, TJ-4H, SDI-8595, and SDI-11947 are located include trails proposed for continuation of their present use by CBP or for passive closure.

Paleontological Resources

There are three paleontologically sensitive geologic units with the TRVRP study area: the San Diego Formation (high paleontological sensitivity), Lindavista Formation (moderate paleontological sensitivity), and the Bay Point Formation (high paleontological sensitivity). Geologic units with low or no paleontological sensitivity within the study area include Quaternary alluvium and slopewash deposits and Quaternary landslide deposits. The paleontological museum records search results revealed 17 fossil localities in the San Diego Formation, and two localities in the Bay Point Formation. The fossil localities in the San Diego Formation and Bay Point Formation were outside of the Proposed Project boundaries; therefore no impact would take place.

Results of the field inspection of prioritized survey areas and of Spooners Mesa are listed in Table 2.7.1-1 of **Appendix D**. During the pedestrian field survey, three new fossil localities were discovered within the Proposed Project study area and were documented. All are located in exposed San Diego Formation. All localities contain marine invertebrate fossils that consist of scallop, clam, and gastropod shell impressions. A fossil shark tooth was also found at one locality.

Effects

Archeological and Historical Resources

Implementation of the Proposed Project includes the creation of a formal recreational trail network based on existing unauthorized trails and dirt roads, a recreational bridge, a trailhead staging area, and a habitat restoration area. Existing trails run through, or immediately adjacent to 25 of the 46 recorded cultural resources located entirely or partially within the TRVRP. The existing trails running through or immediately adjacent to twelve of the 25 resources are proposed for continued use as part of the project and including some with additional trails proposed for closure within their boundaries; seven of the resources include trails that are proposed for closure only, and seven include widening of existing trails. Some of the existing trails proposed for continued use may be subject to enhancement work. Eight of the 25 previously recorded cultural resources with existing trails within or immediately adjacent to them have been determined ineligible for inclusion on the NRHP. No information is available regarding their CRHR status. No information on the CRHR/NRHP status is available for the remaining 18 previously recorded cultural resources with existing trails within or immediately adjacent to them.

The passive closure of existing trails that run through previously recorded cultural resources is considered to result in project impacts to cultural resources under CEQA, as there could be a substantial adverse change to the resources. Similarly, this could be considered an adverse effect under NHPA. As discussed in sub-chapter 1.1.1.2 trail restoration is likely to involve more ground disturbing activities such as ripping the soil and placing large boulders at the entrances of the trials to be closed. Accordingly, the Proposed Project will have the following potentially significant direct and long-term effect:

> **3.2.3a** Ground disturbing trail restoration activities could impact sensitive cultural resources.

Paleontological Resources

Ground disturbing activities within areas characterized by imported fill or disturbed alluvium are not considered likely to result in adverse impacts to significant paleontological resources. However, all ground disturbing activities within the San Diego, Bay Point and Lindavista formations are likely to result in adverse impacts to significant paleontological resources unless proper mitigation measures are implemented.

3.2.4 Cumulative Impact Analysis

According to CEQA, the importance of cultural resources comes from the research value and the information that they contain. Therefore the issue that must be explored in a cumulative analysis is the cumulative loss of that information. For sites considered less than significant, the information is preserved through recordation and test excavations. Significant sites that are placed in open space easements avoid impacts to cultural resources and also preserve the data. Significant sites that are not placed within open space easements preserves the information through recordation, test excavations and data recovery programs that would be presented in reports and filed with the County of San Diego and the South Coastal Information Center. The artifact collections from any potentially significant site would also be curated at the San Diego Archaeological Center and would also be available to other archaeologists for further study.

None of the prehistoric archaeological sites located within the project area have been evaluated for their significance for listing on the California Register of Historical Resources. Archaeological resources, TR-4, TR-5, TR-6, TR-7, and TR-10 are isolates and as such are not significant cultural resources, due to their limited research potential. These resources do not meet the criteria for listing in the California Register of Historical Resources. However, historic site TR-11 has been evaluated and found to be both CEQA and NRHP significant. Prehistoric and historic settlement patterns can be very broad; therefore it is prudent to consider a large study area when evaluating cumulative impacts. The cumulative projects in the vicinity of the Tijuana River Valley Regional Park Trails project are listed in Section 1.6 “List of Past, Present, and Reasonably Anticipated Future Projects in the Project Area”, pages 1-13 through 1-15, and are shown on Exhibit 1-19, “Location of Cumulative Projects”. One of the projects within the cumulative study area contains significant cultural resources. CA-SDI-16047 associated with the Goat Canyon Enhancement Project, was a prehistoric shell midden site with few associated artifacts. Impacts to this site were mitigated through data recovery, and the site was destroyed by implementation of the project in early 2005. The remaining cultural resources in the vicinity of the project area have been determined not to be significant cultural resources or have yet to be evaluated.

The proposed project’s impacts to cultural resources would be mitigated to below a level of significance and potential impacts to cultural resources would be mitigated through the avoidance of the resources by establishing 10 meter buffer zones around the resources where ground disturbing activities will not be permitted, flagging the buffer areas prior to beginning ground disturbing activities, and monitoring when ground disturbing activities take place near the flagged areas. This will ensure that the buffer zones are not compromised and also allow the archaeological monitor to observe for potential subsurface deposits that may be associated with the resources. Similarly, the cultural resources located on the cumulative projects would be mitigated through appropriate means including data recovery, testing and evaluation, and recording. Because most of the projects in the cumulative study area are still in the planning phase, specific sites and mitigation for them are unknown at this time. However, data recovery has been performed at the CA-SDI-16,047 in association with the Goat Canyon Enhancement Project. Therefore because the proposed project and those projects within the cumulative impact study area are mitigated through the placement of cultural resources within open space easements, data recovery, curation, and/or reporting, the proposed project would not cumulatively contribute to a significant impact to cultural resources.

3.2.5 Mitigation Measures

In order to mitigate the potential impacts described above in impact 3.2.a, and to avoid unanticipated impacts to cultural, paleontological and archaeological resources the following mitigation measure are recommended:

A. Contract with a County certified archaeologist (and Native American Observer) to implement a flagging, grading monitoring and data recovery program. This program shall include, but not be limited to, the following actions:

(1.) Sites (SDI-8595, SDI-8597, SDI-8602, SDI-8603, SDI-8604, SDI-8773, SDI-11097, SDI-11099, SDI-11945, SDI-11946, SDI-15099, TR-8, and the New Trees Site) are divided by trails that have been selected for closure and restoration of the trail back to its natural state through passive or active restoration. Because restoration techniques have the potential to disturb intact subsurface deposits through ground disturbance, the following mitigation will be implemented to avoid adverse effects to these sites. Prior to restoration of the trails within these sites, a County certified archaeologist will flag the site boundaries in addition to a 10 meter buffer, to ensure that the sites will not be impacted by ground disturbing activities. Ripping of the trail surface to agitate the soil or any other ground disturbing activities in the flagged areas will be prevented and impacts to these resources avoided. When ground disturbing activities approach the buffer areas an archaeological monitor will be present to observe these activities. Fencing and sign placement is also limited to areas outside the buffer zone.

Site SDI-10967 is located at the edge of a current trail that is selected for widening and bisected by a road that is slated to be retained as U.S. Customs and Border Protection Service sole-use road. The trail currently is less than 2’ wide and is proposed to be widened to 6’ and become a multi-use trail. Site SDI-10487 is projected to be impacted by widening of an existing trail less than 4’ wide into a 6’ wide multi-use trail. Prior to widening of the trail a County certified archaeologist will re-survey the site, flag the site boundaries based on the surface expression of artifacts and an additional 20’meter buffer. If the buffer extends into the area of trail expansion an archaeological monitor will required for all ground disturbing activities near the flagged area. No trail widening or ground disturbing activities will occur within the buffer areas unless a significance evaluation of the site takes place beforehand. With respect to site CA-SDI-4933 (a prehistoric temporary campsite that has been greatly disturbed in the past), it is recommended that during trail widening, an archaeological monitor should be present to observe the work on the 211-foot long trail segment that is to be widened to ensure that impacts to CA-SDI-4933 or other buried resources do not occur.

(2.) The County certified archaeologist/historian (and Native American Observer) shall attend the pre-grading meeting with the contractors to explain and coordinate the requirements of the monitoring program. The County shall approve all persons involved in the monitoring program prior to any pre-construction meetings. The consulting archaeologist shall contract with a Native American Observer to be involved with the grading monitoring program.

(3.) During the original cutting of previously undisturbed deposits, the archaeological monitor(s) (and Native American Observer) shall be onsite full-time to perform periodic

inspections of the excavations. The frequency of inspections will depend on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features.

(4.) Isolates and clearly non-significant deposits will be minimally documented in the field and the monitored grading can proceed.

(5.) In the event that previously unidentified potentially significant cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance operation in the area of discovery to allow evaluation of potentially significant cultural resources. The archaeologist shall contact the County Archaeologist at the time of discovery. The archaeologist, in consultation with County staff archaeologist, shall determine the significance of the discovered resources. The County Archaeologist must concur with the evaluation before construction activities will be allowed to resume in the affected area. For significant cultural resources, a Research Design and Data Recovery Program to mitigate impacts shall be prepared by the consulting archaeologist and approved by the County Archaeologist, then carried out using professional archaeological methods. If any human bones are discovered, the County Coroner shall be contacted. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains.

(6.) Before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The archaeological monitor(s) (and Native American Observer) shall determine the amount of material to be recovered for an adequate artifact sample for analysis.

(7.) In the event that previously unidentified cultural resources are discovered, all cultural material collected during the grading monitoring program shall be processed and curated according to current professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curation facility within San Diego County, to be accompanied by payment of the fees necessary for permanent curation.

(8.) In the event that previously unidentified cultural resources are discovered, a report documenting the field and analysis results and interpreting the artifact and research data within the research context shall be completed. The report will include Department of Parks and Recreation Primary and Archaeological Site forms.

B. Contract with a County certified paleontologist to implement a grading monitoring and data recovery program to the satisfaction of the County. Verification of the contract shall be presented in a letter from the Project Paleontologist to the County. This program shall include, but not be limited to, the following actions:

(1.) The County certified paleontologist shall attend the pre-grading meeting with the contractors to explain and coordinate the requirements of the monitoring program to evaluate the presence of fossils. The County shall approve all persons involved in the monitoring program prior to any pre-construction meetings.

(2.) Paleontology monitor(s) shall be onsite full-time to perform periodic inspections of the excavations. The frequency of inspections will depend on the rate of excavation, the materials excavated, and the presence and abundance of paleontological resources.

(3.) In the event that previously unidentified potentially significant paleontological resources are discovered, the paleontologist shall have the authority to divert or temporarily halt ground disturbance operation in the area of discovery until such time that the sensitivity of the resource can be determined and the appropriate mitigation implemented.

(4.) In the event that previously unidentified paleontological resources are discovered, a report documenting the field and analysis results and interpreting the research data within the research context shall be completed and submitted to the satisfaction of the County prior to the issuance of any building permits.

(5.) In the event that previously unidentified paleontological resources are discovered during the grading monitoring program, fossils collected, along with copies of field notes, photos, and maps shall be deposited in a scientific institution such as the San Diego Natural History Museum.

(6.) In the event that no paleontological resources are discovered, a brief letter to that effect shall be sent to the County by the consulting paleontologist that the grading monitoring activities have been completed.

This is more specific to private development projects not public.

3.2.6 Conclusions

With implementation of the mitigation measures described above, impacts to cultural and paleontological resources will be reduced to a less-than-significant level.

TABLES

TABLE 3.2-1
ARCHAEOLOGICAL SITES WITHIN TRVRP AND POTENTIAL IMPACTS AND MITIGATION

Site Number	Site Description	Eligibility for NRHP/CRHR	Proposed Project Construction	Mitigation
TJ-2	Sparse lithic scatter	Unknown	None	None
TJ-3H	Historic pump house	Unknown	CBP trail retained	None
TJ-4H	Historic house	Unknown	CBP trail retained	None
New Trees site	Shell and lithic scatter	Unknown	Closed trail	Flag, buffer, and avoid during restoration
SDI-4933	Lithic scatter with hearth features	Ineligible for NRHP	Widening existing 1.5' to a 4' equestrian/pedestrian trail to 4'	Monitor during trail widening
SDI-7546	Sparse lithic scatter	Unknown	None	None
SDI-8595	Historic trash deposit	Recommended ineligible	Closed trails and CBP Sole Use existing trails	Flag, buffer, and avoid during restoration
SDI-8596	Sparse lithic scatter	Ineligible for NRHP	None	None
SDI-8597	Lithic scatter	Ineligible for NRHP	Closed trails	Flag, buffer, and avoid during restoration
SDI-8598	Shell and lithic scatter	Ineligible for NRHP	None	None
SDI-8599	Shell and lithic scatter	Ineligible for NRHP	None	None
SDI-8600	Shell and lithic scatter	Unknown	6' Multi-use trail within existing road greater than 10' wide	None
SDI-8601	Lithic scatter	Ineligible for NRHP	None	None
SDI-8602	Lithic scatter	Unknown	Closed trail	Flag, buffer, and avoid during restoration
SDI-8603	Lithic scatter	Ineligible for NRHP	Closed trails	Flag, buffer, and avoid during restoration
SDI-8604	Lithic scatter, quarry	Ineligible for NRHP	Closed trail and CBP Sole Use trail retained	Flag, buffer, and avoid during restoration
SDI-8605	Lithic scatter	Ineligible for NRHP	None	None
SDI-8773	Adobe ruin, prehistoric component	Recommended ineligible	CBP Sole Use trail retained	Flag, buffer, and avoid during restoration
SDI-10487	Shell and lithic scatter	Unknown	Closed trail,	
			Widening existing 3'-4' trail to a 6' multi-use trail	
SDI-10669	Supposed location of ethnographic village of *Millejo*, however the archaeological evidence is lacking	Unknown	6' trails within existing road 10' wide or more; 6' trail with road or path 8'to10' wide;	None

TABLE 3.2-1
ARCHAEOLOGICAL SITES WITHIN TRVRP AND POTENTIAL IMPACTS AND MITIGATION

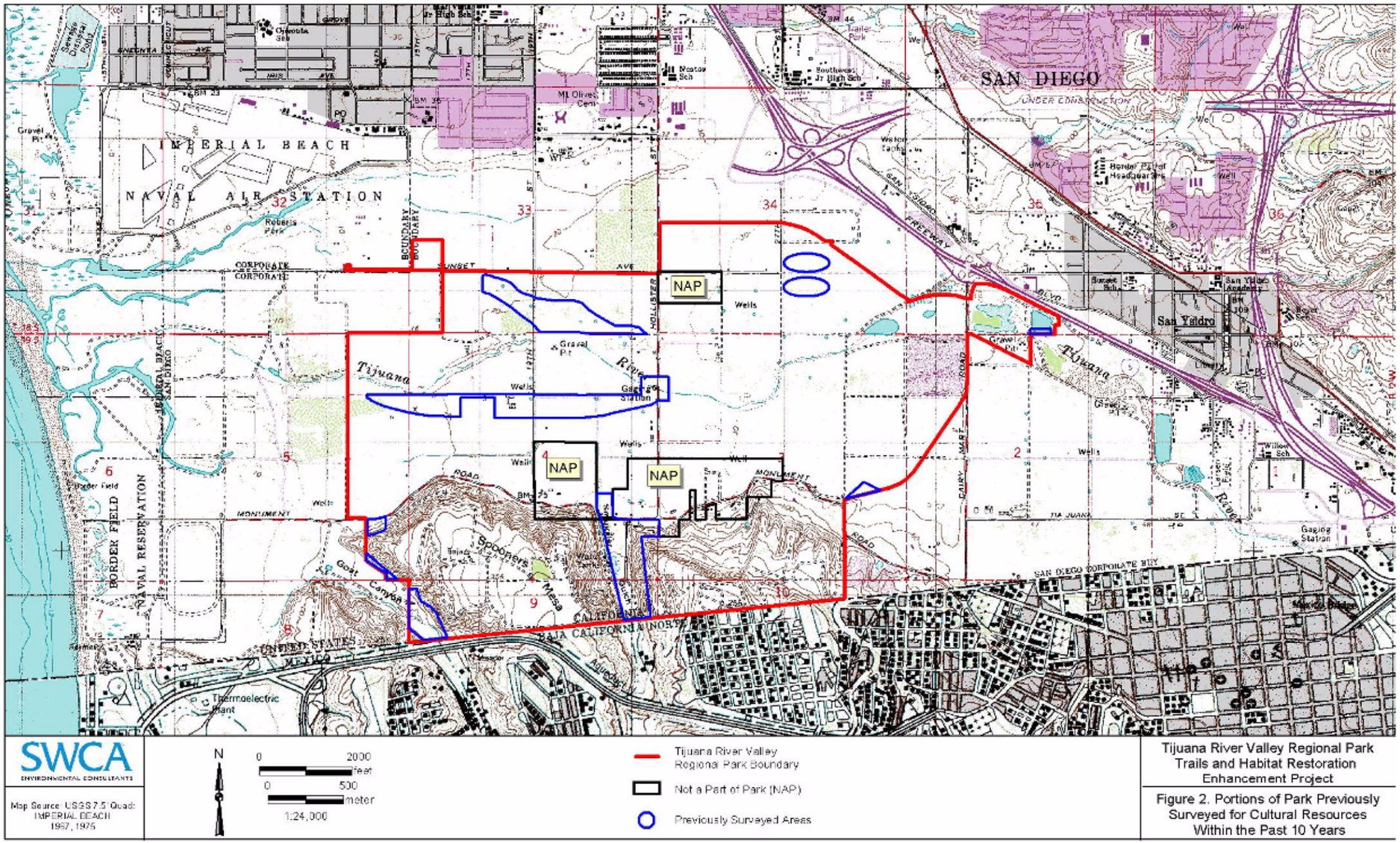
Site Number	Site Description	Eligibility for NRHP/CRHR	Proposed Project Construction	Mitigation
SDI-10967	Lithic scatter	Unknown	Widening existing 1.5' to 2' wide path to a 6' wide multi-use trail, CBP sole use of an existing trail retained	Flag, buffer, and monitor during trail widening.
SDI-11095	Historic building debris	Ineligible for NRHP	None	None
SDI-11097	Lithic scatter	Unknown	Closed trail	Flag, buffer, and avoid during restoration
SDI-11098	Lithic scatter	Unknown	None	None
SDI-11099	Prehistoric lithic, ceramic and shell deposit	Unknown	Closed trail	Flag, buffer, and avoid during restoration
SDI-11100	Lithic scatter	Ineligible for NRHP	6' wide trail within existing road or pathway 10' wide or more	None
SDI-11101	Lithic scatter	Ineligible for NRHP	None	None
SDI-11945	Lithic scatter	Unknown	Closed trail and CBP Sole Use trail retained	Flag, buffer, and avoid during restoration
SDI-11946	Lithic scatter	Unknown	Closed trail and	Flag, buffer, and avoid during restoration
SDI-11947	Historic structure foundation	Unkown	CBP Sole Use trail retained	None
SDI-11948H	Historic foundations, cobble walls, cobble-lined walks	Unknown	None	None
SDI-12962H	Historic to modern trash scatter mixed with prehistoric artifacts from SDI-4934	Unknown	None	None
SDI-13486	Lithics	Ineligible for NRHP	None	None
SDI-13487	Lithics and possible hearth	Unknown	None	None
SDI-13488	Lithics and shell scatter	Unknown	None	None
SDI-15099	Lithic scatter	Recommended ineligible for NRHP	Closed trail and CBP Sole Use trail retained	Flag, buffer, and avoid during restoration
TR-1	Shell scatter and sparse lithics	Unknown	None	None
TR-2	Shell scatter and sparse lithics	Unknown	None	None
TR-3	Shell scatter and sparse lithics	Unknown	None	None

TABLE 3.2-1
ARCHAEOLOGICAL SITES WITHIN TRVRP AND POTENTIAL IMPACTS AND MITIGATION

Site Number	Site Description	Eligibility for NRHP/CRHR	Proposed Project Construction	Mitigation
TR-4	Isolate brick fragment	Ineligible for NRHP and CRHR	CBP Sole Use trail retained	None
TR-5	Isolated flakes	Ineligible for NRHP and CRHR	Widening existing 1.5' to 2' wide path to a 6' wide multi-use trail	None
TR-6	Isolated flakes	Ineligible for NRHP and CRHR	Widening existing 1.5' to 2' wide path to a 6' wide multi-use trail	None
TR-7	Isolated scraper	Ineligible for NRHP and CRHR	None	None
TR-8	Shell and sparse lithic scatter, tools	Unknown	Widening of 3' to 4' pathway to 6' multi-use trail. Community Garden passive habitat restoration, possible fencing or signage	Flag resource and buffer, establish fencing and signage outside
TR-10	Isolated flakes	Ineligible for NRHP and CRHR	Widening existing 1.5' to 2' wide path to a 6' wide multi-use trail	None
TR-11	Hollister Street Bridge	Eligible for NHRP and CRHR	Possible increase in traffic	None

EXHIBITS

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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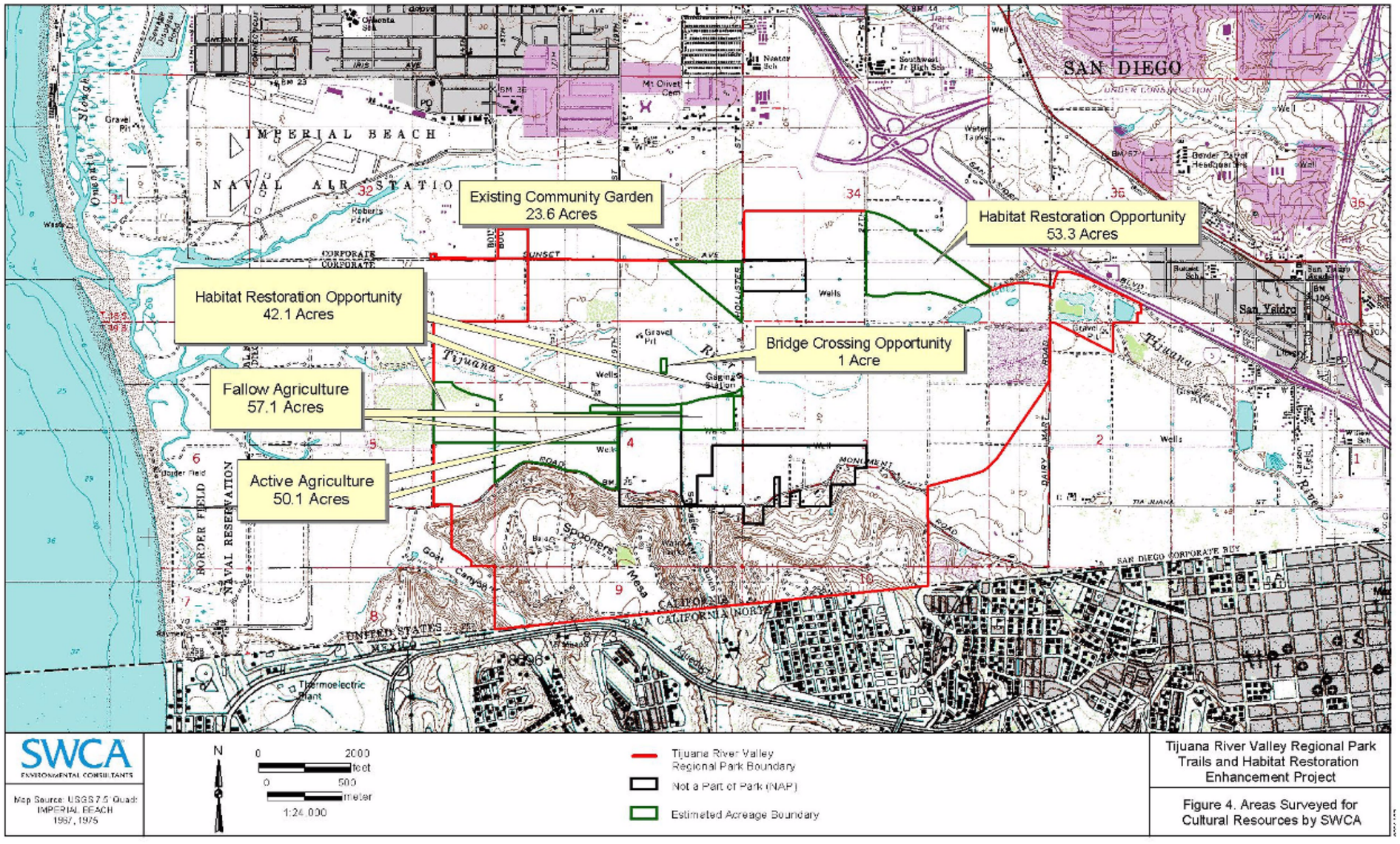
Sources

Exhibit 3.2-1
Areas Previously Surveyed for Cultutral Resources

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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Areas Previously Surveyed for Cultutral Resources by SWCA - 2004

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3.3.4 Cumulative Impact Analysis 3.3-4

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SUB-CHAPTER 3.3 LAND USE AND PLANNING

3.3 Land Use and Planning

This sub-chapter presents a discussion of the potential effects of the Proposed Project on the area's existing and planned land uses and related policies.

