**SAN DIEGUITO RIVER VALLEY REGIONAL OPEN SPACE PARK**
**JOINT POWERS AUTHORITY**
**18372 Sycamore Creek Road**
**Escondido, CA 92025**
**(858) 674-2270**

# INITIAL STUDY

## PROJECT NAME

SAN DIEGUITO RIVER PARK
LAKE HODGES PEDESTRIAN/BICYCLE BRIDGE

## PROJECT LOCATION

The project is generally located west of I-15, south of Via Rancho Parkway, and northwest of West Bernardo Drive in the City of San Diego's San Pasqual Valley Plan area (Figures 1 and 2).

## PURPOSE AND MAIN FEATURES OF THE PROPOSAL

### PROJECT SUMMARY

The San Dieguito River Park Joint Powers Authority (JPA) proposes to construct a 990-foot-long pedestrian/bicycle bridge and related trail connections across Lake Hodges linking the Lake Hodges North Shore Trail with the Bernardo Bay trail staging area and Piedras Pintadas Trail (Figures 1 and 2). The bridge would not accommodate equestrian use. The bridge is proposed approximately 1,000 feet west of Interstate 15 (I-15) as it passes over Lake Hodges in the San Pasqual Valley. The project site is located on land owned by the City of San Diego Water