3.3.1 Existing Conditions

The Proposed Project is located in the southwest corner of San Diego County within the municipal boundaries of the City of San Diego. The TRVRP is bounded on the west by Border Field State Park, TRNERR and the City of Imperial Beach, on the north by the Imperial Beach Naval Air Station and residential areas, on the east by residential areas, agricultural use and the I-5, and on the south by the U.S./Mexico Border.

Existing land uses within the Tijuana River Valley include agricultural fields, equestrian facilities, rural housing, riparian woodland and disturbed habitats, several ponds and a lake created by sand mining, the riverbed and pilot channel, and areas disturbed by dumping, off-road activities, grading and recontouring (berming), and the effects of flooding (City of San Diego 1998).

Land use restrictions in the TRVRP apply based on the funding sources used to acquire the lands that comprise the Park (**Exhibit 3.3-1**). Existing management entities in the vicinity of the Proposed Project include the County of San Diego Parks and Recreation Department (portion of TRVRP within TRNERR), U.S. Fish and Wildlife Service (Tijuana Slough Wildlife Refuge), California State Parks (Border Field State Park), U.S. Navy, and the International Boundary Water Commission (See **Exhibit 3.3-2**). Approximately 300 acres of the western portion of the Proposed Project falls within the TRNERR (See **Exhibit 3.3-3)**. Approximately 1,000 acres of the TRVRP land is within the floodplain/floodway, which is subject to the City's Environmentally Sensitive Lands Regulations, as well as to the City's General Plan, zoning, MSCP regulations, and grant restrictions. The hydrology of this area and potential impacts are discussed in sub-chapter 4.5 of this EIR. The majorities of the parcels within the TRVRP are owned by the County, while several parcels are owned by the City of San Diego, the International Boundary Water Commission, the United States of America, the State of California, and by private land owners (See **Exhibit 3.3-4**).

3.3.2 Guidelines for the Determination of Significance

Methodology

To determine the potential impacts that could occur as a result of the Proposed Project, a literature review and field survey were completed for the existing park and proposed trail areas, bridge location, eastern trailhead staging area, habitat restoration area and the proposed Park Management Plan overlay.

Thresholds of Significance

The significance of potential land use impacts was determined based on the City of San Diego and State CEQA guidelines (CCR §§ 15000-15387, Appendix G). These guidelines identify certain thresholds that may be considered to determine whether an impact is significant. Using these thresholds, the Proposed Project would be considered to have significant land use impacts if it were to:

State of California

A) Physically divide an established community?

B) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

C) Conflict with any applicable habitat conservation plan or natural community conservation plan?

3.3.3 Analysis of Project Effects and Determination as to Significance

A) Physical division of an established community

The Proposed Project would not change the general regional division of the existing community. San Diego county region is comprised of a relatively large 4,261 square miles (SANDAG 2004). The Proposed Project is comprised entirely within a relatively small 1,800 acres within southwestern San Diego County. The roadway alignment within the region would be similar to the existing alignment. There are no new roadways; therefore, there will be no change to the transportation network serving the Proposed Project and surrounding area.

Locally, the Proposed Project is in the southwest corner of San Diego County within the municipal boundaries of the City of San Diego. The TRVRP is bounded on the west by Border Field State Park, TRNERR and the City of Imperial Beach, on the north by the Imperial Beach Naval Air Station and residential areas, on the east by residential areas, agricultural use and the I-5, and on the south by the U.S./Mexico Border. The Proposed Project establishes no hindrance to intercommunity communication, and does not have any communities to the west or the south that it could divide.

B) Conflict with any applicable land use plan, policy, or regulation

The City's Land Use Element is graphically represented in the General Plan map and shows land uses of regional significance only. Details of the land uses are provided in the Tijuana River Valley Local Coastal Program Land Use Plan. The Proposed Project falls within the Open Space-Floodplain (OF-1-1) and Agricultural-Residential (AR-1-1) zoning and does not propose any significant change from the zoning mandates.

The City of San Diego, Environmentally Sensitive Lands Regulations applies to the Proposed Project because it contains sensitive biological resources and is located within a floodway. Uses allowed within floodways in Environmentally Sensitive Lands are those allowed by the OF zone, which includes passive recreation and natural resources preservation. Given the proposed and use of the project, there are no potential significant effects on environmentally sensitive lands.

In addition, the Proposed Project is consistent with the "Multi-Species Conservation Open Space" and "Other Community Open Space and Agriculture" land use designations in the Local Coastal Program. The Multi-Species Conservation and Open space designation has the following goal/objective: "Intermix the natural habitat with compatible agricultural, recreational, and water quality activities, all functioning in concert to maintain and enhance natural ecosystems and the local quality of life and environment." The Proposed Project also supports the goals, objectives and recommendations of the Local Coastal Program Land Use Plan.

Furthermore, the Proposed Project is also within the City's Coastal Overlay zone and would require a Coastal Development Permit (CDP) from the City. The Proposed Project does not provide any significant effect inconsistent with the Coastal Overlay zone.

C) Conflict with any applicable habitat conservation plan or natural community conservation plan

The Proposed Project is subject to the various regulations. The majority of land in the TRVRP falls within the MHPA and is consistent with the components of the applicable guidelines from the City of San Diego MSCP Subarea Plan for the Tijuana River Valley area. Within the 1800-acre envelope of the TRVRP, there are approximately 168.35 acres that are not part of the park (labeled as "Not A Part" in Exhibits). The area that is not part of the Proposed Project is privately owned property consisting primarily of residential development along with agricultural activities. For the portion of the Proposed Project that falls within the TRNERR, the project supports the uses allowed under the Conceptual Zoning Schemes of the Comprehensive Management Plan.

The Project proposes enhancement and restoration activities that would satisfy one of the major issues described in the MSCP Subarea Plan. The Proposed Project would be undertaken pursuant to Chapter 6 (Section 31251-31270) Division 21 of the PRC.

Under the general management directives "Public Access Trails and Recreation" section of the City of San Diego's MSCP subarea plan, priority number 5 states, "Limit the extent and location of equestrian trails to the less sensitive areas of the MHPA. Locate staging areas for equestrian uses at a sufficient distance (e.g. 300-500 feet) from areas with riparian and coastal sage scrub habitats that ensure that the biological values are not impaired." Under the coastal zone regulations, the City of San Diego MSCP recommends a buffer of 300 to 500 feet from adjacent wetlands, and the Coastal Commission requires a 100-foot buffer from sensitive resources in the coastal zone. Given these considerations, the Proposed Project will have the following significant impact to land use and planning:

3.3.3a the Eastern Staging Area will not have the required 100 foot wetlands buffer required in the costal zone.

3.3.4 Cumulative Impact Analysis

The Proposed Project would not result in a cumulative impact to land use because the project is consistent with the present uses of the park as well as anticipated future uses. With respect to the buffer, this impact will be mitigated through fencing, manure management, and other procedures outlined in sub-chapter 3.1, Biological Resources. With implementation of these measures, the Proposed Project's impacts will be reduced to a less-than-significant level, and no cumulatively considerable effects will result.

3.3.5 Mitigation Measures

In order to mitigate for the potential impact, 3.3.3.a, as described above the following mitigation measures are proposed:

3.2.5a1. The County will construct fencing between the existing wetland area and proposed eastern staging area.

3.2.5a2. The Eastern Staging Area will be included in the County's cowbird trapping, manure management program, and regular ranger patrols

3.2.5a3. No lighting will be allowed in this area

3.2.5a4. The nighttime use of the facility will be prohibited.

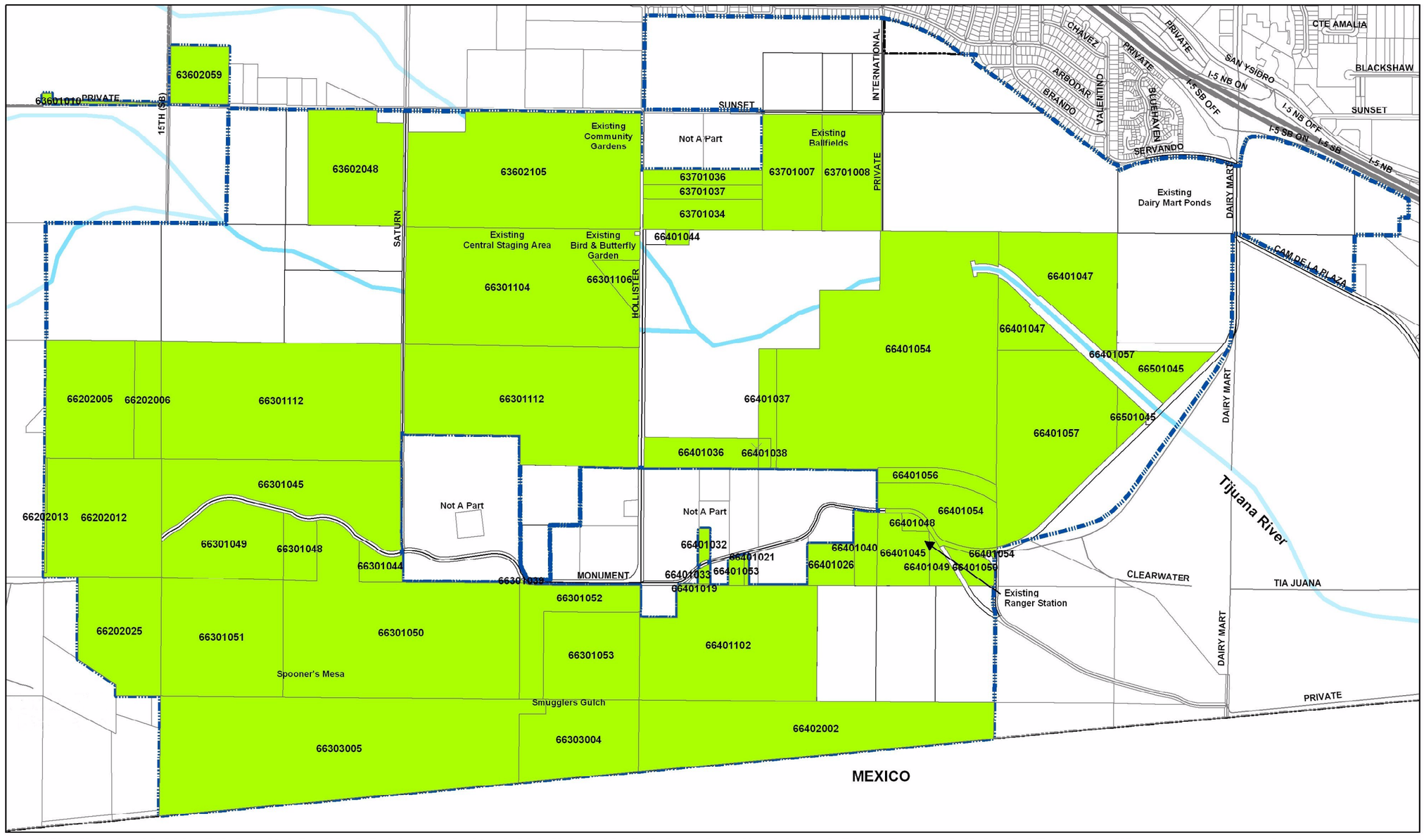
An alternatives analysis described in chapter 1.1.1.4 revealed this area to be the least environmentally sensitive for equestrian and trailhead staging since it is currently already paved, is readily accessible, and would have less impacts on sensitive biological resources than other potential staging area locations. The benefits of both facilitating equestrian land use and avoiding potential biological impacts at other locations make it infeasible to locate the staging area elsewhere.

3.3.6 Conclusions

The Proposed Project is in accordance with all applicable land use plan, policy and regulation with the one exception of the eastern trailhead staging area. With the implementation of the mitigation measures described above impacts to land use and planning will be reduced to less than significant.

EXHIBITS

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Legend

- Tijuana River Valley Regional Park
- Tijuana River
- Parcels with Use Limitations based on Funding Source

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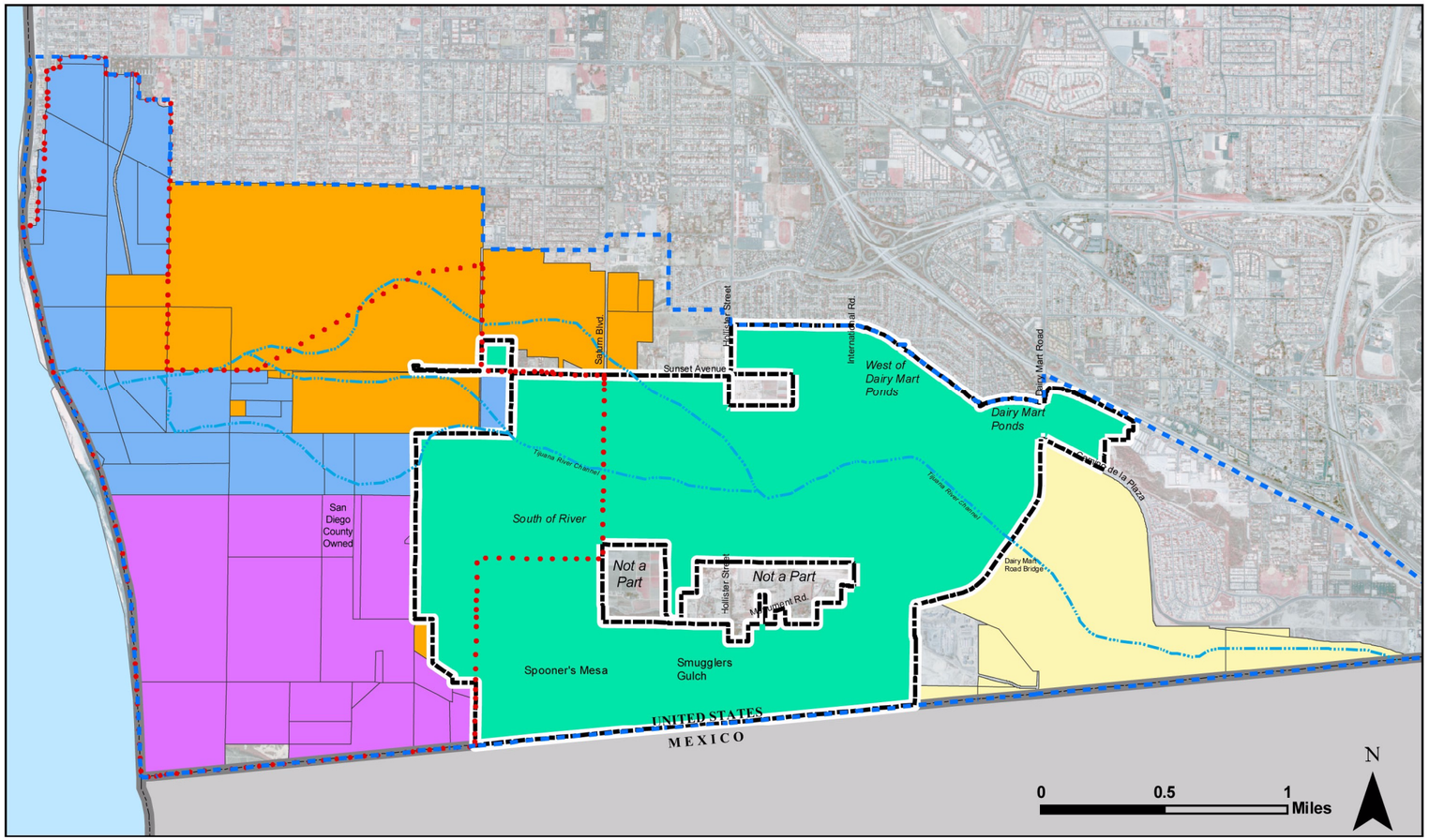
Source: Van Dyke LLP

Exhibit 3.3-1

Parcels with Use Limitations based on Funding Source

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Legend

- County of San Diego Parks and Recreation Dept. Tijuana River Valley Regional Park
- United States Fish and Wildlife Service - Tijuana Slough Wildlife Refuge
- California State Parks - Border Field State Park
- United States Navy
- International Boundary Waters Commission
- Focused Planning Area

Basemap Legend

- Tijuana River Valley Regional Park
- Tijuana River Channel
- International Border
- Tijuana River National Estuarine Research Preserve (TRNERR)

Data Source: Tijuana River Valley Regional Park (TRVRP) Habitat Restoration and Trails Planning Phase 1 Report - 2004
Prepared By: Technology Associates International Corporation (TAIC)

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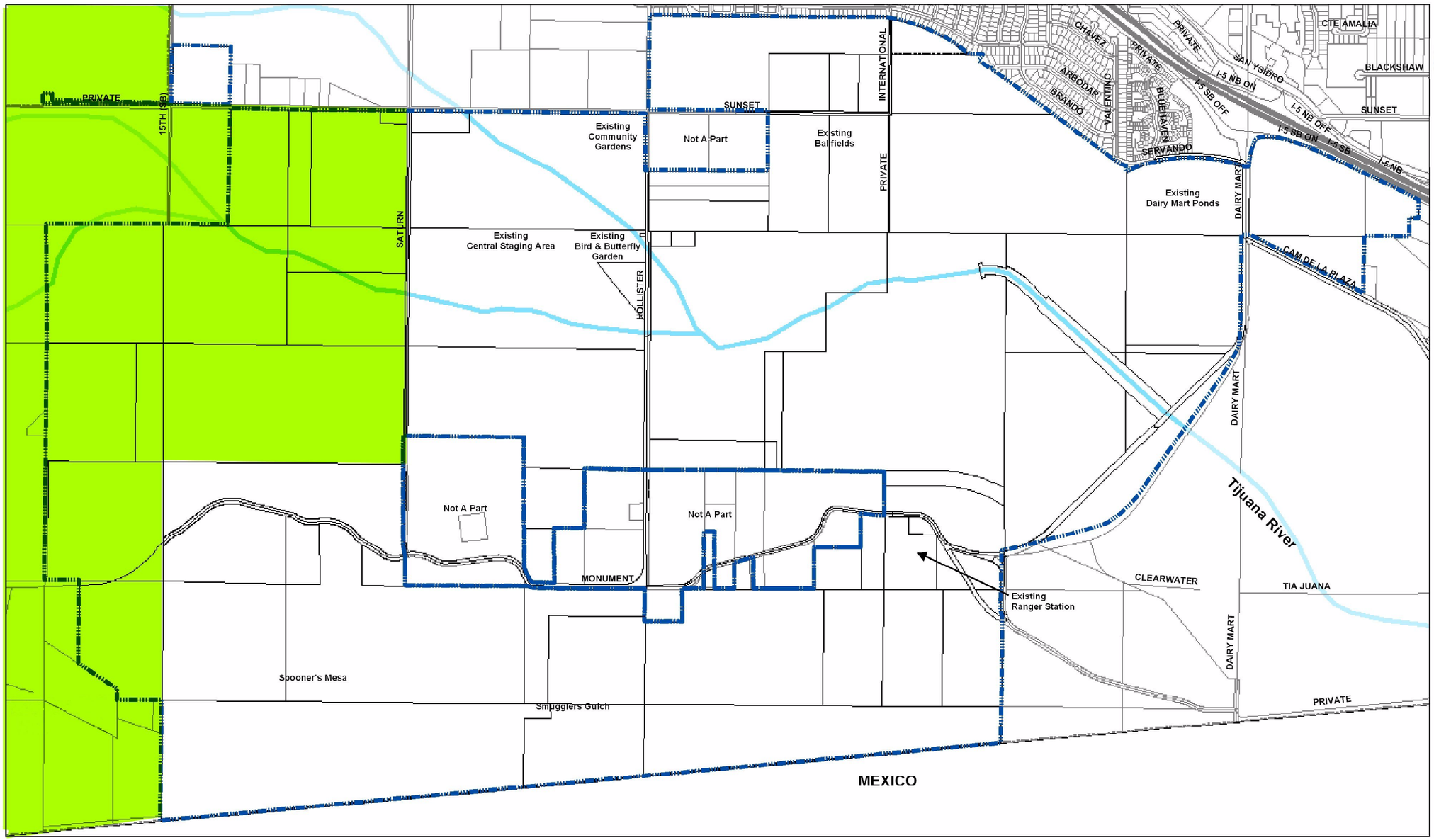
Sources

Exhibit 3.3-2
Existing Management Entities

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Legend

- Tijuana River Valley Regional Park
- Tijuana River
- Tijuana River National Estuarine Research Reserve (TRNERR)

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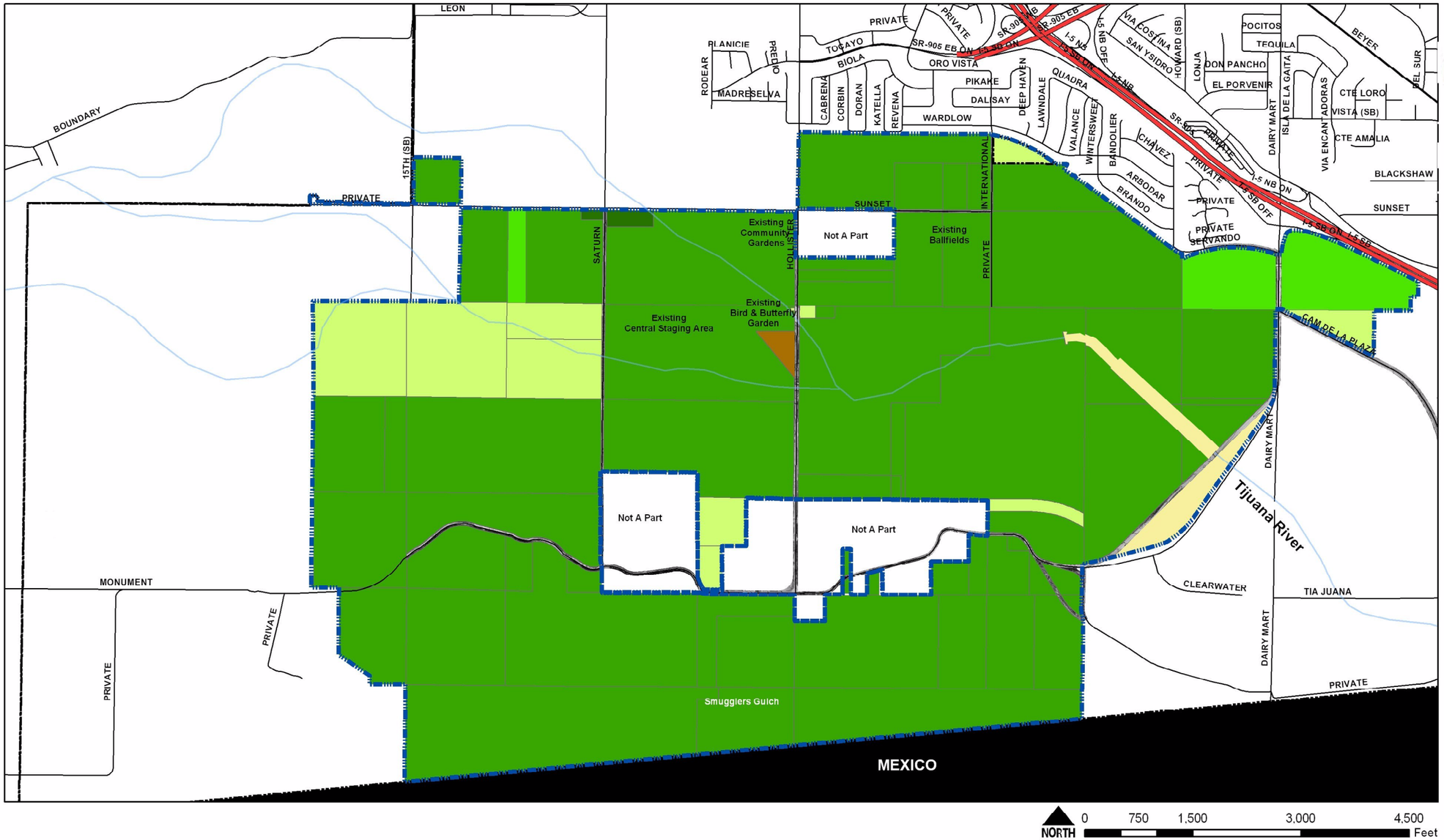
Source: Van Dyke LLP

Exhibit 3.3-3

Tijuana River National Estuarine Research Reserve (TRNERR)

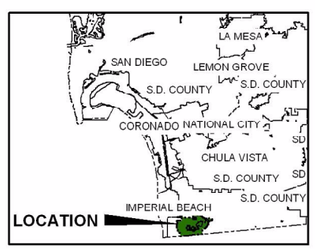
TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Legend

Tijuana River Valley Regional Park		
Tijuana River		
County of San Diego	1662.6 Acres	
City of San Diego	157.7 Acres	
State of California	67.1 Acres	
United States of America	4.4 Acres	
International Boundary Waters Commision (IBWC)	28.3 Acres	
Private	4.0 Acres	
	1924 Acres*	

*Note: Street rights-of-way not included



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Source: Van Dyke LLP

Exhibit 3.3-4
Parcel Ownership

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CHAPTER 4.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

This chapter includes discussions of the following topics:

4.1 Aesthetics
4.2 Air Quality
4.3 Agricultural Resources
4.4 Geology and Soils
4.5 Hydrology and Drainage
4.6 Noise
4.7 Public Health and Safety/Hazardous Materials
4.8 Public Services and Utilities
4.9 Recreation
4.10 Traffic/Circulation

Theses issues were identified as potentially significant during the Notice of Preparation process, but were concluded to be **effects found not to be significant** after further analysis. A more detailed evaluation related to why these issues have been determined not to be significant through the EIR process is provided in the following sub-chapters.

4.1 Aesthetics

Aesthetics impacts would be considered significant if the Proposed Project would result in adverse effects to scenic vistas or substantially degrade the existing visual character or quality of the project site and its surroundings, substantially damage scenic resources, or create a new source of substantial light or glare.

The TRVRP area is visually characterized by its expansive, natural floodplain containing wetland and riparian areas and open view sheds. The southern side of the Proposed Project has high mesas and deep canyons covered by chaparral, sage scrub, and grasslands (San Diego 1999). The Tijuana River flowing from Mexico traverses the Proposed Project site from the eastern staging area to the northwest portion of the site, continuing westward to the Pacific Ocean. Vegetation in the region consists primarily of forests of broadleaf evergreen trees and shrublands referred to as chaparral. Water features such as the Pacific Ocean and coastal lagoons contribute greatly to the visual quality of the coastal areas.

Because of its undeveloped nature, there are no existing sources of light or glare on the Proposed Project site. There are approximately 42 stationary lights and 5 mobile light units along the U.S./Mexico border from the International Boundary and Water Commission (IBWC) Treatment Plant just east of the project boundary to Goat Canyon just west of the project boundary. The Proposed Project will not result in the creation of a new source of light or glare.

The various vegetation types located throughout the TRVRP limit distant views within the Park on the valley floor. Scenic views are located at the mesas along the southern border of the TRVRP, and will not be affected by the Proposed Project because the level of development proposed is minimal, such as trails and signage for trails, and are generally consistent with the visual and aesthetic character within the TRVRP.

The Proposed Project would not have a substantial adverse effect on scenic vistas or damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway. Proposed elements such as interpretive signage and benches at trailheads do not exceed the height of surrounding and existing vegetation and will therefore not affect views to and from the Park. In addition, although, the steel truss bridge is a new structure, it would be designed to be visually harmonious in color, material, scale, and design to the surrounding areas such that visual impacts will be less than significant.

During construction of the Proposed Project components and habitat restoration, removal of vegetation and grading will be minimized to reduce visible disturbance. Following construction of the eastern trailhead staging area and the equestrian bridge, disturbed areas would be revegetated in compliance with applicable City landscape regulations and standards and would be restored to reduce visual contrast. The Proposed Project would have a beneficial aesthetic effect once construction and habitat restoration is complete by consolidating numerous redundant trails into a comprehensive network and restoring habitat west of Dairy Mart Ponds. By creating a formal trail network, the aesthetics of the TRVRP would be improved because the revegetation of unplanned dirt roads and pathways would reduce the surface area of habitat disturbance.

The Proposed Project has a limited scope of development that represents minimal physical development. The development of the staging areas, habitat restoration, steel-truss Bridge, and consolidation of trails into a formal network would not result in an aesthetic impact to the privately owned property encompassed by the TRVRP. In addition, the Proposed Project open space and regional park nature would not alter the aesthetic conditions of the area in a significant way.

The Proposed Project would be consistent with the current planning goals established by the Local Coastal Program (LCP), and other planning documents. The Proposed Project is consistent with the City's General Plan Conservation Element goal to preserve its unique landforms and character, and with the Open Space goal to preserve natural resources. It also meets the Conservation Element guidelines and standards with minimal development that would be consistent with the lands' special qualities and limitations, and protecting scenic overlook areas. In addition, the Proposed Project meets the goal related to visual resources in the Tijuana River Valley Plan LCP by providing visual and passive relief from continuous urbanization for the residents in the vicinity of the Tijuana River Valley.

Best Management Practices/Environmental Design Considerations

None are recommended.

4.2 Air Quality

The Proposed Project is located within the San Diego Air Basin (SDAB), which exceeds the state standard for airborne particulate matter (PM_{10}). Air quality within the SDAB generally rates from fair to poor. Local sources of air pollutants are mostly related to transportation, with vehicular emissions being the primary concern. The San Diego Air Pollution Control District (SDAPCD) monitoring station in Chula Vista is the nearest station to the Project area (approximately six miles north of the Project). Historical records from this station show that the level of ozone pollution in the region periodically exceeds federal standards. The latest validated air quality summary tables (1999 – 2003) for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM_{10}, fine particulate matter (particulate matter less than 10 microns in aerodynamic diameter); and $PM_{2.5}$ are presented in **Table 4-1** (SDAPCD 2004) for the Chula Vista monitoring site.

Construction and enhancement of trails and other facilities for the Proposed Project would include the use of some gasoline-powered portable equipment and some larger diesel or gasoline-fired mobile equipment. These mobile sources of emissions would cause a temporary incremental increase in air pollutant emissions during construction activities. No new potential sources of Hazardous Air Pollutants (HAP) would be introduced to the TRVRP. Equestrian usage is not expected to cause a significant odor impact due to manure because there is no projected increase in equestrian use, and the project will provide manure management, as described in sub-chapter 3.1, which will reduce existing odor levels. No long-term significant sources of air emissions would occur with Project implementation due to the limited development that would occur as a result of this project.

A computer model developed for California Air Resources Board (CARB) to estimate maximum daily emissions for various types of land development projects in California, was used to estimate maximum daily construction emissions that could occur, known as URBEMIS 2002 (version 7.4.2) (Jones & Stokes 2003). The results of the analysis are presented in **Table 4-2**. URBEMIS output data sheets are included in **Appendix E**.

During construction of the Proposed Project, portable gas-powered equipment, vehicles and other mobile construction equipment such as a small steer skid loader or brush mower pulled by a tractor, and/or associated equipment would generate exhaust emissions of CO, NO_x, SO_x, and PM_{10}. Since NO_x is an ozone precursor, the Proposed Project construction activities could contribute to a net increase in ozone concentrations in the region. Construction activities associated with the Proposed Project could generate small amounts of vehicle emissions and fugitive dust that could have a temporary adverse impact on sensitive receptors, such as the nearby residential neighborhood and other portions of the park. PM_{10} would also be generated in the form of fugitive dust emissions from earth clearing and grading, and vehicle traffic on unpaved surfaces at the various project sites and on access trails.

Although fugitive dust related to construction activities would be temporary in nature, the resulting airborne particulate matter was estimated to determine if there would be a measurable impact on the air quality in the vicinity of the construction area. Fugitive dust emissions would vary depending on the construction schedule, activities being performed at the various sites, and the site location relative to paved access roads. In addition, soil conditions and meteorological conditions, such as rain and wind, would also influence the creation and dispersion of dust.

Based on these emissions of ozone precursors and fugitive dust, construction activities could contribute slightly to existing non-attainment conditions for ozone and PM_{10}. However, compared to the SCAQMD significance thresholds used for analytical reference, these impacts would be less than significant. No violations to air quality standards would occur and no cumulatively considerable net increase of any nonattainment criteria pollutants would result. Sensitive receptors would not be exposed to substantial pollutant concentrations. Additionally, given the low level of construction proposed and the fact that the improvements would be built out over an extended period of time, construction-level air quality impacts would not be significant.

Once construction is complete and normal operations resume, air emissions would be reduced to pre-construction levels. There would be no long-term emissions increases or additional fugitive dust generated on-site.

Environmental Design Considerations and Minimization Measures

1 On-road trucks and other mobile equipment should be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations.

2 Apply water to unstabilized disturbed areas and/or unpaved roadways in sufficient quantity and frequency to maintain a stabilized surface.

3 All clearing and grading activities should cease during periods of high wind (greater than 20 mph averaged over 1 hour).

4.3 Agricultural Resources

Agricultural resource impacts would be considered significant if the project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use; conflict with existing zoning for agricultural land use or a Williamson Act contract; or involve other changes in the existing environment that, due to their location or nature, could result in the conversion of farmland.

The TRVRP contains approximately 480 acres of prime agricultural land (see **Exhibit 4-1**). Some prime agricultural land has been fallow for over one and one-half years, specifically in the northern part of the TRVRP. Within the TRVRP, agricultural use (specifically row crops), occur along the northern boundary of the Tijuana River Valley near the Hollister Street bridge, north of Monument Road, and just south of the Tijuana River on the eastern side. The MSCP considers limited agricultural uses to be a compatible and allowable land use within the Tijuana River Valley Subarea.

The Proposed Project would convert approximately 0.12-acre of fallow agricultural land to non-agricultural uses by creating a new recreational trail link. However, since this proposed trail segment would utilize fallow, non-prime agricultural land, this impact would not be significant.

Environmental Design Considerations and Minimization Measures

None are recommended.

4.4 Geology and Soils

The Proposed Project area consists of fill, alluvium, recent and old alluvial fan deposits, and terrace deposits. These valley soils are characterized by varying graded fines consisting of coarse sands with medium to low amounts of fines (silts and clays). Rocky zones are also found in these alluvial deposits, consisting of large amounts of gravels, cobbles, and localized boulders. Higher elevations within the Tijuana River Valley have conglomerates consisting of San Diego Formation materials. Given the nature of the soil and saturation of the area by the Tijuana River, the Proposed Project area is subject to liquefaction and settlement due to ground shaking from an earthquake.

In October 2004, a subsurface geological exploration was conducted and soil samples were collected at six locations within the Proposed Project area. The primary goal of this analysis was to characterize soils in the project area with a particular emphasis on assessing habitat restoration potential from a geologic and soil perspective. These results indicate that the soil has fairly elevated alkalinity levels with low nitrogen, phosphorus, potassium and iron and pH levels are generally high. Most of the other analytical results indicate low to moderate levels except for isolated locations with elevated iron, manganese, copper, magnesium, and zinc. (See **Table 4-3** for a summary of the soil test results.)

The entire Project area and proposed facilities would be subject to earthquakes that would have the potential to damage facilities. Primary earthquake hazards include damage from ground displacement along a fault zone, severe ground shaking, and induced secondary hazards such as liquefaction and rapid differential settlement. Effects associated with landslides and rockfalls are not considered significant due to the level terrain of the Proposed Project area. The Proposed Project will consist of constructing 0.3 miles of new trails, closing of existing trails, narrowing or widening of existing trails, creating an eastern staging area for equestrian and other users, and development of a habitat restoration area west of the Dairy Mart ponds. The equestrian/pedestrian bridge over the Tijuana River may pose a potential risk resulting from direct or indirect affects of an earthquake.

A geotechnical engineering investigation was conducted for the Proposed Project by a licensed geotechnical engineer consistent with California geologic and engineering standards for the bridge. A report was prepared that summarizes the results of a field investigation, including site inspection and soil testing, potential geologic hazards (including fault rupture and severe secondary effects of earthquakes) and flood hazards, along with design criteria and construction methods to effectively construct the bridge with an acceptable level of risk. The proposed steel truss bridge will be anchored to abutments with pilings driven to the necessary resistance at about 80 feet in depth.

All practical precautions will be taken to design and construct the bridge to withstand the maximum expected acceleration of the bedrock at the site associated with the most probable magnitude earthquake (MPE) in the area with minimal damage. The MPE represents the strongest earthquake likely to occur over the design life of the structures. The proposed bridge structure will be designed using the project specific criteria in accordance with the latest available edition of AASHTO Guide Specifications for Design of Pedestrian Bridges.

Piles under abutment foundations associated with the Proposed Project recreational bridge would extend below the 4-foot zone, which would not be affected by expansive soils (i.e., soils with high shrink/swell potential).

Groundwater would not be pumped for the Proposed Project or Alternatives. The alluvial basins in the Proposed Project and Alternative areas have insufficient thickness or volumes of silt and clay to be highly vulnerable to subsidence due to dewatering. Therefore, the risk of subsidence at project sites is considered to be negligible.

Impacts to mines or mineral resources would be considered significant if construction, operation, or maintenance of a Proposed Project and Alternatives would prevent or disrupt development of mineral resources. However, no operating mines have been identified on the Proposed Project or Alternative sites. Therefore, no impact to mineral resources is anticipated.

The Proposed Project would not cause a cumulative impact to geology and soils because the area is relatively flat and soil erosion would be minimized due to level terrain and the minor extent of proposed construction. The Proposed Project would in fact reduce the potential for soil erosion due to the closure of trails and active and passive restoration of habitat on the closed segments. Therefore, the Proposed Project's cumulative impacts are less than significant.

The County of San Diego will require that future construction contractors comply with the Department of Parks and Recreation's or County's general conditions and standard specifications associated with the design of structures. These standards include the requirements for excavation, trenching, backfilling, compaction, and grading necessary for the construction of new facilities.

Environmental Design Considerations and Minimization Measures

- The County shall prepare a Stormwater Pollution Prevention Plan (SWPPP) for the Proposed Project to include the 60-acre habitat restoration area, active and passive restoration areas, recreational trail bridge and eastern staging area. The SWPPP will establish BMP's to prevent and eliminate release of sediments (turbidity) from runoff of disturbed locations into the Tijuana River, local drains, culverts, waterways, and/or channels.
- An Erosion Control Plan shall be prepared for the Proposed Project to identify specific measures to be implemented to reduce soil loss and water quality impacts. The Erosion Control Plan will include, at a minimum:
    - Confine all vehicular traffic associated with construction to designated rights-of-way, material yards, and access roads;
    - Limit disturbance of soils and vegetation removal to the minimum area necessary for access and construction;
    - Graded areas (i.e., the eastern staging area) should be sloped to sheet flow or bermed (water bars), where possible, to reduce concentrated surface water flows down roads and pathways or across the graded area to be revegetated;
    - Use certified weed-free straw bales, or silt fences, where appropriate specifically in areas of passive restoration to minimize sedimentation; and
    - Use drainage control structures, where necessary, to direct surface drainage away from disturbance areas and to minimize runoff and sediment deposition down-slope from all disturbed areas. These structures include culverts, ditches, water bars (berms and cross ditches), and sediment traps.

4.5 Hydrology and Drainage

The eastern staging area would include 50 parking spaces for automobiles, motorcycles, and horse trailers. There would be no net increase in impervious surfaces since the staging area would be constructed on compacted earth and already-graded areas. However, the increase in concentration of automobiles could potentially increase hydrocarbon runoff to the Tijuana River. Given the relatively low anticipated park use impacts are not anticipated to be significant.

The proposed bridge could potentially impede flood flow and raise flood elevations or result in a flood risk to recreational users. The Proposed Project includes construction of a 60-foot free-span steel truss bridge anchored to abutments with piles driven approximately 80 feet below ground surface (bgs) to ensure sustainability in the event of a flood flow event. Anchoring the

abutments to this depth would ensure that the structure would be below the maximum predicted scour depth of the Tijuana River. As a part of the bridge project, 20-foot-long earthen approach embankments set back from each bank would raise the trail to the height of the bridge to provide a pedestrian and equestrian crossing over the Tijuana River.

To determine if this proposed bridge would impact hydrology, a HEC RAS program was used to create (1) the Pre-Project Condition Model based on 1999 geometric data and (2) Post-Project Condition Model based on the post construction conditions (County of San Diego 2004). The information was provided by Department of Public Works Project Development Capital Improvement Program (CIP). The results of the hydraulic analysis for the Post-Project Condition show no increase in water surface elevations or changes to the floodway limits from the pre-project condition to the built project; therefore, no FEMA map revision is required. The overtopping flow of the proposed bridge has less than a 0.2 percent chance of occurrence per year. The proposed 60-foot steel-truss free span bridge with raised approaches provides even more open cross-sectional area than the originally proposed concrete arch culvert, and therefore less impact to the floodway and flood surface elevations. It also requires less intrusion into the channel and sensitive riparian habitat to stage and construct. The bridge has been set high enough to accommodate large woody debris flowing above the water surface in the channel. In a major overbank flood event it may be possible that the approaches could be eroded, but the bridge is sufficiently anchored that it would not be washed away. Since the approaches would be flooded before the bridge, recreational users would turn back and not be at risk trying to cross the bridge in high flows. Therefore the proposed recreational bridge would not impede flood flow, raise flood elevations or be a flood risk to recreational users.

The bridge would be constructed during the dry season when the channel is typically dry. A temporary access ramp down the northern bank would be needed to construct the southern pier and pilings. These areas would be recontoured and compacted to match the original south bank topography as closely as possible. The arundo, tamarisk and ruderal vegetation removed for the construction of the bridge and the staging area would be replaced in temporarily disturbed areas with native grasses, herbs, shrub and tree species to provide cover and prevent erosion and siltation. Dry season construction, recontouring of the banks and planting temporarily disturbed areas with native grass and shrub cover would prevent localized erosion from bridge and ramp construction.

Trail enhancements would also occur in the dry season to avoid sedimentation impacts. Creation of the formal trail network would not adverse effect hydrology or drainage as the majority of the trail segments are existing roads and pathways. Closure and revegetation of many of the dirt roads and pathways may have a beneficial effect on drainage and water quality.

The Proposed Project would not deplete groundwater supplies or affect groundwater recharge. No Proposed Project components would utilize groundwater or create impervious surfaces to alter groundwater recharge.

The Proposed Project would not alter drainage patterns to cause increased erosion or siltation, create additional impervious surfaces to increase stormwater runoff or localized flooding, nor

would it create new sources of polluted runoff. Therefore, the Proposed Project would not have a significant impact on surface or groundwater hydrology or water quality.

Best Management Practices/Environmental Design Considerations

None are recommended.

4.6 Noise

The Proposed Project area is located within a park and is considered a sensitive receptor. In addition, the coastal sage scrub and riparian areas within the park are suitable habitat for the noise-sensitive least Bell's vireo, California gnatcatcher and Light-footed clapper rail. Each of these bird species has been recorded within the Proposed Project area. Other nearby sensitive receptors includes the residential areas along the northeastern portion of the Proposed Project site, and residences in the areas designated "Not A Part" in the exhibits.

The Proposed Project would not result in operational impacts because permanent significant operational noise sources would not be installed at the site. The only noise increase would result from an increase of visitors to the park, which is not anticipated as a result of the Proposed Project. However, given the low noise-producing nature of passive visitor activities in the park (e.g., hiking, bicycling, equestrian riding, habitat watching, and sightseeing), the current noise environment would not increase significantly. Therefore, mitigation measures are not required.

Additionally, maintenance activities would be similar to those currently experienced at the TRVRP. These maintenance activities would continue to include repair of trails, collection of waste, clearing of brush, and general maintenance (e.g., painting and repair of park facilities). These activities are not considered significant noise generators and do not require mitigation (See **Appendix H** for the Noise Technical Report).

The project would increase vehicle traffic on local roadways leading to and from the project site during construction and restoration activities. The Average Daily Traffic (ADT) generated by the project is expected to be less than 40 vehicles. Noise increases from project vehicular traffic would be less than 1.0 dBA along the roadways and would not measurably increase the Community Noise Equivalent Level (CNEL) at any noise sensitive receptor. No significant impact would occur as a result of construction traffic. No mitigation is necessary.

The Proposed Project would temporarily and incrementally increase the ambient noise levels in the immediate vicinity of the project through construction-related activities associated with the new trail segments, the bridge and the habitat restoration area. Construction activities would be temporary and of short duration, and noise impacts associated with the Proposed Project at residences would not be significant.

The proposed project would result in a significant noise impact if habitat restoration and/or the construction and closing of trails occur within 300 feet of least Bell's vireo, California gnatcatcher, or Light-footed clapper rail habitat during the breeding season (February 1 – September 15). The potential impact will be avoided by working outside of the breeding season

or by using hand tools, if practicable. If construction activities and equipment such as a loader, grader or tractor that generate noise levels greater than 60dBA hourly L_{eq} (or above ambient, if ambient is at or above 60dBA hourly L_{eq} are required during the breeding season, a site-specific mitigation plan will be developed to identify noise control measures such as noise barriers and/or time constraints for equipment use that should be implemented to assure that noise levels greater than 60dBA hourly L_{eq} or ambient do not occur in suitable habitat for birds.

The Proposed Project would not result in, or create a significant temporary or permanent increase in the existing ambient noise levels or expose people to noise levels which exceed the City- or County-adopted noise ordinance.

Environmental Design Considerations and Minimization Measures

1 Construction activities shall conform to County of San Diego and City of San Diego requirements, which make it unlawful to operate construction equipment on Sundays or major holidays. Construction may occur Mondays through Saturdays between the hours of 7:00 a.m. and 7:00 p.m.
2 Construction equipment shall be equipped with manufacturer's recommended mufflers or other noise-reducing equipment.
3 Construction equipment shall be turned off when not in operation.
4 Construction activities will occur outside of the bird-breeding season, February 1st – September 15th.

4.7 Public Health and Safety – Hazardous Materials

The Proposed Project area has an overall low land utilization rate given its proximity to the highly urbanized southwestern portion of San Diego County. Although some isolated residential dwellings are located within or near the Proposed Project area, the vast majority of the land is rural, undeveloped, or used for agriculture with portions used for hiking and equestrian activities. Therefore, the area has a low sensitivity rating of exposure to a hazardous material release.

The use of hazardous materials by Park personnel is very limited. Hazardous materials used are for maintenance activities and for operating Park equipment, and include petroleum hydrocarbons (e.g., gasoline and lubricating fluids), paints, and insecticides/herbicides. Except for insecticides/herbicides, hazardous materials are mostly limited to containers of five gallons or less. Trained personnel use insecticides/herbicides in accordance with manufacturer's specifications. Additionally, specially designed application equipment is used for proper dispersion of these chemicals. Containers of pure and mixed chemicals would likely range from a few gallons to tanks containing over 55 gallons.

The primary public safety issues associated with the Proposed Project are worker safety-related items specified in the Occupational Health and Safety Act (OSHA), and equestrian and hiking activities. Another public safety issue would be associated with public contact with contaminated water in the Tijuana River related to untreated sewage discharges into the Tijuana River from Mexico including pathogens (bacteria, viruses, and parasites), heavy metals, and

organic compounds. Additionally, it is likely that floodwaters containing sewage pollutants have impacted soils within the floodplain of the river.

Hiking hazards are associated with fall injuries and exposure to dangerous flora and fauna. Except in the southern part of the Proposed Project, most of the terrain is flat. Flora and fauna safety hazards would be associated with poisonous plants, snakebites, ticks, mosquitoes, poison oak contact, and animal bites. These public health hazards can vary from minor to serious.

Most of the area covered by the Proposed Project is composed of southern willow scrub, southern cottonwood – willow riparian forest, mule fat scrub, and fresh water marsh. These types of groundcovers are prone to wildfires especially during the hot fall months. Fire risks are especially high during the late fall months when vegetation is the driest and Santa Ana winds occur. Weed abatement and brush clearing must be performed in the Park in accordance with the City of San Diego Fire Department regulations San Diego Co. – Hazardous Materials Management Division (HMMD) database.

Use of hazardous materials during Proposed Project construction, operation, and maintenance could pose potential health and safety hazards to construction and maintenance workers and nearby residences. These impacts would be associated with use of hazardous material during construction and maintenance activities, and the potential for spills. Hazardous materials for Park improvements would involve use of fuels (e.g., gasoline and diesel), bottled gases (e.g., oxygen and acetylene), paints, insecticides/herbicides, and cleaning fluids. BMPs would be implemented by the County, and every effort would be used to minimize the production of hazardous wastes during the various stages of construction of the Proposed Project. Additionally, most of these materials would be used in small quantities. All of these materials would be stored in proper containers and would be used by trained personnel.

In addition, due to the limited volume and types of hazardous materials at the site during trail and other construction activities, the use of these materials should not pose a significant impact to human health or the environment. Operation and maintenance of the Park should not involve a significant increase of hazardous materials used within the Proposed Project area. Therefore, these activities should not pose a significant impact for the Proposed Project.

It is not anticipated that hiking, animal watching, equestrian, bicycling or other permitted Park activities will increase over current levels. Additionally, restricting these activities to improved prescribed trails or locations will decrease the exposure of Park visitors to off trails or unregulated trail hazards. Also, use of only authorized/permitted trails will limit Park visitors exposure to hazards associated with contaminants found in the Tijuana River. Overall, improvements associated with the Proposed Project would be a beneficial impact. Therefore, no mitigation measures are required.

Environmental Design Considerations and Minimization Measures

None are recommended.

4.8 Public Services and Utilities

The project area is located within the City of San Diego and is located within the Police Department Southern Division, headquartered at 1120 27th Street, San Diego, California 92101. The project would result in a significant impact to public services if it would result in substantial adverse physical impact associated with the provision of new or physically altered government facilities, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or result in the construction of new wastewater treatment facilities.

The Proposed Project is not anticipated to result in an increase in park users since the project will be enhancing the recreational user experience within the park but does not proposed to install new attractions as part of the Proposed Project. Implementation of the Proposed Project is not expected to increase the demand for police or fire protection and would not result in any increase to emergency response times. Therefore, no adverse impacts to police or fire protection services or facilities are anticipated.

The Proposed Project would not create any new buildings or structures that would require additional demands for services or utilities that would require additional infrastructure upgrade; therefore, the Proposed Project will not impact the City of San Diego or the Tijuana River Valley schools, water service, natural gas service, electric service or sewer service. In addition, there would not be an increase in the rate of utility usage or demands on the level of service associated with the proposed project. Therefore, these impacts would be considered less than significant.

Environmental Design Considerations and Minimization Measures

None are recommended.

4.9 Recreation

The Proposed Project components comply with the Recreation Element goals and recommendations of the City's General Plan by providing a range of opportunities for the park users, providing appropriate recreational use of open space lands and wildlife conservation areas, and preserving the natural site characteristics. It is also consistent with the requirements of the Public Access, Trails, and Recreation General Management Directives of the MSCP Subarea Plan, except for Priority 1, item 5. This item requires a 300-500 foot buffer between any equestrian staging areas and riparian habitat. The City has indicated that for the area in their jurisdiction, a wetland buffer of 100 feet is acceptable in the coastal zone, provided that the plan include justification that ensures biological functions and values will be maintained and the placement of the staging area will not impair those functions and values. This justification should include fencing, cowbird trapping, manure management, and ranger patrols. The MSCP inconsistency, while potentially significant from a land use perspective, does not create a significant impact to recreation.

The Proposed Project will supersede the existing MOU trail system, as described in Chapter 1, incorporating approximately 6.6 miles of the 10.3-mile network. The remaining 3.7 miles will be revegetated. The existing MOU system has not been subject to environmental review under CEQA or NEPA and is not permitted by any regulatory agency. Accordingly, it is considered an advisory or suggested system, and does not constitute a formal network. Where feasible, the MOU system is incorporated into the Proposed Project network. Sections were excluded because they either could not be found in the field or they were considered likely to generate significant biological resource impacts. Chapter 3 of the County of San Diego's General Plan Recreation Element establishes goals, objectives, policies, and action programs for riding and hiking trails in San Diego County. The Findings section of this chapter discusses a survey which indicated that most riding is done on informal, undesignated trails located on private land. This section also notes that trail safety can be achieved by conforming to standards covering the design, construction, and management of trails. Objective 3 "Provide for acquisition, development, and management methods for trails which will utilize a maximum of user funding and community-contributed service under no circumstances with money from the County General Fund" and Objective 4 "Develop trails which may be safely used by hikers and riders of all ages and skills" provide for the formalization of trails and the incorporation of design criteria. Replacement of the informal MOU system by the Proposed Project will not create an impact to recreation because it fulfills Objectives 3 and 4 of the Recreation Element. The availability of recreational trials to trail users (up to 181 users per week, as shown in Table 4-4) will not be affected by the Proposed Project.

The Proposed Project would not result in the physical deterioration of the trails system due to increased use or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. The condition of the trails would be improved as a result of the creation of formally designated multi-use trails, interpretive/directional signage program, and installation of benches, trailhead planning, hitching posts, bicycle racks, bird observation blinds, and trails fencing.

Short-term construction disruptions to recreational trail use could occur during the construction of the steel-truss recreational bridge and construction of the eastern trailhead staging area. During this time, recreational users will be directed to alternate trail routes around the construction areas to prevent interrupted use of the authorized trail system. Impacts to recreational uses during construction would be temporary in nature and dust and noise impacts would be minimized to the extent feasible, temporary construction impacts would be less than significant. BMPs and environmental design considerations related to dust control and construction noise are described in more detail in sub-chapters 4.2 (Air Quality) and 4.6 (Noise).

The Proposed Project shared use of portions of the network with CBP vehicles could result in an impact to trail users. Although the details of CBP operations are unknown (and will not be revealed for reasons of national security), observations of CBP activities suggest that the shared trails provide access for CBP vehicles to travel to and from their patrol stations along the US-Mexico border. Observations also suggest that the volume of CBP vehicles on the shared trails would be dispersed throughout the day, resulting in relatively few encounters between the vehicles and the recreational users. Further, given that the shared use of trails is an existing condition that would continue to take place without implementation of the Proposed Project; this

interaction is not a consequence of the Proposed Project. Accordingly, the impact of CBP/trail user interaction is not significant.

Furthermore, the Proposed Project does not propose any residential uses that may increase the use of the TRVRP or existing neighborhood parks in the vicinity such that substantial physical deterioration of the facility or an increase in park facilities would occur or be accelerated.

Environmental Design Considerations and Mitigation Measures

None are recommended.

4.10 Traffic/Circulation

As discussed in Chapter 1.0, the Proposed Project will create a formal trail network based on existing, unauthorized trails; decommission and revegetated remaining unauthorized trails; create a 60-acre habitat restoration area; construct a equestrian/pedestrian bridge; and provide a trailhead staging area for trail users on the west side of Dairy Mart Road. The Proposed Project therefore represents an enhancement of existing facilities, rather than an expansion, or increase in intensity. Given these uses and activities, the operational phase of the project is not anticipated to result in a net increase in vehicle trips. While some additional traffic could result from the formalization of bicycling on the site, a net increase is unlikely, because bicycling already takes place on the site, and any increase in bicycling due to formalization would be balanced by the removal of activities due to trail closures. The potential for traffic impacts is more likely to result from the redistribution of traffic due to the creation of the eastern staging area. The existing Average Daily Traffic (ADT) volume on Dairy Mart Road is 1,500 vehicles per day. This roadway is built as a two-lane collector, which has a maximum Level of Service (LOS) C capacity of 5,000 ADT[1]. **Table 4-4** presents a summary of visitor counts by user category conducted in 2004. As shown in this table, a maximum of 181 visitors per week were observed on the site, including a 30-person track team. This averages to 15 visitors per day. Many of the visitors arrive on the site in groups and/or using non-vehicle modes of arrival (i.e., equestrian, bicycling, walking). Making the conservative assumption that all visitors drive alone to the site, and that all vehicle trips would be diverted to the eastern staging area, there is more than enough capacity on Dairy Mart Road to accommodate these diverted trips. Accordingly, there will be no significant traffic-related impacts associated with the operations of the Proposed Project.

The eastern staging area is already graded and paved and may require minor grading, repaving or additional striping improvements. The driveway to this staging area is located directly off of Dairy Mart road north of the Dairy Mart Bridge. As long as the final design of this driveway is coordinated with the City of San Diego's Traffic Engineering Department as to access and line-of-sight, the development of the Eastern Staging Area would not result in any traffic safety impacts.

[1] Table 2, City of San Diego Traffic Impact Study Manual (July 1998), for Collector (multi-family, 40 feet of pavement within a 60-foot right-of-way).

Increases in construction-related traffic associated with this Proposed Project would be short-term traffic from construction vehicles. The increase in traffic will be incremental and should be 40 daily trips or less, and would be distributed to various areas of the site, depending on the portion of the site being improved. Short-term construction phase trips are not expected to result in any traffic congestion, or reduce LOS on any area roadway segment or intersection. In addition, this increase would be temporary until construction is complete. Therefore, potential traffic generation impacts are considered to be less than significant.

Environmental Design Considerations and Minimization Measures

1 The County should ensure that final design of the Eastern Trailhead Staging Area is coordinated with the City of San Diego's Traffic Engineering Department to ensure City line-of-sight requirements and standards are met.

TABLES

TABLE 4-1

SOUTHERN SAN DIEGO COUNTY (CHULA VISTA STATION) AIR QUALITY DATA 1999-2003

Ozone – Number of Days Exceeding Federal and State Standards

	Number of Days Exceeding Federal 1-Hour Standard Concentration > 12 parts per					Number of Days Exceeding State 1-Hour Standard Concentration > 9 pphm					Maximum 1-Hour Concentration (pphm)					Date of Maximum 1-Hour Concentration				
Station	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**
Chula Vista	0	0	0	0	0	0	1	2	0	4	8	12	10	9	11	28-Oct	1-Sep	30-Sep	30-Apr	19-Apr

Carbon Monoxide – Maximum 1-Hour and 8-Hour Average Concentrations

	Maximum 1-Hour Average Concentration (parts per million [ppm]) State Standard > 20 ppm Federal Standard > 35 ppm					Date of Maximum 1-Hour Average Concentration					Maximum 8-Hour Average Concentration (ppm) State Standard > 9.0 ppm Federal Standard > 9 ppm					Date of Maximum 8-Hour Average Concentration				
Station	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**
Chula Vista	6.9	4.3	5.6	5.8	5.4	27-Oct	13-Feb	20-Dec	28-Nov	29-Sep	5.4	2.6	4.7	3.1	2.8	28-Oct	27-Feb	20-Dec	31-Dec	30-Nov

Nitrogen Dioxide – Annual Average and Maximum 1-Hour Concentration

	Annual Average Federal Standard .053 ppm					Maximum 1-Hour Concentration (ppm) State Standard > .25 ppm					Date of Maximum 1-Hour Concentration				
Station	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**
Chula Vista	0.018	0.018	0.017	0.017	0.019	0.102	0.093	0.071	0.072	0.1	20-Oct	6-Nov	16-Oct	4-Dec	29-Sep

Sulfur Dioxide

	Annual Average in pphm Federal Standard 3 pphm					Maximum 24-Hour Average Federal Standard 14 pphm State Standard 4 pphm					Maximum 3-Hour Average Federal Standard 50 pphm					Maximum 1-Hour Concentration in pphm State Standard 25 pphm				
Station	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**
Chula Vista	0.4	0.4	0.3	0.3	0.3	0.9	1.2	1.4	1	1.9	2.1	2.8	3.6	3	4.7	3	4.4	4.9	4.5	8.4

Particulate Matter (PM 10)

	Annual Arithmetic Average Federal Standard 50µg/m3* State Standard 20µg/m3					Highest 24-Hour Concentration Federal Standard 150µg/m3** State Standard 50µg/m3					Date of Highest 24-Hour Concentration				
Station	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**
Chula Vista	27	27	28	28	30	75***	50	64	52	59	11/23***	4-Dec	1-Jan	26-Nov	8-Dec

* Not to exceed 50µg/m3 for a three-year average

** Not to exceed 150µg/m3 for a three-year average of annual 99th percentile

*** 65 without October 2003 wildfire data, which caused unusually high levels of atmospheric particulate matter

Particulate Matter (PM 2.5)

	Annual Average Federal Standard 15µg/m3* State Standard 12µg/m3					Highest 24-Hour Concentration Federal Standard 150µg/m3**					Date of Highest 24-Hour Concentration				
Station	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**	**3**	**2**	**1**	**0**	**99**
Chula Vista	14.3	13.9	15.5	13.1	15.1	239***	41	41	40.5	47.1	27-Oct	1	2-Jan	23-Dec	14-Nov

* Not to exceed 15µg/m3 for a three-year average

** Not to exceed 65µg/m3 for a three-year average of annual 98th percentile

*** 41 without October 2003 wildfire data; 12/5/04

Source: San Diego County Air Pollution Control District – Public Information June 2004. (www.sdapcd.org/air/reports/smog.pdf)

TABLE 4-2
TRVRP CONSTRUCTION EMISSIONS (LB/DAY)

Emmissions	**ROG**	**NOx**	**CO**	**PM10**	**SOx**
Maximum Daily	1	7	11	38	0
SCAQMD Significance Threshold for Construction Activities	75	100	550	150	150
Significant	**No**	**No**	**No**	**No**	**No**

K:\095432014\New EIR\[Tables final 072805.xls]Table 4-2

TABLE 4-3

TIJUANA RIVER VALLEY SOIL ANALYSES

Sample No.	Depth (ft)	pH	Salinity	Total Nitrogen (%)	Total Carbon (%)	Texture	SAR	Chloride (mg/kg)	Nitrate (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	Iron (mg/kg)	Manganese (mg/kg)	Zinc (mg/kg)	Copper (mg/kg)	Boron (mg/kg)
B-1	4-Mar	8.34	0.17	0.032	0.151	Sand	1.3	13	1	4.7	32	2.47	0.71	0.42	0.18	0.01
	6 – 7	8.48	0.31	0.036	0.161	Loamy Sand	3.2	32	1	4.7	31	3.69	1.4	16,71	0.19	0.08
B-2	3 – 4	8.85	0.24	<0.0004	0.142	Sand	3.1	5	2	4.4	23	5.73	0.72	5.23	0.03	0.02
	6 – 7	8.46	0.42	<0.0004	0.159	Sand	2.4	30	2	5	20	7.06	2.83	10.38	0.1	0.08
B-3	3 – 4	8.79	0.85	0.038	0.211	Sand	8.2	108	6	16.5	44	11.42	3.82	38.61	0.38	0.12
	6 – 7	8.76	0.74	0.042	0.213	Sand	7.8	76	7	13.1	29	8.39	3.09	44.09	0.22	0.1
B-4	3 – 4	8.44	1.35	0.036	0.184	Loamy Sand	5.7	271	5	4.6	46	11.11	2.44	21.56	0.24	0.13
	6 – 7	8.5	1.06	<0.0004	0.148	Sand	4.4	187	2	4	39	7.31	2.2	20.78	0.17	0.1
B-5	3 – 4	8.59	0.41	0/039	0.31	Loamy Sand	4.7	15	1	1.4	20	3.36	0.95	10.42	0.36	0.11
	6 – 7	8.62	0.39	0.026	0.163	Loamy Sand	3.7	6	1	1.4	14	1.87	1.2	12.94	0.09	0.03
B-6	2 – 4	7.3	3.31	0.125	1.655	Sandy Loam	4.3	304	196	21.7	335	11.71	3.76	16.35	5.81	0.32
	6 – 7	7.97	3.49	0.056	0.607	Sandy Loam	6.8	802	56	5	53	3.34	0.99	5.71	1.21	0.32

SAR - Specific Absorption Rate

All units are mg/kg unless noted otherwise

K:\095432014\New EIR\[Tables final 072805.xls]Table 4-3(a)

TABLE 4-3
TIJUANA RIVER VALLEY SOIL ANALYSES (CONTINUED)

Sample No.	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Sulfur (mg/kg)	Molybdenum (mg/kg)	Aluminum (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Lead (mg/kg)	Lithium (mg/kg)	Mercury (mg/kg)
B-1	290.15	52.89	8.61	1.94	ND	ND	0.06	2.59	0.01	ND	0.01	0.27	0.13	ND
	301.16	56.82	32.74	4.94	ND	0.24	0.02	1.89	ND	ND	ND	0.06	0.14	ND
B-2	225.01	42.47	22.54	2.46	ND	1.27	0.02	2.65	ND	ND	0.01	0.09	0.1	ND
	246.56	47.85	26.32	3.74	0.02	1.17	ND	2.78	0.02	ND	ND	0.15	0.11	ND
B-3	313.56	55.45	112.42	21.99	0.05	ND	0.1	1.63	0.03	0.01	0.04	0.44	0.14	ND
	297.75	42.39	84.69	14.15	0.05	ND	0.05	2.33	0.02	0.01	0.04	0.27	0.13	ND
B-4	297.66	87.5	120.15	28.87	0.03	ND	0.05	0.86	0.01	ND	0.04	0.35	0.14	ND
	305.26	85.02	87.58	27.15	0.02	ND	0.06	0.83	0.02	ND	0.03	0.18	0.14	ND
B-5	323.49	106.76	69.46	5.44	0.04	ND	ND	0.72	0.01	ND	0.02	0.09	0.14	ND
	346.86	85.13	49.64	4.9	ND	ND	0.02	1.21	0.01	ND	0.03	0.14	0.15	ND
B-6	351.84	248.38	225.27	68.67	0.07	ND	0.14	0.29	0.14	ND	0.05	14.64	0.17	ND
	293.98	237.69	330.05	85.6	0.08	ND	0.05	0.07	0.03	ND	ND	1.3	0.13	ND

ND – None Detected (below instrument detection limits)

K:\095432014\New EIR\[Tables final 072805.xls]Table 4-3(b)

TABLE 4-3
TIJUANA RIVER VALLEY SOIL ANALYSES (CONTINUED)

Sample No.	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Strontium (mg/kg)	Tin (mg/kg)	Vanadium (mg/kg)	Calcium (mg/kg)	Sodium (mg/kg)	Nitrate as N	Phosphorus as P	Sulfate as S
B-1	0.01	ND	ND	1.81	0.08	0.24	6.9	16.4	1	0.3	3.8
	0.04	ND	ND	2.06	0.06	0.27	8.4	45.9	1	0.8	11.9
B-2	0.05	ND	ND	1.48	0.06	0.33	5.9	37.7	2	0.9	7.6
	0.05	ND	ND	1.72	0.22	0.32	20.7	50.9	2	0.4	10.1
B-3	0.06	ND	ND	2.17	0.13	0.27	15.3	153.2	6	1.1	45.1
	0.05	ND	ND	1.94	0.12	0.23	12	126.5	7	2.1	35.7
B-4	0.06	ND	ND	2.4	0.06	0.41	52	189.3	5	0.4	63.9
	0.08	ND	ND	2.31	0.08	0.33	48.3	143.7	2	0	64.3
B-5	0.04	ND	ND	2.27	0.06	0.49	9.4	67.5	1	1.3	17.8
	ND	ND	ND	2.49	0.09	0.37	13.7	63.1	1	0	15.3
B-6	0.39	ND	ND	1.71	0.09	0.93	227.9	303.2	196	1.8	138.2
	0.05	0.22	ND	1.92	0.09	0.74	182.2	432.9	56	0	179.9

ND – None Detected (below instrument detection limits)

K:\095432014\New EIR\[Tables final 072805.xls]Table 4-3(c)

TABLE 4-4
TRVRP VISITOR COUNT

Use	Number
Spring 2004	
Horses	40 private** (no commercial) per week
Hikers/Runners	10 per day and 30 students (track team) per week
Bicyclists	21 per week
Birders	20 per week
TOTAL	**181 visitors per week**
Summer 2004	
Horses	50 private** per week
Hikers/Runners	10 per day
Bicyclists	30 per week
Birders	15 per week
TOTAL	**165 visitors per week**

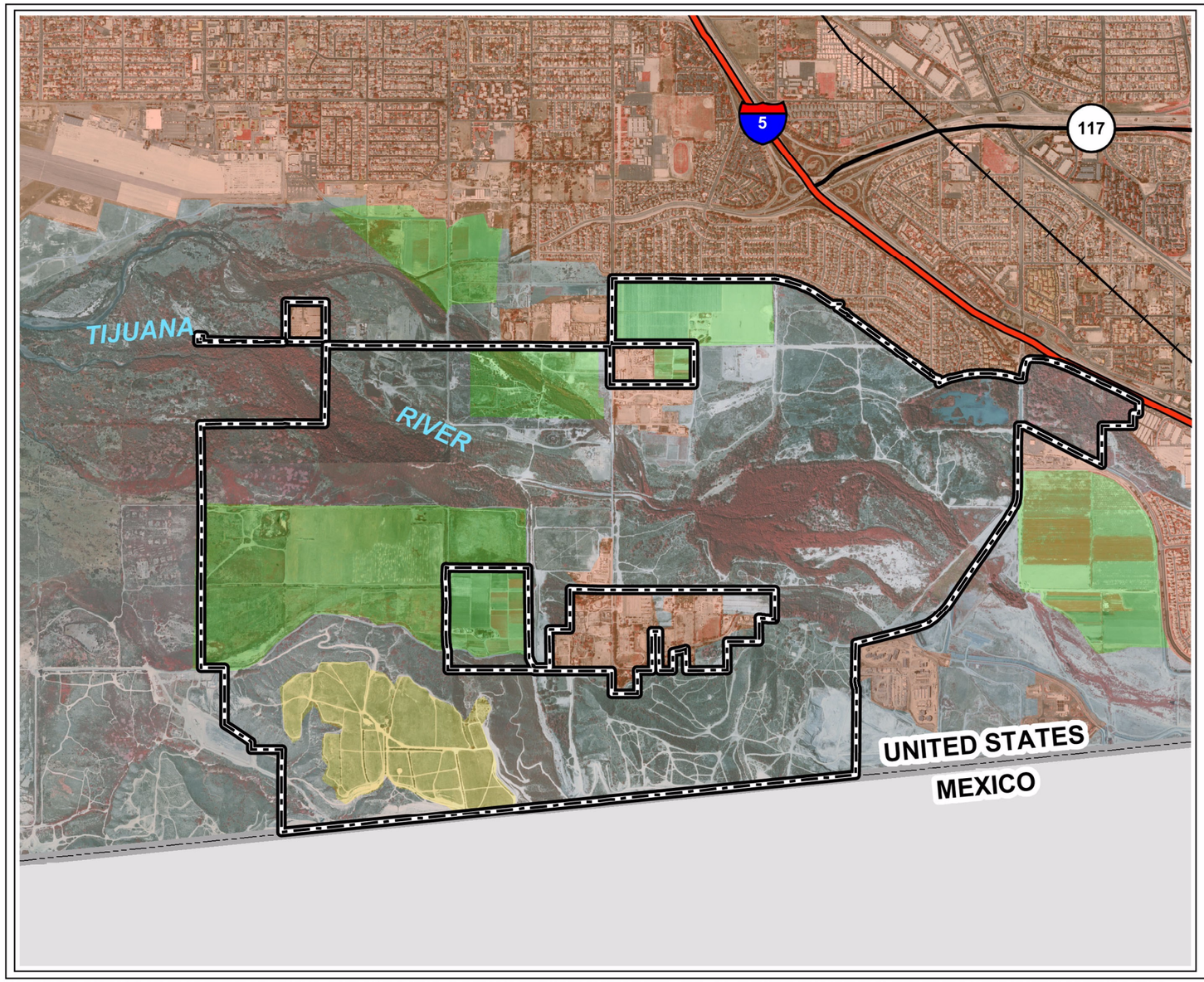
** Private parties include riders from local boarding facilities (30 per week) and those who drive in from other parts of the County to use equestrian staging area (10 per week before summer vacation, 20 per week during summer vacation)

Source: Cailin NiChrualaoich, 2004

K:\095432014\New EIR\[Tables final 072805.xls]Table 4-4

EXHIBITS

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Source: Farmland data provided by the California Department of Conservation's Division of Land Resource Protection Farmland Mapping and Monitoring Program.

Legend

- Grazing Land
- Prime Farmland
- Urban & Built Up Land
- Tijuana River Valley Regional Park Boundary

N
W E
S

0 0.25 0.5 Miles

K:\095432014\GIS Exhibits\Chapter 4\x-prime agricultural lands.mxd

Sources

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Prime Agricultural Lands

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CHAPTER 5.0 ALTERNATIVES TO THE PROPOSED PROJECT

5.1 Rationale for Alternative Selection

The State CEQA Guidelines require that an EIR contain an analysis of alternatives to the Proposed Project. Alternatives are to be developed based upon their ability to satisfy basic project goals and objectives, and to identify opportunities to reduce or eliminate environmental impacts. Specifically, Section 15126.6(a) of the CEQA Guidelines states that an EIR should *"...describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."*

The State CEQA Guidelines provide the following guidance for discussing alternatives to a Proposed Project:

- The EIR must identify ways to mitigate or avoid significant effects of the project on the environment: *"…the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."* [CEQA Guidelines Section 15126.6(b)];
- The range of potential alternatives to the Proposed Project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant adverse effects. If there is a specific Proposed Project or a preferred alternative, the EIR must explain why other alternatives considered in developing the Proposed Project were rejected in favor of the proposal. *"The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination."* [CEQA Guidelines Section 15126.6(c)];
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. [CEQA Guidelines Section 15126.6(d)];
- The specific alternative of "no project" *"shall be evaluated along with its impact."* The purpose of describing and analyzing a 'no project' alternative is to allow "*decision-makers to compare the impacts of approving the Proposed Project with the impacts of not approving the Proposed Project."* The CEQA Guidelines also stipulate that the "no project" analysis *"shall discuss the existing conditions at the time the (EIR) Notice of Preparation is published...as well as what would reasonably be expected to occur in the*

foreseeable future if the project were not approved, based on current plans..." [CEQA Guidelines Section 15126.6(e) (1)];

- If the environmentally superior alternative is the No Project Alternative, the EIR shall also identify the environmentally superior alternative among the other alternatives. [CEQA Guidelines Section 15126.6(e) (2)];
- If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed;
- Under the CEQA Guidelines Section 15126.6(c), the range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice. *"The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making."* [CEQA Guidelines Section 15126.6(f)].

5.1.1 Overview of the Alternative Selection Process

The alternative selection process involved the following sequence of steps:

- Project Scoping;
- Identification of project objectives;
- Identification of potentially significant impacts of the project;
- Development of a range of alternatives;
- Development of evaluation criteria for feasibility;
- Evaluation of alternatives; and
- Identification of those alternatives that met the criteria and explanation of the alternatives that were rejected as infeasible.

5.1.1.1 Objectives of the Proposed Project

The objective of the Proposed Project is to implement a trails and habitat restoration effort sponsored by the California Coastal Conservancy, a state agency. This effort is intended to provide a linkage to the California Coastal Trail, and recognizes the potential for restoration of riparian and coastal sage scrub habitats despite many years of damage. As discussed above, the TRVRP contains many large blocks of high-value habitat, some of which has been degraded over time by the formation of numerous unauthorized trails created by its various users. The Proposed Project is intended to create, enhance and restore natural habitats within TRVRP while optimizing the recreational use of the site and accommodating ongoing border protection activities. This is to be achieved through the creation of a formal trail network and closure of

numerous unauthorized trails and dirt roads. In addition, the Proposed Project is planned to provide public access to the shoreline and linkages to the regional trails system including the Coastal Trail via Bayshore and to developing communities located east of the Regional Park through planned linkages along Dairy Mart Road. The Proposed Project also provides an opportunity to document site conditions and constraints to guide long-term decision-making regarding recreation uses and activities and natural resource management.

The Proposed Project involves establishing a formal trail network and restoration of habitat, and is not intended to implement all of the restoration activities identified in the MSCP Tijuana River Valley Subarea plan. Restoration of the Tijuana River Valley is a long-term objective that will be accomplished after grant funding has been secured and suitable sites have been identified. The County of San Diego plans to cooperate with the City's Flood Control Department in implementing their 25-year plan, which may involve the removal of some berms in the TRVRP and the relocation of any trails atop these berms.

5.1.1.2 Alternatives Considered and Rejected

No Development Alternative

This Alternative would result in the continuation of existing conditions of the Park including the use of unauthorized trail segments that may impact resources identified for protection under the MSCP. In addition there would be no active management of the Park, resulting in further degradation of existing resources. This Alternative differs from the No Project Alternative in that Department of Parks and Recreation management under the Standard Operating Procedures (SOP) would not take place (see **Appendix I**).

Alternate Location

Locating the Proposed Project at an alternate location in San Diego County is infeasible and would preclude achievement of the basic project objectives. Further, there are no other feasible locations that would provide a connection to the California Coastal Trail which would also meet the goals and objectives of the California Coastal Conservancy.

5.1.1.3 Alternatives Considered

Three alternatives to the Proposed Project were evaluated in the alternatives screening process:

- Alternative 1 – Alternative 1 would allow for the provision of 11.2 miles of trails, consisting of 7.0 miles of 6' wide multi-use equestrian/bicycle/pedestrian trails, 3.1 miles of 4' wide equestrian/pedestrian trails, and 1.1 miles of existing 5.5' wide sidewalk and 4' bike lanes over the Dairy Mart Road.
- Alternative 2 – Alternative 2 would allow for the provision of 17.2 Miles of trails, consisting of 9.1 miles of 6' wide multi-use equestrian/bicycle/pedestrian trails, 7.0 miles of 4' wide equestrian/pedestrian trails, and 1.1 miles of existing 5.5' wide sidewalk and 4' bike lanes over the Dairy Mart Road.

- No Project Alternative – This alternative would allow for the network of existing dirt roads and paths (currently 71.5 miles) to remain in place, and would allow for the continuing operation of the Park by the County of San Diego Parks and Recreation Department pursuant to the Standard Operating Procedures. Area closures and re-vegetation efforts as deemed necessary under such Standard Operating Procedures would continue to be implemented under this alternative. No staging area, habitat restoration or bridge projects would be developed under this alternative.

A summary description of each alternative is provided in the following subchapters. A comparison of Project and Alternative Elements are shown on **Table 5-1.**

5.1.1.4 Evaluation Criteria

The Alternatives were evaluated based on:

- The alternative must avoid or substantially lessen an identified significant effect of the Proposed Project; and
- The alternative must feasibly attain most of the Proposed Project's objectives. This focuses on identifying which alternatives were capable of serving the same use as the Proposed Project (i.e., meeting the objectives of the Proposed Project) in a feasible manner ("feasible" is defined by CEQA as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" [Guidelines Sec. 15364].)

Table 5-2 provides a comparison of the potential impacts for the three Alternatives. The specific analysis of each Alternative is discussed below.

5.2 Analysis of Alternative 1

5.2.1 Alternative Description and Setting

Alternative 1 is similar to the Proposed Project in that it creates east/west and north/south multi-use trail links through the Tijuana River Valley Regional Park, with minimal redundancy of trails. However, under this Alternative there are fewer amenities relative to the Proposed Project with the mileage of trails reduced to 11.2 miles compared to 22.5with the Proposed Project. **Table 5-3** provides detailed information on the planned trail network that would be developed under this alternative.

The trail network includes both 6-foot wide multi-use equestrian/bicycle/pedestrian trails (6.8 miles within existing dirt road and pathway alignments and 0.2 miles of new segments) and 4-foot wide equestrian/pedestrian trails (3.1 miles within existing dirt roads and pathway alignments). The existing 5.5' wide sidewalk and 4' bike lanes over the Dairy Mart Road Bridge (1.1 miles) are included in the total trail network.

The proposed habitat restoration area west of Dairy Mart Ponds, proposed recreational trail bridge, proposed eastern staging area and Park Management Plan would remain under this alternative. A map of the features of proposed Alternative 1 elements is shown in **Exhibit 5-1**.

5.2.2 Comparison of the Effects of Alternative 1 to the Proposed Project

Biological Resources

Project Alternative 1 would have a beneficial impact on biological resources in the long term by reducing the number of trails present in TRVRP and permitting greater habitat restoration and land rehabilitation opportunities than the Proposed Project. However, temporary significant impacts to native vegetation communities would be greater than the Proposed Project due to a greater number of closed, and passively restored, trails. Passively restored trails are more vulnerable to invasion by exotic plant species due to the removal of soil compaction caused by foot traffic. Construction effects of Alternative 1 could also impact biological resources in the short term, but these impacts would be less than significant. **Table 5-4** provides detailed information on the existing vegetation communities that would be affected under Alternative 1. Approximately 0.46 acres of habitat and agricultural/urban lands would be adversely affected by this Alternative.

Cultural Resources

Project Alternative 1 would have fewer trails than the Proposed Project and more biological restoration (throughout the 11.3 miles). The concern for impacting cultural resources stems from trail ripping and rock placement effects during the closure and restoration of existing trail areas. Given there will be more trail closure and hence restoration efforts, there will be more of a likelihood of potentially significant impacts to cultural resources; however, these impacts are mitigable as proposed in the Cultural Resources (sub-chapter 3.2). As a result, Alternative 1 is likely to have more of a significant effect on cultural resources, due to more active restoration activities and hence more mitigation would be required.

Land Use

Project Alternative 1 would have fewer trails than the Proposed Project and more biological restoration as proposed in the Biological Resources (sub-chapter 3.1). This Alternative would provide the Eastern Staging Area in the same location as the Proposed Project, resulting in the same significant impact (i.e., construction of a staging area within a 100-foot wetlands buffer) outlined in sub-chapter 3.3.

Recreation

Project Alternative 1 proposes a reduction in the multi purpose and equestrian trails from the Proposed Project values. This trail reduction is a significant impact to recreation given the 44% decrease in multi purpose trails and the 58% decrease in equestrian trails.

5.2.3 Rationale for Preference of the Proposed Project over Alternative 1

Alternative 1 is environmentally superior to the Proposed Project in the long term as there would be fewer physical impacts on the environment. There would be about an 11.3-mile reduction in

the total amount of trails that would be widened under this proposal. However, the reduction in trail mileage would increase the amount of short term impact resulting from the closure and passive restoration of a greater number trails, resulting in the potential introduction of invasive non-native plant species into areas of native habitat. In addition, Alternative 1 would not provide the beneficial effects of a larger trail system under the Proposed Project, and would diminish the recreational experience for park users.

Alternative 1 promotes the greatest long term potential benefit to biological resources. There would be a reduction in direct disturbance to biological resources through trail widening under Alternative 1, as 0.46 acre of habitat would be disturbed under this alternative versus 1.12 acre of habitat disturbance under the Proposed Project. Of the sensitive habitat communities that would be affected, Alternative 1 would result in the permanent loss of 0.09 acres of Southern Cottonwood-Willow Riparian Forest (versus 0.26 acres under the Proposed Project); a loss of 0.15 acres of Mule Fat Scrub under Alternative 1 (versus 0.53 acres under the Proposed Project); and a loss of 0.03 acres of Non-Native Grassland under Alternative 1 (versus 0.19 acres under the Proposed Project).

Alternative 1 reduces trail redundancy thereby permitting additional habitat restoration. While both Alternative 1 and the Proposed Project bring the TRVRP trails system into compliance with the City's MHPA, Alternative 1 does not provide the recreational resource opportunities that are afforded in the Proposed Project. Since the goals of the Proposed Project are to bring the trails system into compliance with the MHPA, to restore sensitive habitat areas, and to increase recreational opportunities in the TRVRP, Alternative 1 was not selected over the Proposed Project.

5.3 Analysis of Alternative 2

5.3.1 Alternative Description and Setting

Similar to the Proposed Project, Alternative 2 creates east/west and north/south multi-use links through the Tijuana River Valley Regional Park. The total miles of trails (17.2 miles) are between that of the Proposed Project and Alternative 1, which call for 22.5 and 11.2 miles, respectively.

The trail network, described in detail in **Table 5-5**, includes both 6-foot wide multiuse equestrian/bicycle/pedestrian trails (8.9 miles within existing dirt road and pathway alignments and 0.2 miles of new segments) and 4-foot wide equestrian/pedestrian trails (7.0 miles within existing dirt road and pathway alignments). A segment referred to as Brian's Bridle Path is included to provide a link to the Four Corners area and the trail that ultimately leads to the beach. The existing 5.5-foot wide sidewalk and 4 foot bike lanes over the Dairy Mart Road Bridge are included in the total trail network (1.1 miles). The proposed habitat restoration area west of Dairy Mart Ponds, future habitat restoration, proposed recreational trail bridge, and proposed eastern staging area would remain the same under this alternative. A map of the location of the proposed Alternative 2 elements is shown in **Exhibit 5-2**.

Similar to Alternative 1, the reduction of unauthorized and redundant dirt roads and pathways in TRVRP would be greater under Alternative 2 than the Proposed Project. Alternative 2, however, provides more multi use and equestrian trails than the Alternative 1. With the exception of biological resources and recreation effects, the impacts of proposed Alternative 2 are similar to those of the Proposed Project (see **Table 5-2**).

5.3.2 Comparison of the Effects of Alternative 2 to the Proposed Project

Biological Resources

Project Alternative 2 would have a greater positive impact on biological resources in the long term by reducing the number of trails present in TRVRP and would permit greater habitat restoration and land rehabilitation opportunities than the Proposed Project. However, temporary significant impacts to native vegetation communities would be greater than the Proposed Project due to a greater number of closed, and passively restored, trails. Passively restored trails are more vulnerable to invasion by exotic plant species due to the removal of soil compaction caused by foot traffic. Construction effects of Alternative 2 could also impact biological resources in the short term, but these impacts would be less than significant. **Table 5-6** details the potential vegetation community impacts that would be expected to occur if this alternative is selected.

Cultural Resources

Project Alternative 2 would have fewer trails than the Proposed Project and more biological restoration (throughout the 5.3 miles). The concern for impacting cultural resources stems from trail ripping and rock placement effects during trail closure and restoration, as mentioned in the Alternative 1 section. Given there will be more restoration efforts, there will be more of a likelihood of potentially significant impacts to cultural resources. These impacts are mitigable as proposed in the Cultural Resources subchapter. As a result, Alternative 2 is likely to have more of a significant effect on cultural resources, and hence more mitigation would be required.

Land Use

As with Alternative 1, Alternative 2 would have fewer trails than the Proposed Project and more biological restoration as proposed in the Biological Resources (sub-chapter 3.1). This Alternative would provide the Eastern Staging Area in the same location as the Proposed Project, resulting in the same significant impact (i.e., construction of a staging area within a 100-foot wetlands buffer) outlined in sub-chapter 3.3.

Recreation

Project Alternative 2 proposes a reduction in the multi purpose and equestrian trails from the Proposed Project values. This trail reduction is a potentially significant impact to recreation given the 28% decrease in multi purpose trails and the 5% decrease in equestrian trails.

5.3.3 Rationale for Preference of the Proposed Project over Alternative 2

Alternative 2 is environmentally superior to the Proposed Project as there would be fewer physical impacts on the environment, because there would be about a 5.3-mile reduction in the total amount of trails that would be widened under this proposal. However, the reduction in trail mileage would increase the amount of short term impact resulting from the closure and passive restoration of a greater number of trails, resulting in the potential introduction of invasive non-native plant species into areas of native habitat. In addition, the reduction in trail mileage would not provide the beneficial effects of a larger trail system under the Proposed Project, and would diminish the recreational experience for park users.

As compared to the Proposed Project, Alternative 2 would result in an increase in direct disturbance through trail widening to biological resources under, with 0.66 acres of habitat would be disturbed under this alternative versus 1.12 acres of habitat disturbance under the Proposed Project. Of the sensitive habitat communities that would be affected, Alternative 2 would result in the loss of 0.16 acres of Southern Cottonwood-Willow Riparian Forest (versus 0.53 acres under the Proposed Project); a loss of 0.19 acres of Mule Fat Scrub under Alternative 2 (versus 0.26 acres under the Proposed Project); and a loss of 0.09 acres of Non-Native Grassland under Alternative 1 (versus 0.19 acres under the Proposed Project).

Alternative 2 reduces trail redundancy thereby permitting additional habitat restoration. While both the Project Alternative 2 and the Proposed Project bring the TRVRP trails system into compliance with the City's MHPA, Alternative 2 does not provide the recreational resource opportunities that are afforded in the Proposed Project. Since the goals of the Project are to bring the trails system into compliance with the MHPA, to restore sensitive habitat areas, and to increase recreational opportunities in the TRVRP, Alternative 2 was not selected over the Proposed Project.

5.4 Analysis of the No Project Alternative

5.4.1 Alternative Description and Setting

The No Project Alternative would result in the continuation of existing conditions at the Park and no trails would be officially added or permitted. The network of existing dirt roads and paths (currently 71.5 miles) and all other parts of the Park would continue to be operated pursuant to the County of San Diego Parks and Recreation Department ongoing Standard Operating Procedures (SOPs) (included in Appendix A of this EIR). The SOPs allow the County to revegetate unpermitted dirt roads and pathways at anytime. This includes the 10.3 miles of trails identified in the 1996 MOU as discussed in Chapter 1. In addition the SOPs include, but are not limited to signage, bollard placement, cowbird trapping, exotics removal and enforcement of illegal activities.

No improvements, recreational trail bridge, Eastern Staging Area or 60-acre habitat restoration site would be developed under the No-Project Alternative.

5.4.2 Comparison of the Effects of the No Project Alternative to the Proposed Project

Biological Resources

The on-going significant impacts to biological resources (i.e., habitat fragmentation) would continue as result of the No Project Alternative. The existing paths and trails within the sensitive habitats would remain. Although construction of the Proposed Project could affect biological resources in the short term, the Proposed Project would remove trails from sensitive areas and promote the re-vegetation of 98.92 acres within the TRVRP. The Proposed Project would result in a clear biological improvement over the No Project Alternative given the restoration plans.

Cultural Resources

No impacts to cultural resources would occur under the No Project Alternative since any development, trail closure, or restoration would occur on the project site. With the implementation of the mitigation measures presented in the EIR, the impacts under the Proposed Project would be less than significant during construction or operation.

Land Use

The No Project Alternative would result in no change to the existing land use conditions. The existing trails in the TRVRP would continue to remain uncontrolled. While the No Project Alternative would avoid the Proposed Project's land use impact associated with the Eastern Staging Area's penetration of the 100-foot wetlands buffer, the No Project Alternative would not comply with the MSCP with respect to trails avoiding core areas and the improvement of habitat for sensitive and MSCP-covered species (see sub-chapter 1.5.2.2).

Also the Proposed Project would bring the trail system into consistency with the MHPA policies via compliant planning and mitigation measures; providing trail structure, guidelines, connectivity and maintenance. Therefore the Proposed Project has a significant but mitigable effect on land use compared to the No Project Alternative which has a significant unmitigated effect.

Recreation

The No Project Alternative would not alter the existing recreational conditions. The MOU designation of approximately 10.3 miles of trails is part of the 71.5 miles of dirt roads and paths which have developed under the unstructured No Project Alternative. The unauthorized portions of the 71.5 miles of dirt roads and pathways and the non-permitted MOU portion may remain pending the County's implementation of the SOPs that allow the restoration of unauthorized trails. This unplanned system has resulted in fragmentation of sensitive biological habitat designated in the San Diego County MSCP and City of San Diego MHPA.

The No Project Alternative would not include the proposed trail signage, recreational trail bridge, eastern staging area, and restoration component. As designed, the Proposed Project

would permit development of recreational resources that are currently undeveloped or underdeveloped.

5.4.3 Rationale for Preference of the Proposed Project Over the No Project Alternative

The Proposed Project would bring the trail system into consistency with the MSCP and the MHPA policies via compliant planning and mitigation measures; providing trail structure, guidelines, trail inter-connectivity and maintenance. The No Project Alternative would result in the continuation of existing conditions of the Park including the use of unauthorized trail segments that may impact resources identified for protection under the MSCP.

The Proposed Project is preferred based on minimal significant effects in the areas of land use and planning, cultural resources and biological resources. Any area where significant effects are proposed, mitigation is also proposed. The No Project Alternative proposes no change and therefore no form of mitigation for the existing and ongoing degradation of natural resources; therefore the Proposed Project is the environmentally superior choice.

TABLES

TABLE 5-1
COMPARISON CHART

	Total Permitted Trails	6' Wide Multi-Use Trails (Equestrian/ Bicycle/ Pedestrian)	4' Bike Lane and 5.5" Sidewalk	4' Wide Equestrian/ Pedestrian Trails	Trails Narrowed to 6'	Trails Narrowed to 4'	Trailheads	Interpretive Signs	Hitching Posts	Bike Racks	Benches	Bird Observation Blind	Directional Signage	Trail Markers
Proposed Project	22.5	14.1	1.1	7.3	3.9	5.8	7	9	9	9	16	3	12	TBD
Alternative #1	11.2	7.1	1.1	3.0	tbd	tbd	7	5	7	7	12	2	8	TBD
Alternative #2	17.2	9.2	1.1	6.9	tbd	tbd	7	9	9	9	16	3	12	TBD
Alternative #3 (No Project)	0*	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0

* There are 10.3 miles of trails identified in the MOU. However, these have never undergone any formal permitting under CEQA or NEPA.

TABLE 5-2

SUMMARY OF ENVIRONMENTAL IMPACTS OF ALTERNATIVES RELATIVE TO THE PROPOSED PROJECT

Environmental Analysis Subject	Proposed Project	No Project Alternative		Project Alternative 1		Project Alternative 2	
	Impact Analysis	Impact Analysis	Impact Compared to Project	Impact Analysis	Impact Compared to Project	Impact Analysis	Impact Compared to Project
Biological Resources	L	S	+	L	-	L	-
Cultural Resources	L	N/S	-	L	+	L	+
Land Use	L	S	+	L	X	L	X
Recreation	N/S	N/S	+	N/S	+	N/S	+

N/S No significant impacts.
+ Impacts are greater then the proposed project

L Impacts are less than significant after mitigation
- Impacts are less than the proposed project

S Impacts are significant after mitigation
X Impacts are similar to the proposed project

K:\095432014\New EIR\[Tables final 072805.xls]Table 5-2

TABLE 5-3
ALTERNATIVE 1 TRAIL SYSTEM DETAIL

Trail Segment Description	Average Width of Existing Roads (Feet)*	Proposed Trail Width (Feet)	Length (Feet)	Length (Miles)	Existing Pathway Width	Amount of Take (Feet)	Amount Narrowed (Feet)	Area of Existing Road to Remain (Acres)	Area of Take (Acres)	Area Narrowed (Acres)
Trail within existing road or pathway greater than 10' wide	10	6	11480	2.2	Narrowed		4	1.58		1.05
Trail within existing road or pathway greater than 10' wide (eastern edge of ballfield parking lot)	> 10	6	554	0.1	No change			0.08		
Trail within existing road or pathway 5' - 8' wide	6.5	6	301	0.1	Narrowed		0.5	0.04		0
Trail within existing road or pathway 3' - 4' wide	3.5	6	4454	0.8	Widened	2.5		0.36	0.26	
Trail within Hollister Road R.O.W. (along shoulder)	Hollister R.O.W.	6	698	0.1	No change			0.1		
Trail south of proposed Recreational Trail Bridge (new segment)		6	294	0.1	Widened	6		0	0.04	
Trail at former tomato field (new segment)		6	832	0.2	Widened	6		0	0.11	
Subtotal			**18613**	**3.5**						
Joint use (USCBP) trail within existing road or pathway greater than 10' wide	> 10	12	5082	1	No change			1.4		
Joint use (USCBP) trail within existing road or pathway greater than 8' - 10' wide	9	9	6188	1.2	No change			1.28		
Joint use (USCBP) trail within existing road or pathway (32' wide Metropolitan Wastewater Department easement)	32' MWWD Easement	12	2834	0.5	No change			0.78		
Joint use (USCBP) trail within existing dirt road greater than 10' feet wide (from Hollister to Central Staging Area)	> 10	12	1556	0.3	No change			0.43		
Joint use (USCBP) trail within existing dirt road greater than 10' feet wide (Saturn Blvd. R.O.W.)	30	12	1249	0.2	Narrowed		18	0.34		0.52
Joint use (USCBP) trail within existing agricultural access road greater than 10' wide	> 10	12	1196	0.2	No change			0.33		
Subtotal			**18105**	**3.4**						
Trail within existing road or pathway greater than 10' wide	10	4	6431	1.2	Narrowed		6	0.59		0.89
Trail within existing road or pathway 5' - 8' wide	6.5	4	297	0.1	Narrowed		2.5	0.03		0.02
Trail within existing road or pathway 3' - 4' wide	3.5	4	4328	0.8	Widened	0.5		0.35	0.05	
Subtotal			**11056**	**2.1**						
Joint use (equestrian/hiking/USCBP) trail within existing road or pathway greater than 10' wide	> 10	12	2184	0.4	No change			0.6		
Subtotal			**2184**	**0.4**						
Existing approved 15' wide D.G. trail within ballfields			1310	0.2	No change					
Existing 5.5' wide sidewalk and 4' bike lane within Dairy Mart Rd R.O.W.			5692	1.1	No change					
4' min. wide equestrian and hiking trail within existing approved trail greater than wide (Community Garden Project)			2831	0.5	No change					
Total:				***11.2***				***8.28***	***0.46***	***2.48***
Acres of closed Trails to be Restored										55 Acres
Total Acres to be Restored (Narrowed + Closed) =										58 Acres

66.28 Acres (Existing Dirt Roads) - 13.38 Acres (Existing Dirt Roads to remain as Trails) - 3.60 Acres (Counted as Restored due to Trail Narrowing)

USCBP = U.S. customs and Border Protection
Authorized and Emergency Use Access Roads

* Data Source: Don Hayes Trails, Inc., 2004

K:\09543201 4\New EIR\[Tables final 072805.xls]Table 5-3

TABLE 5-4
ALTERNATIVE 1 - AMOUNT OF TAKE OF EXISTING VEGETATION COMMUNITIES DUE TO TRAIL WIDENING

Existing Vegetation Community	Area of Take (Acres)
Diegan Coastal Sage Scrub	
Viquiera Dominated CSS	0.00
Monkeyflower Dominated CSS	0.00
Goldenbush Dominated CSS	0.00
Disturbed CSS	0.00
Sagebrush-Buckwheat Dominated CSS	0.00
Coyote Brush Dominated CSS	0.00
Chaparral Communities	
Southern Maritime Chaparral	0.00
Southern Mixed Chaparral	0.00
Riparian Communities	
Southern Willow Scrub	0.00
Southern Cottonwood-Willow Riparian Forest	0.09
Restored Southern Willow Scrub	0.00
Mule Fat Scrub	0.02
Open Water	0.00
Non-Vegetated Channel	0.00
Freshwater Marsh	0.00
Other Native Communities	
Maritime Succulent Scrub	0.00
Ephemeral Pond	0.00
Native Grassland	0.00
Disturbed Habitat	
Disturbed Southern Willow Scrub	0.00
Disturbed Southern Maritime Chaparral	0.00
Disturbed Southern Cottonwood-Willow Riparian Forest	0.00
Disturbed Maritime Succulent Scrub	0.00
Disturbed Southern Mixed Chaparral	0.00
Disturbed Mulefat Scrub	0.13
Disturbed Habitat	0.00
Non-Native Communities	
Non-Native Grassland	0.03
Tamarisk Woodland	0.00
Chrysanthemum	0.00
Eucalyptus Woodland	0.00
Agricultural Lands	
Row Crops	0.10
Field/Pasture	0.00
Agricultural Lands	
Badlands	0.00
Urban/Developed	0.09
TOTAL:	***0.46***

K:\095432014\New EIR\[Tables final 072805.xls]Table 5-4

TABLE 5-5
ALTERNATIVE 2 TRAIL SYSTEM DETAIL

Trail Segment Description	Average Width of Existing Roads (Feet)*	Proposed Trail Width (Feet)	Length (Feet)	Length (Miles)	Existing Pathway Width	Amount of Take (Feet)	Amount Narrowed (Feet)	Area of Existing Road to Remain (Acres)	Area of Take (Acres)	Area Narrowed (Acres)
Trail within existing road or pathway greater than 10' wide	10	6	13007	2.5	Narrowed		4	1.79		1.19
Trail within existing road or pathway greater than 10' wide (eastern edge of ballfield parking lot)	> 10	6	554	0.1	No change			0.08		
Trail within existing road or pathway 5' - 8' wide	6.5	6	1644	0.3	Narrowed		0.5	0.23		0.02
Trail within existing road or pathway 3' - 4' wide	3.5	6	5492	1	Widened	2.5		0.44	0.32	
Trail within Hollister Road R.O.W. (along shoulder)	Hollister R.O.W.	6	698	0.1	No change			0.1		
Trail within former Dairy Mart Rd road bed (adjacent to Eastern Staging Area)	Original Dairy Mart R.O.W.	6	1011	0.2	No change			0.14		
Trail south of proposed Recreational Trail Bridge (new segment)		6	294	0.1	Widened	6		0	0.04	
Trail at former tomato field (new segment)		6	832	0.2	Widened	6		0	0.11	
Subtotal			**23532**	**4.5**						
Joint use (USCBP) trail within existing road or pathway greater than 10' wide	> 10	12	13516	2.6	No change			3.72		
Joint use (USCBP) trail within existing road or pathway greater than 8' - 10' wide	9	9	6188	1.2	No change			1.28		
Joint use (USCBP) trail within existing road or pathway (32' wide Metropolitan Wastewater Department easement)	32' MWWD Easement	12	2834	0.5	No change			0.78		
Joint use (USCBP) trail within existing dirt road greater than 10' feet wide (from Hollister to Central Staging Area)	> 10	12	1556	0.3	No change			0.43		
Joint use (USCBP) trail within existing dirt road greater than 10' feet wide (Saturn Blvd. R.O.W.)	30	12	1249	0.2	Narrowed		18	0.34		0.52
Joint use (USCBP) trail within existing agricultural access road greater than 10' wide	> 10	12	1196	0.2	No change			0.33		
Subtotal			**26539**	**5**						
Trail within existing road or pathway greater than 10' wide	10	4	13061	2.5	Narrowed		6	1.2		1.8
Trail within existing road or pathway 5' - 8' wide	6.5	4	1089	0.2	Narrowed		2.5	0.1		0.06
Trail within existing road or pathway 4' -5' wide	4.5	4	1189	0.2	Narrowed		0.5	0.11		0.01
Trail within existing road or pathway 3' - 4' wide	3.5	4	12906	2.4	Widened	0.5		1.04	0.15	
Trail within existing road or pathway 1.5' - 2' wide	1.8	4	800	0.2	Widened	2.2		0.03	0.04	
Subtotal			**29045**	**5.5**						
Joint use (equestrian/hiking/USCBP) trail within existing road or pathway greater than 10' wide	> 10	12	4522	0.9	No change			1.25		
Subtotal			**4522**	**0.9**						
Existing approved 15' wide D.G. trail within ballfields			1310	0.2	No change					
Existing 5.5' wide sidewalk and 4' bike lane within Dairy Mart Rd R.O.W.			5692	1.1	No change					
4' min. wide equestrian and hiking trail within existing approved trail greater than wide (Community Garden Project)			2831	0.5	No change					
Total:				***17.2 Miles***				***13.38***	***0.66***	***3.6***
Acres of closed Trails to be Restored										49.30 Acres
Total Acres to be Restored (Narrowed + Closed) =										52.90 Acres

66.28 Acres (Existing Dirt Roads) - 13.38 Acres (Existing Dirt Roads to remain as Trails) - 3.60 Acres (Counted as Restored due to Trail Narrowing)

USCBP = U.S. customs and Border Protection
Authorized and Emergency Use Access Roads

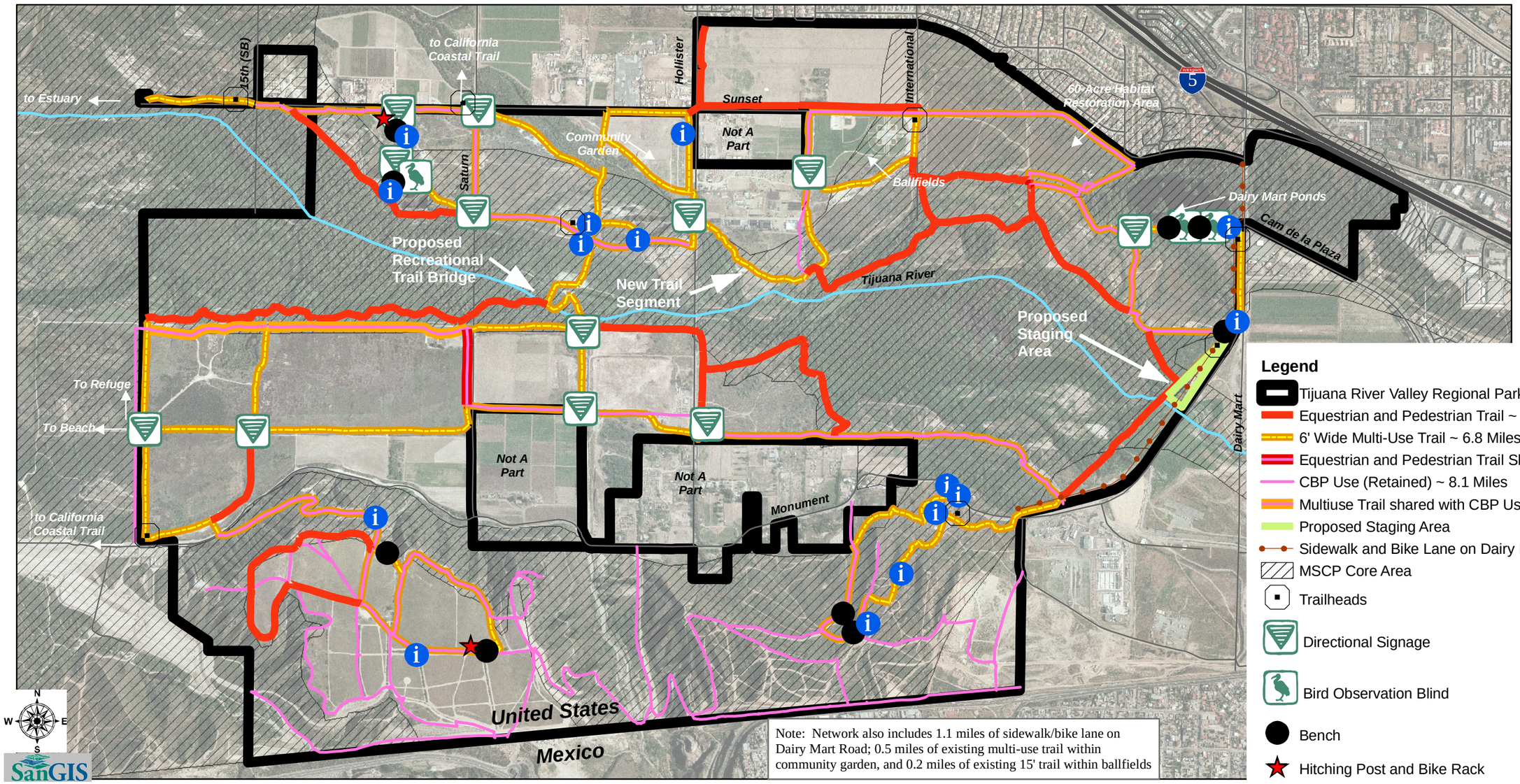
* Data Source: Don Hayes Trails, Inc., 2004

TABLE 5-6
ALTERNATIVE 2 - AMOUNT OF TAKE OF EXISTING VEGETATION COMMUNITIES DUE TO TRAIL WIDENINGS

Existing Vegetation Community	Area of Take (Acres)
Diegan Coastal Sage Scrub	
Viquiera Dominated CSS	0.00
Monkeyflower Dominated CSS	0.00
Goldenbush Dominated CSS	0.00
Disturbed CSS	0.00
Sagebrush-Buckwheat Dominated CSS	0.00
Coyote Brush Dominated CSS	0.00
Chaparral Communities	
Southern Maritime Chaparral	0.00
Southern Mixed Chaparral	0.00
Riparian Communities	
Southern Willow Scrub	0.00
Southern Cottonwood-Willow Riparian Forest	0.16
Restored Southern Willow Scrub	0.00
Mule Fat Scrub	0.06
Open Water	0.00
Non-Vegetated Channel	0.00
Freshwater Marsh	0.00
Other Native Communities	
Maritime Succulent Scrub	0.00
Ephemeral Pond	0.00
Native Grassland	0.00
Disturbed Habitat	
Disturbed Southern Willow Scrub	0.00
Disturbed Southern Maritime Chaparral	0.00
Disturbed Southern Cottonwood-Willow Riparian Forest	0.00
Disturbed Maritime Succulent Scrub	0.00
Disturbed Southern Mixed Chaparral	0.00
Disturbed Mulefat Scrub	0.13
Disturbed Habitat	0.00
Non-Native Communities	
Non-Native Grassland	0.09
Tamarisk Woodland	0.00
Chrysanthemum	0.00
Eucalyptus Woodland	0.00
Agricultural Lands	
Row Crops	0.10
Field/Pasture	0.01
Agricultural Lands	
Badlands	0.00
Urban/Developed	0.11
TOTAL:	***0.66***

EXHIBITS

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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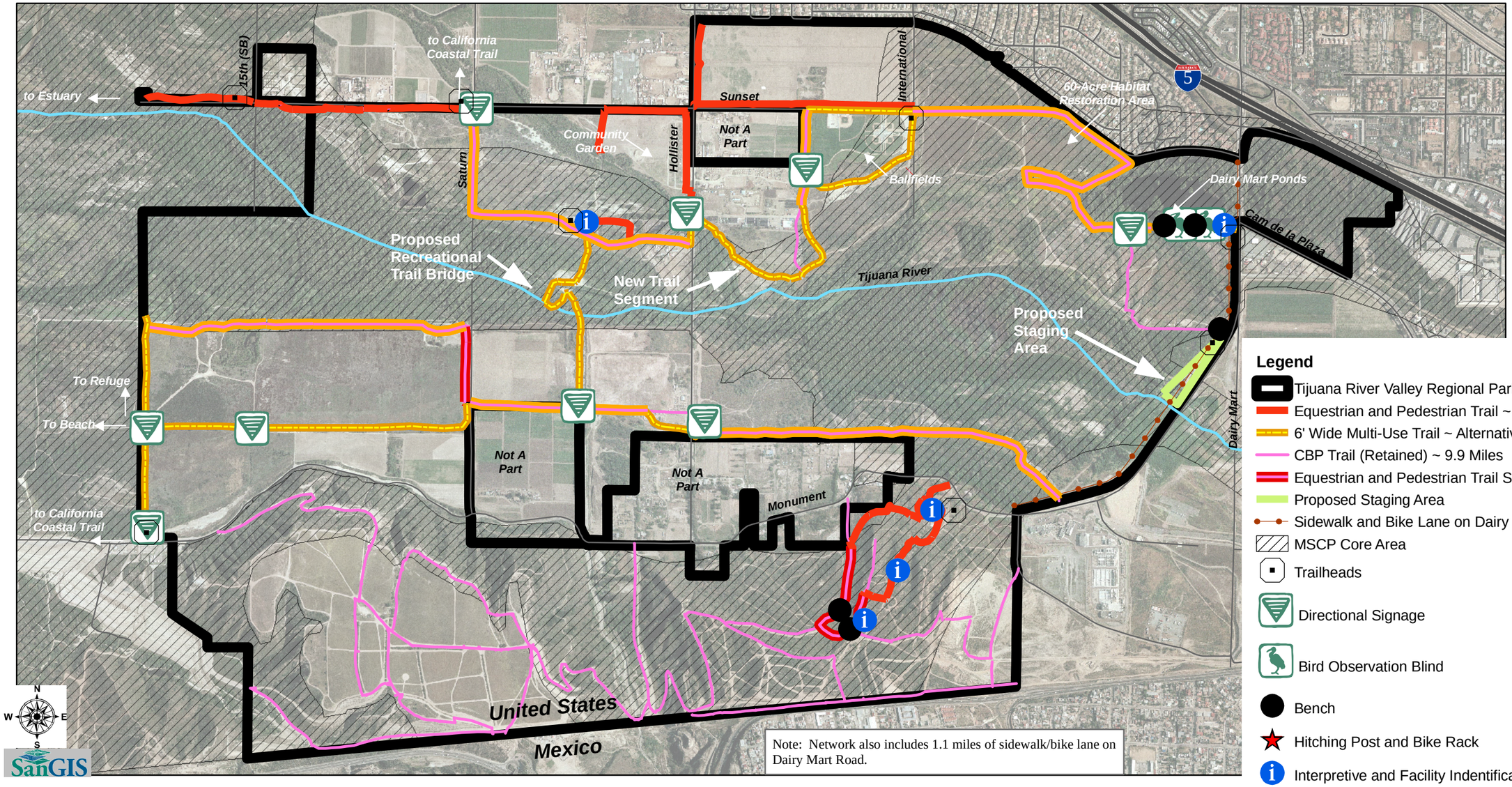
Sources

Exhibit 5-1
Proposed Project

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



Note: Network also includes 1.1 miles of sidewalk/bike lane on Dairy Mart Road.

Legend

- Tijuana River Valley Regional Park (TRVRP)
- Equestrian and Pedestrian Trail ~ Alternative 1 ~ 2.6 Miles
- 6' Wide Multi-Use Trail ~ Alternative 1 ~ 3.7 Miles
- CBP Trail (Retained) ~ 9.9 Miles
- Equestrian and Pedestrian Trail Shared with CBP ~ 0.4 Miles
- Proposed Staging Area
- Sidewalk and Bike Lane on Dairy Mart Road ~ 1.1 Miles
- MSCP Core Area
- Trailheads
- Directional Signage
- Bird Observation Blind
- Bench
- Hitching Post and Bike Rack
- Interpretive and Facility Indentification Signage
- Multiuse Trail shared with CBP ~ 3.4 Miles

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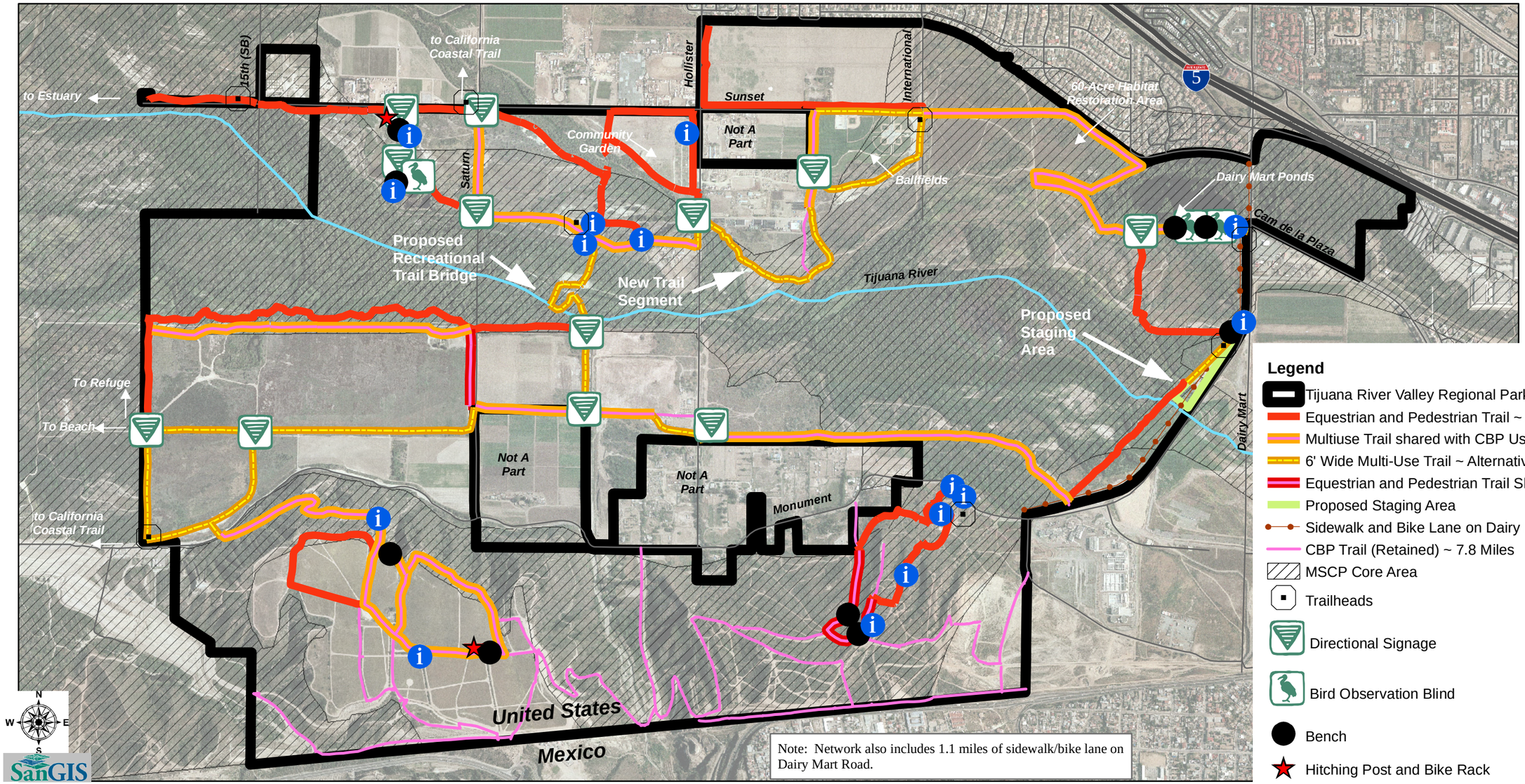
Sources

Exhibit 5-2
Alternative 1

TIJUANA RIVER VALLEY REGIONAL PARK
Trails and Habitat Enhancement Project



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Sources

Exhibit 5-3
Alternative 2

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LIST OF EIR PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

EIR PREPARERS

This section identifies the individuals involved in the preparation of this Draft Environmental Impact Report for the County of San Diego Department Public Works, as well as persons and organizations contacted for information.

County of San Diego

Name	Title	Department
Renèe Bahl	Director	Department of Parks and Recreation
Brian Albright	Assistant Director	Department of Parks and Recreation
Trish Boaz	Chief of Resource Management Division	Department of Parks and Recreation
Mike McFedries	District Park Manager	Department of Parks and Recreation
Maeve Hanley, M.S.	Environmental Resource Manager	Department of Parks and Recreation
Casey Lydon	Environmental Planner II	Department of Parks and Recreation
Nelson Olivas	Public Works Manager	Department of Public Works
Esther Daigneault	Environmental Planning Manager	Department of Public Works
Jeff Moody	Senior Civil Engineer	Department of Public Works
Dr. Mandayam Rajan	Senior Structural Engineer	Department of Public Works
Thomas Oberbauer	Chief of Multiple Species Conservation Program	Department of Planning and Land Use
Lori Spar	Environmental Planner II, Regulatory Planning Division	Department of Planning and Land Use
Claudia Anzures	Senior Deputy County Counsel	Office of County Counsel

Kimley-Horn and Associates, Inc.

Name	Education	Responsibility
Jim Roberts, PE, AICP	B.S., Civil Engineering	Principal-in-Charge
Scott Barker, AICP	Master of City Planning M.S., Civil Engineering	Project Manager
Karina Fidler, AICP	Master of Public Health B.S., Aquatic Biology	Research and Coordination
Christine Alexander	Architecture, Computer and Business Studies	Graphics/GIS

TAIC

Name	Education	Responsibility
Christina Schaefer	Master of Landscape Architecture M.S., Landscape Stewardship	Senior Conservation Biologist
Rosanne Humphrey	B.S., Biology	Biologist

Greystone Environmental Consultants, Inc.

Name	Education	Responsibility
Jeff Harvey, Ph.D	Ph.D., Geography, Water Resources M.A., Geography, Impact Assessment B.A., Geography, Physical Environments	Principal-in-Charge
Leslea Meyerhoff, M.A., AICP	M.A., Environmental Policy and Analysis B.A., Government/Environmental Studies	Project Manager
Peter Boucher, M.S.	M.S., Environmental Engineering B.S., Biology	Hydrology & Water Quality
Eric Cowan	Drafting, Computer and Business Studies	Graphics/GIS
Leon Crain	B.S., General Engineering	Geology and Soils, Noise, Public Health and Safety/Hazardous Materials
Julia Dumars	B.S., Environmental Resource Science	Biological Resources, Cultural Resources, Cumulative Impacts
Matthew Durham	Computer Science, Graphic Design	Word Processing, Production
Gary R. Fink	B.A., Anthropology	Quality Assurance/Quality Control
Jason Gregory	B.S., Natural Resource Assessment	Graphics/GIS
Holly Grover	B.S., Environmental Resource Science	Cultural Resources, Hydrology and Water Quality, Public Services and Utilities
Gary Halsey, M.A.	M.A., Natural Resource Management/ Environmental Planning B.S., Biology & Physical Geography	Biological Resources, Hydrology and Water Quality
Debbie Jenke	Business Administration	Production
Caitlin Nielsen	A.A.S., Microsoft Systems Engineer	QA/QC, Production Leader
Joel Reisman, M.S.	M.S. and B.S., Mechanical Engineering	Air Quality
Kurtis Steinert, M.S., AICP	M.S., Environmental Science B.S., Marine Biology	Land Use, Traffic/Circulation, Growth Inducing Impacts, Environmental Justice, Alternatives Analysis
Susan Yogi	B.A., Urban Studies and Planning	Aesthetics and Visual Resources, Land Use, Recreation, Alternatives Analysis, Significant Irreversible Environmental Changes, Project Coordination

Van Dyke Partnership, LLP

Name	Education	Responsibility
Tim Jachlewski, Jr.	B.L.A., Bachelor of Landscape Architecture CA license # LA 4547	Project Management, Planning, Construction Plans for Trail System and Construction Plans for Habitat Restoration (West of Dairy Mart Road)
Denise Armijo	B.S., Bachelor of Science Landscape Architecture Certificate	Planning, Construction Plans for Trail System and Construction Plans for Habitat Restoration (West of Dairy Mart Road)
Shikha Goel	M.L.A., Master of Landscape Architecture B.Arch., Bachelor of Architecture	Planning, Construction Plans for Trail System and Construction Plans for Habitat Restoration (West of Dairy Mart Road)
Dan Roberts	M.L.A., Master of Landscape Architecture CA License # LA 4702	Principal-in-Charge

Subconsultants		
Name/Firm	**Title**	**Responsibility**
Alex Wesson, SWCA	Archaeologist	Cultural Resources Report
Chris Nordby, Tierra Environmental Services	Senior Biologist	Biological Resources

PERSONS AND ORGANIZATIONS CONSULTED

This section identifies County staff that participated directly in development of the draft EIR and those individuals who either provided or participated in the exchange of information used in this Draft EIR for the Proposed Project. Individuals are identified by affiliation, name, and title. All organizations and persons were consulted during the course of preparation of this Draft EIR.

County of San Diego Department of Parks and Recreation

Name	Title
Ms. Mary Niez	Project Manager
Ms. Maeve Hanley, MS	Environmental Resource Manager
Mr. Patrick McDonough	Project Manager
Ms. Renèe Bahl	Director
Mr. Brian Albright	Assistant Director
Mr. Cory Linder	Chief of Open Space Division
Mr. Mike McFedries	District Park Manager
Mr. Brian Yang	Environmental Planner II (Biologist)
Ms. Cailin NiChrualaoich	

County of San Diego Department of Public Works

Name	Title
Dr. Mandayam Rajan	Senior Structural Engineer
Mr. Nassrin Samii	Civil Engineer
Mr. Jeff Moody	Senior Civil Engineer
Esther Daigneault	Environmental Planning Manager

County of San Diego Department of Planning and Land Use

Name	Title
Mr. Thomas Oberbauer	Chief of Multiple Species Conservation Program
Ms. Lori Spar	Environmental Planner II, Regulatory Planning Division

City of San Diego

Name	Title

Name	Title
Mr. Ron Buckley	Senior City Planner
Mr. Bob Medan	Fire Plans Officer
Mr. Adolfo Aguilar	Parks and Open Space
Mr. Julius Ocen	Engineering Department
Mr. Ali Sabouri	Transportation Department
Mr. Hushmand Yazdani	Wastewater Department
Mr. Thomas Bui	Water Department
Mr. Keith Greer	MSCP
Ms. Jeanne Krosh	MSCP
Ms. Melanie Johnson	MSCP
Ms. Judy Johnson	Planning Department
Ms. Melissa Devine	Landscaping
Ms. Theresa Millette	Long Range Planning
Mr. Corey Braun	Planning Department
Ms. Vicky Gallagher	Local Enforcement Agency

City of San Diego Police Department

Name	Title
Mr. Marvin Shaw	Crime Statistics
Mr. Ted Parker	SDPD Neighborhood Policing Resource Team

California Coastal Conservancy

Name	Title
Mr. Jim King	Project Manager
Ms. Prentiss Williams	Project Manager

California Department of Fish and Game

Name	Title
Ms. Kelly Fisher	Environmental Specialist
Mr. Don Chadwick	Environmental Specialist

United States Fish and Wildlife Service

Name	Title
Ms. Carolyn Lieberman	Biologist
Ms. Vicki Touchstone	Biologist

United States Army Corps of Engineers

Name	Title
Mr. Terry Dean	Regulatory Specialist

LIST OF MITIGATION MEASURES AND ENVIRONMENTAL DESIGN CONSIDERATIONS

The following tables summarize all mitigation measures, environmental design features and best management practices required for the Proposed Project.

TABLE S-1
MITIGATION MEASURES

Biological Resources	
1	The County will draft a formal long-term habitat management plan for the TRVRP, detailing management responsibilities and area-specific management directives, including a regular cowbird trapping program; manure removal program; sensitive species monitoring program as directed by the MSCP; regular ranger patrols; restoration as directed by the MSCP; and recreational user education. The management plan will also include a mechanism to evaluate the impacts of the trial system on sensitive habitats, along with a commitment to eliminate or relocate trails as needed, and consistent with the MSCP, to ensure that the long-term viability of these habitats is not compromised, re-evaluated locations, usage and number of trials as habitat restoration plans evolve, and to ensure funding is consistently available to implement the plan.
2	Native plants, including rushes, sedges, and other grasses that can grow equally well in riparian and upland habitat, should be expanded to increase habitat diversity and function as nurse crops for the establishment of a successional native vegetation community. This includes removal of invasive exotic plant species, targeting giant reed, tamarisk, eucalyptus, tree tobacco and invasive herbaceous species, including garland chrysanthemum. Suggested species for introduction include southern cattail (Typha latifolia), Mexican rush (Juncus mexicanus), three square rush (Scirpus americanus),and California bulrush (Scirpus californica) in freshwater marsh/seep habitats. Tall umbrella sedge (Cyperus eragrostis), creeping spike rush (Eleocharis macrostachya), San Diego sedge (Carex spissa), and knotgrass (Paspalum distichum) may be appropriate along waterways and in areas with seasonal high water. Spiny rush (Juncus acutus ssp. Leopoldi) would be successful in moist, alkaline seeps, and Santa Barbara sedge (Carex barbarae) and toad rush (Juncus bufonius) could be planted in more seasonally wet to mesic upland areas.
3	Areas that are proposed to be closed and are adjacent to coastal sage scrub, maritime chaparral, and riparian habitat should be managed by active prescriptive management and restoration to encourage the establishment of natives and prevent the re-invasion of noxious plants in sensitive riparian and upland habitats. Closed areas that traverse non-native grassland, fields, or row crop vegetation communities could be passively managed.
4	Recommended species for the restoration of closed areas and the rehabilitation of habitats on the mesa's include: California sagebrush (Artemisia californica), California buckwheat (Erigonum fasciculatum), laurel sumac (Malosma laurina), lemonade berry (Rhus integrifolia), toyon (Heteromeles arbutifolia), and white sage (Salvia apiana). San Diego County Viguiera (Viguiera laciniata) should be added to the planting palette at appropriate locations on south facing slopes of both mesas and bladderpod (Isomeris arborea) should be added to restored areas in the maritime succulent shrub community on the southwest face of Spooner's Mesa. Scarifying compacted mesa trails may be required. Biological barriers such as cacti and thorny plants could be used as entrance points.

TABLE S-1
MITIGATION MEASURES

Biological Resources	
5	Closed areas on top of the mesa should be restored in the future, requiring decompaction and planting with upland scrub and grassland species. A weed abatement program to curtail garland chrysanthemum propagation would be needed. Additional plants to be added to the palette for restoration of the mesas may include coast goldenbush (Isocoma menziesii), rattleweed (Astralagus trichopodus), golden tarweed (Hemizonia fasiculata), wart-stemmed ceanothus (Ceanothus verrucosus), golden-spined cereus (Bergerocactus emoryi), and deerweed (Lotus scoparius). Native xeric grasses such as melic grass (Melica imperfecta) and purple needlegrass (Nasella pulchra), should also be included in the seed mix for the mesa tops.
6	The County should continue to coordinate efforts with TSNWR, Border Field State Park, and the Tijuana River Valley Equestrian Association (TRVEA) to educate horse stable owners and equestrian users in proper manure management to minimize nuisance attraction of cowbirds. This would help reduce the annual effort required for the cowbird trapping program.
7	The existing and ongoing brown-headed cowbird-trapping program has been very successful, along with riparian habitat restoration, in increasing the number of nesting vireos in TRVRP and should be continued. However, brown-headed cowbirds are attracted to manure as a food source for seeds, larvae and the insects typically associated with manure. Continuation of the existing successful trapping program and implementation of a manure management education program by equestrian user groups will minimize this potential impact. A manure management program is also recommended to reduce the potential introduction of exotic species from seeds carried in the manure.
8	Areas adjacent to core habitats and sensitive riparian and upland vegetation communities should be buffered from recreational use through the planting of transitional vegetation adjacent to and outside of the sensitive vegetation communities, fencing, and signage. Active ranger patrols should provide education of trail users and should enforce environmental protection regulation.
9	Prior to construction, focused surveys pursuant to USFWS protocols will be performed for all sensitive riparian and upland bird species, including the least Bell's vireo, southwestern willow flycatcher, light-footed clapper rail, and California gnatcatcher. Construction and vegetation clearing will take place outside the breeding season of the respective bird species, but protection of occupied habitat should be provided during construction.
10	Prior to any on site construction work, the limits of the Project Impact Area (including access and staging) will be surveyed, staked, and fenced.
11	A qualified biologist will delineate the boundaries of the project footprint with orange snow fencing to avoid surface disturbance to the surrounding areas. Movement of vehicles and equipment will be confined within these delineated areas. The limits of the project footprint will be clearly delineated upstream and downstream of the project footprint.
12	Jurisdictional wetlands and sensitive habitats should be protected from construction activities using silt fencing and orange snow fencing. If trail widening and associated project components in the floodplain or in riparian wetlands require dredging or filling of wetlands or seasonal streambeds, and/or removal of riparian vegetation, permits from ACOE, CDFG and RWQCB will be necessary.

TABLE S-1
MITIGATION MEASURES

Biological Resources	
13	A biological monitor (qualified biologist) will be present to monitor and enforce environmental protection measures, including the installation and maintenance of BMPs, maintenance of fences, and all construction-related provisions identified in this document to minimize and mitigate impacts.
14	Personnel will be trained prior to the action by experienced biologists. All employees that will work on the project will be educated and instructed of the following: to limit and restrict their activities, vehicle and equipment use, and construction materials to the designated construction/staging areas and routes of travel. Impact areas will be the minimal area necessary to complete the project.
15	To meet the protection measures of the Migratory Bird Treaty Act, construction activities will be conducted outside of the bird breeding season (February 1 – September 15) whenever feasible. However, if such activities must occur within the breeding season, a qualified biologist will conduct a preconstruction survey of the project site and surrounding habitat within one week prior to the start of construction, to determine if there are active nests within the project area., including raptors and ground nesting birds. The survey should begin no more than three days prior to the beginning of construction activities. It is recommended that if an active nest is observed in the Project area, a 300 foot buffer will be established between the construction activities (clearing, grubbing, building, etc.) and the nest so that nesting activities are not interrupted, and the buffers should be in effect as long as construction is occurring and/or until the nest is no longer active.
16	Siltation and erosion in and around the project site will be controlled with BMPs, including silt fences, gravel bags, fiber rolls, and slope stabilization by hydroseeding with binders and tackifiers.
17	Construction personnel will apply appropriate erosion control measures, where appropriate, and adhere to BMPs as directed by County guidelines.
18	Construction personnel will also avoid onsite fuel changes and use appropriate facilities for equipment repair. All transport, handling, use, and disposal of substances such as petroleum products, solvents, and paints related to construction of the sewer line will comply with all Federal, State, and local laws regulating the management and use of hazardous materials.
19	Construction traffic will be minimal and confined to the well-traveled access roads and the fenced action area.
20	Mule fat scrub at the eastern trailhead staging area should be protected with exclusionary fencing and trailhead development confined to the highest two thirds (elevation) of the site.
21	Native landscaping and interpretive signage at the trailheads are recommended.

TABLE S-1
MITIGATION MEASURES

Biological Resources	
22	For the construction of the proposed pedestrian/equestrian bridge, the existing 9 inch-diameter, 40 foot tall black willow on the east side and 6 inch- diameter, 20 to 25 feet tall willow on the west side of the north bank should be protected with pads and slatted or well staked exclusionary fencing for protection during bridge construction. Existing mule fat scrub to the west of the staging area would be fenced to protect it from disturbance. The staging area would be in an area that is already disturbed and partially graded and is vegetated with non-native species such as wild radish, black mustard, garland chrysanthemum, cocklebur, castor bean, fennel, and eucalyptus seedlings. Staging in this disturbed area, followed by restoration with native black willow, arroyo willow, sandbar willow, mugwort, mule fat and other appropriate species would result in a substantial improvement over existing conditions.
23	On the south bank of the river near the location of the proposed bridge, there is a large black willow, greater than 10 inches in diameter and approximately 60 feet tall, on the west bank. This willow and its large branch, which would arc about 15-20 high over the bridge, will need to be protected or well staked with exclusionary fencing. The giant reed that has to be removed to construct the bridge supports would be cut near the base and completely removed and disposed of properly. AquaMaster or a similar approved herbicide would be sprayed or painted immediately on the cut bases. Monitoring is recommended to identify new shoots that may need to be treated.
24	Sandbar willow and/or arroyo willow cuttings, mugwort, California blackberry (Rubus ursinus) and beardless wild ryegrass (Leymus tritcoides) should be planted to stabilize the recontoured riverbank after bridge placement activities are complete.

TABLE S-1
MITIGATION MEASURES

Cultural Resources	
A	Contract with a County certified archaeologist (and Native American Observer) to implement a flagging, grading monitoring and data recovery program. This program shall include, but not be limited to, the following actions:
A-1	Sites (SDI-8595, SDI-8597, SDI-8602, SDI-8603, SDI-8604, SDI-8773, SDI-11097, SDI-11099, SDI-11945, SDI-11946, SDI-15099, TR-8, and the New Trees Site) are divided by trails that have been selected for closure and restoration of the trail back to its natural state through passive or active restoration. Because restoration techniques have the potential to disturb intact subsurface deposits through ground disturbance, the following mitigation will be implemented to avoid adverse effects to these sites. Prior to restoration of the trails within these sites, a County certified archaeologist will flag the site boundaries in addition to a 10 meter buffer, to ensure that the sites will not be impacted by ground disturbing activities. Ripping of the trail surface to agitate the soil or any other ground disturbing activities in the flagged areas will be prevented and impacts to these resources avoided. When ground disturbing activities approach the buffer areas an archaeological monitor will be present to observe these activities. Fencing and sign placement is also limited to areas outside the buffer zone. With respect to site CA-SDI-4933 (a prehistoric temporary campsite that has been greatly disturbed in the past), it is recommended that during trail widening, an archaeological monitor should be present to observe the work on the 211-foot long trail segment that is to be widened to ensure that impacts to CA-SDI-4933 or other buried resources do not occur.
A-2	The County certified archaeologist/historian (and Native American Observer) shall attend the pre-grading meeting with the contractors to explain and coordinate the requirements of the monitoring program. The County shall approve all persons involved in the monitoring program prior to any pre-construction meetings. The consulting archaeologist shall contract with a Native American Observer to be involved with the grading monitoring program.
A-3	During the original cutting of previously undisturbed deposits, the archaeological monitor(s) (and Native American Observer) shall be onsite full-time to perform periodic inspections of the excavations. The frequency of inspections will depend on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features.
A-4	Isolates and clearly non-significant deposits will be minimally documented in the field and the monitored grading can proceed.
A-5	In the event that previously unidentified potentially significant cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance operation in the area of discovery to allow evaluation of potentially significant cultural resources. The archaeologist shall contact the County Archaeologist at the time of discovery. The archaeologist, in consultation with County staff archaeologist, shall determine the significance of the discovered resources. The County Archaeologist must concur with the evaluation before construction activities will be allowed to resume in the affected area. For significant cultural resources, a Research Design and Data Recovery Program to mitigate impacts shall be prepared by the consulting archaeologist and approved by the County Archaeologist, then carried out using professional archaeological methods. If any human bones are discovered, the County Coroner shall be contacted. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains.
A-6	Before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The archaeological monitor(s) (and Native American Observer) shall determine the amount of material to be

TABLE S-1
MITIGATION MEASURES

Cultural Resources	
	recovered for an adequate artifact sample for analysis.
A-7	In the event that previously unidentified cultural resources are discovered, all cultural material collected during the grading monitoring program shall be processed and curated according to current professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curation facility within San Diego County, to be accompanied by payment of the fees necessary for permanent curation.
A-8	In the event that previously unidentified cultural resources are discovered, a report documenting the field and analysis results and interpreting the artifact and research data within the research context shall be completed. The report will include Department of Parks and Recreation Primary and Archaeological Site forms.
B	Contract with a County certified paleontologist to implement a grading monitoring and data recovery program to the satisfaction of the County. Verification of the contract shall be presented in a letter from the Project Paleontologist to the County. This program shall include, but not be limited to, the following actions:
B-1	The County certified paleontologist shall attend the pre-grading meeting with the contractors to explain and coordinate the requirements of the monitoring program to evaluate the presence of fossils. The County shall approve all persons involved in the monitoring program prior to any pre-construction meetings.
B-2	Paleontology monitor(s) shall be onsite full-time to perform periodic inspections of the excavations. The frequency of inspections will depend on the rate of excavation, the materials excavated, and the presence and abundance of paleontological resources.
B-3	In the event that previously unidentified potentially significant paleontological resources are discovered, the paleontologist shall have the authority to divert or temporarily halt ground disturbance operation in the area of discovery until such time that the sensitivity of the resource can be determined and the appropriate mitigation implemented.
B-4	In the event that previously unidentified paleontological resources are discovered, a report documenting the field and analysis results and interpreting the research data within the research context shall be completed and submitted to the satisfaction of the County prior to the issuance of any building permits.
B-5	In the event that previously unidentified paleontological resources are discovered during the grading monitoring program, fossils collected, along with copies of field notes, photos, and maps shall be deposited in a scientific institution such as the San Diego Natural History Museum.
B-6	In the event that no paleontological resources are discovered, a brief letter to that effect shall be sent to the County by the consulting paleontologist that the grading monitoring activities have been completed.
Planning and Land Use	
1	As discussed in the MSCP conformity section of Eastern Staging Area project element analysis in sub-chapter 3.1, the impact associated with the reduced wetlands buffer will be mitigated by the following measures: fencing, cowbird trapping, manure removal, and regular ranger patrols. No lighting will be allowed in this area, and night time use of this area will be prohibited.

The following measures are recommended as best management practices (BMPs)/environmental design considerations for the Proposed Project. These BMPs/environmental design considerations are not required, but have been incorporated into the Project design to minimize potential Project effects.

TABLE S-2
BEST MANAGEMENT PRACTICES/ENVIRONMENTAL DESIGN CONSIDERATIONS

Categories	
Aesthetics	
None recommended.	
Air Quality	
1	On-road trucks and other mobile equipment should be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations.
2	Apply water or chemical dust suppressants to unstabilized disturbed areas and/or unpaved roadways in sufficient quantity and frequency to maintain a stabilized surface.
3	All clearing and grading activities should cease during periods of high wind (greater than 20 mph averaged over 1 hour).
Agricultural Resources	
None recommended.	
Geology & Soils	
1	The County shall prepare a Stormwater Pollution Prevention Plan (SWPPP) for the Proposed Project to include the 60-acre habitat restoration area, active and passive restoration areas, recreational trail bridge and eastern staging area. The SWPPP will establish BMP's to prevent and eliminate release of sediments (turbidity) from runoff of disturbed locations into the Tijuana River, local drains, culverts, waterways, and/or channels
2	An Erosion Control Plan shall be prepared for the Proposed Project to identify specific measures to be implemented to reduce soil loss and water quality impacts. The Erosion Control Plan will include, at a minimum:
	Confine all vehicular traffic associated with construction to designated rights-of-way, material yards, and access roads;
	Limit disturbance of soils and vegetation removal to the minimum area necessary for access and construction;
	Graded areas (i.e., the eastern staging area) should be sloped to sheet flow or bermed (water bars), where possible, to reduce concentrated surface water flows down roads and pathways or across the graded area to be revegetated;
	Use certified weed-free straw bales, or silt fences, where appropriate specifically in areas of passive restoration to minimize sedimentation; and
	Use drainage control structures, where necessary, to direct surface drainage away from disturbance areas and to minimize runoff and sediment deposition down-slope from all disturbed areas. These structures include culverts, ditches, water bars (berms and cross ditches), and sediment traps.
Hydrology & Drainage	

TABLE S-2
BEST MANAGEMENT PRACTICES/ENVIRONMENTAL DESIGN CONSIDERATIONS

Categories	
	None recommended.
Noise	
1	Construction activities shall conform to County of San Diego and City of San Diego requirements, which make it unlawful to operate construction equipment on Sundays or major holidays. Construction may occur Mondays through Saturdays between the hours of 7:00 a.m. and 7:00 p.m.
2	Construction equipment shall be equipped with manufacturer's recommended mufflers or other noise-reducing equipment.
3	Construction equipment shall be turned off when not in operation.
Public Health & Safety – Hazardous Materials	
	None recommended.
Public Services & Utilities	
	None recommended.
Recreation	
	None recommended.
Traffic & Transportation	
1	The County should ensure that final design of the Eastern Trailhead Staging Area is coordinated with the City of San Diego's Traffic Engineering Department to ensure City line-of-sight requirements and standards are met.

AN ADDENDUM TO THE PREVIOUSLY CERTIFIED ENVIRONMENTAL IMPACT REPORT FOR THE TIJUANA RIVER VALLEY REGIONAL PARK TRAILS AND HABITAT ENHANCEMENT PROJECT FOR PURPOSES OF CONSIDERATION OF THE TIJUANA RIVER VALLEY NORTH EAST TRAIL CONNECTION PROJECT

January 27, 2012

CEQA Guidelines, Section 15164 (a) states that an Addendum to a previously certified EIR may be prepared if some changes or additions are necessary but none of the conditions described in Section 15162 or 15163 calling for the preparation of subsequent or supplemental EIR have occurred.

Background:

An Environmental Impact Report (EIR) for the Tijuana River Valley Trails and Habitat Enhancement Project was certified by the Board of Supervisors on December 13, 2006 (5), State Clearing House Number 2004091159. The EIR found significant effects to biological resources, cultural resources and land use and planning. The significant effects were determined to be mitigated or avoided to a level below significance.

No subject areas were determined to be new significant environmental effects or to be previously identified effects that have a substantial increase in severity either due to a change in project, change in circumstances or new information of substantial importance.

Project Description:

The project proposes the construction/improvement of an existing unauthorized trail located within the County of San Diego's Tijuana River Valley Regional Park (TRVRP) (Exhibit 1). The trail segment will be approximately ¾ miles and will connect two trail loops – the Baseball Interpretive Loop and the Dairy Mart Ponds Loop (Exhibit 2). The proposed trail will be located along an existing unimproved path, which ranges in width from two to eight feet. The proposed trail will have a tread width of six feet and will use native soil. Aggregate base and decomposed granite will be utilized in areas prone to

erosion. The trail will generally follow the footprint of existing unauthorized trails. The project will formalize this trail segment as a non-motorized multi-use trail (pedestrian, equestrian and bicycle).

Discussion:

There are some changes and additions, which need to be included in an Addendum to the previously certified EIR to accurately cover the new project. The additions are underlined. The additions consist of the following:

1. To the Project Name add: Tijuana River Valley North East Trail Connection Project

2. To the first paragraph add: The Final EIR for this project is comprised of this form along with the following:

   a. Final EIR for the Tijuana River Valley Trails and Habitat Enhancement Project dated December 2006
   b. EIR Appendices labeled A-J
   c. An Addendum to the previously certified EIR dated September 6, 2011 for the TRVRP Baseball Interpretive Trail Loop

3. To the Required Mitigation Measures add as indicated: None.

4. To the Project Design Elements add as indicated: None.

5. The certified EIR for the project did not include a Greenhouse Gas (GHG) emission analysis which is now required by CEQA Guidelines per SB 97 (March 2010) requiring that the potential environmental effects of GHG emissions be addressed in CEQA documents. Amendments to the CEQA Guidelines also addressed forest resources as forest resources are directly linked to both GHG emissions and efforts to reduce those emissions. The GHG and forest resource analysis did not result in additional project mitigation measures. The additions to Chapter 4.0 – Effects Found Not to Be Significant consist of the following (shown in underline):

   4.3 Agricultural and Forestry Resources
   This section presents the existing agricultural and forestry resources present within the project area, a discussion of policies that regulate farmland, forest lands and timber land and an analysis of potential impacts to significant agricultural and forestry resources associated with the proposed project.

   Forestry resource impacts would be considered significant if the project would conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), or timberland (as defined by Public

Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) or result in the loss of forest land, conversion of forest land to non-forest use, or involve other changes in the existing environment, which, due to their location or nature, could result in conversion of forest land to non-forest use.

The project would not result in a significant impact as the project site does not contain forest lands, timberland, or any forest lands as defined in Public Resources Code section 12220(g). The project is not located in the vicinity of offsite forest resources. In addition, the project is consistent with existing zoning and a rezone of the property is not proposed. Therefore, project implementation would not conflict with existing zoning for, or cause rezoning of, forest land, timberland or timberland production zones.

4.5 Greenhouse Gas Emissions

Greenhouse Gas (GHG) emissions would be considered significant if project implementation would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG.

GHG Emissions are said to result in an increase in the earth's average surface temperature commonly referred to as global warming. This rise in global temperature is associated with long-term changes in precipitation, temperature, wind patterns, and other elements of the earth's climate system, known as climate change. These changes are now broadly attributed to GHG emissions, particularly those emissions that result from the human production and use of fossil fuels.

GHGs include carbon dioxide, methane, halocarbons (HFCs), and nitrous oxide, among others. Human induced GHG emissions are a result of energy production and consumption, and personal vehicle use, among other sources. A regional GHG inventory prepared for the San Diego Region[1] identified on-road transportation (cars and trucks) as the largest contributor of GHG emissions in the region, accounting for 46% of the total regional emissions. Electricity and natural gas combustion were the second (25%) and third (9%) largest regional contributors, respectively, to regional GHG emissions.

Climate changes resulting from GHG emissions could produce an array of adverse environmental impacts including water supply shortages, severe drought, increased flooding, sea level rise, air pollution from increased formation of ground level ozone and particulate matter, ecosystem changes, increased

[1] San Diego County Greenhouse Gas Inventory: An Analysis of Regional Emissions and Strategies to Achieve AB 32 Targets. University of San Diego and the Energy Policy Initiatives Center (EPIC), September 2008

wildfire risk, agricultural impacts, ocean and terrestrial species impacts, among other adverse effects.

In 2006, the State passed the Global Warming Solutions Act of 2006, commonly referred to as AB 32, which set the greenhouse gas emissions reduction goal for the State of California into law. The law requires that by 2020, State emissions must be reduced to 1990 levels by reducing greenhouse gas emissions from significant sources via regulation, market mechanisms, and other actions.

According to the San Diego County Greenhouse Gas Inventory (2008), the region must reduce its GHG emissions by 33 percent from "business-as-usual" emissions to achieve 1990 emissions levels by the year 2020. "Business-as-usual" refers to the 2020 emissions that would have occurred in the absence of the mandated reductions.

Senate Bill 375 (SB 375), passed in 2008, links transportation and land use planning with global warming. It requires the California Air Resources Board (ARB) to set regional targets for the purpose of reducing greenhouse gas emissions from passenger vehicles. Under this law, if regions develop integrated land use, housing and transportation plans that meet SB 375 targets, new projects in these regions can be relieved of certain review requirements under CEQA. Development of regional targets is underway and SANDAG is in the process of preparing the region's Sustainable Communities Strategy (SCS) which will be a new element of the 2050 Regional Transportation Plan (RTP). The strategy will identify how regional greenhouse gas reduction targets, as established by the ARB, will be achieved through development patterns, transportation infrastructure investments, and/or transportation measures or policies that are determined to be feasible.

In addressing the potential for a project to generate GHG emissions that would have a potentially significant cumulative effect on the environment, a 900 metric ton threshold was selected to identify those projects that would be required to calculate emissions and implement mitigation measures to reduce a potentially significant impact. The 900 metric ton screening threshold is based on a threshold included in the CAPCOA white paper[2] that covers methods for addressing greenhouse gas emissions under CEQA. The CAPCOA white paper references the 900 metric ton guideline as a conservative threshold for requiring further analysis and mitigation. The 900 metric ton threshold was based on a review of data from four diverse cities (Los Angeles in southern California and Pleasanton, Dublin, and Livermore in northern California) to identify the threshold that would capture at least 90% of the residential units or office space on the pending applications list. This threshold will require a substantial portion of future development to minimize GHG emissions to ensure implementation of AB 32

[2] See CAPCOA White Paper : "CEQA &Climate Change: *Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act* " January 2008 (http://www.capcoa.org/rokdownloads/CEQA/CAPCOA%20White%20Paper.pdf).

targets is not impeded. By ensuring that projects that generate more than 900 metric tons of GHG implement mitigation measures to reduce emissions, it is expected that a majority of future development will contribute to emission reduction goals that will assist the region in meeting its GHG reduction targets.

The TRVRP Trails and Habitat Enhancement project is for a regional park with active recreation, trails and restoration components. It is expected to generate less than 900 metric tons of GHG emissions based on estimates of GHG emissions for various project types included in the CAPCOA white paper[3]. Emissions from the project would only be associated with vehicle trips to and from the active recreation sites and staging areas for access to trails. No emissions would be associated with acquisition of land for preservation of resources. Therefore, the project will not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

In 2006, the State passed the Global Warming Solutions Act of 2006, commonly referred to as AB 32, which set the greenhouse gas emissions reduction goal for the State of California into law. The law requires that by 2020, State emissions must be reduced to 1990 levels by reducing greenhouse gas emissions from significant sources via regulation, market mechanisms, and other actions.

Senate Bill 375 (SB 375), passed in 2008, links transportation and land use planning with global warming. It requires the California Air Resources Board (ARB) to set regional targets for the purpose of reducing greenhouse gas emissions from passenger vehicles. Under this law, if regions develop integrated land use, housing and transportation plans that meet SB 375 targets, new projects in these regions can be relieved of certain review requirements under CEQA. Development of regional targets is underway and SANDAG is in the process of preparing the region's Sustainable Communities Strategy (SCS) which will be a new element of the 2050 Regional Transportation Plan (RTP). The strategy will identify how regional greenhouse gas reduction targets, as established by the ARB, will be achieved through development patterns, transportation infrastructure investments, and/or transportation measures or policies that are determined to be feasible.

To implement State mandates to address climate change in local land use planning, local land use jurisdictions are generally preparing GHG emission inventories and reduction plans and incorporating climate change policies into local General Plans to ensure development is guided by a land use plan that reduces GHG emissions. The County of San Diego has updated its General Plan and incorporated associated climate change policies. These policies provide

[3] 900 metric tons of GHG emissions are estimated to be generated by 50 Single Family Residential units, 70 apartments/condos, 35,000 sf of general commercial/office, 11,000 sf of retail, or 6,300 sf of supermarket/grocery space.

direction for individual development projects to reduce GHG emissions and help the County meet its GHG emission reduction targets.

Until local plans are developed to address greenhouse gas emissions, such as a local Sustainable Communities Strategy, the project is evaluated to determine whether it would impede the implementation of AB 32 GHG reduction targets. For the reasons discussed in the response to Guideline 1, the project would not impede the implementation of AB 32 reduction targets. Therefore, the project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Cumulative Impact Analysis

It should be noted that an individual project's GHG emissions will generally not result in direct impacts under CEQA, as the climate change issue is global in nature, however an individual project could be found to contribute to a potentially significant cumulative impact. CEQA Guidelines Section 15130(f) states that an EIR shall analyze greenhouse gas emissions resulting from a proposed project when the incremental contribution of those emissions may be cumulatively considerable.

The project is for a trail connection within a regional park with active recreation, trails and restoration components. It is expected to generate less than 900 metric tons of GHG emissions based on estimates of GHG emissions for various project types included in the CAPCOA white paper.

Emissions from the project would only be associated with vehicle trips to and from the active recreation sites and staging areas for access to trails. No emissions would be associated with acquisition of land for preservation of resources. The project's GHG emissions are found to have a less than cumulatively considerable contribution to GHG emissions because the project will generate less than 900 metric tons of GHGs.

Furthermore, projects that generate less than 900 metric tons of GHG will also participate in emission reductions because air emissions including GHGs are under the purview of CARB (or other regulatory agencies) and will be "regulated" either by CARB, the Federal Government, or other entities. For example, new vehicles will be subject to increased fuel economy standards and emission reductions[4], large and small appliances will be subject to more strict emissions standards, and energy delivered to consumers will increasingly come from

[4] On September 15, 2009, the United States Environmental Protection Agency (EPA) and the Department of Transportation's National Highway Safety Administration (NHTSA) proposed a national program to reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States. The proposed standards would cut CO_2 emissions by an estimated 950 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program.

renewable sources[5]. As a result, even the emissions that result from projects that produce less than 900 metric tons of GHG will be subject to emission reductions. Likewise, the project would also participate in the mandated emissions reductions through energy and resource use that is subject to emission reduction mandates beyond "business-as-usual."

Therefore, it is determined that the project would result in less than cumulatively considerable impacts associated with GHG emissions and no mitigation is required.

[5] California's Renewable Portfolio Standard (RPS) requires electric corporations to increase procurement from eligible renewable energy resources by at least 1% of their retail sales annually, until they reach 20% by 2010. In 2008, the governor signed Executive Order S-14-08 (EO) to streamline California's renewable energy project approval process and increase the state's Renewable Energy Standard to 33% renewable power by 2020. The Air Resources Board is in the process of developing regulations to implement the 33% standard known as the California Renewable Electricity Standard (RES).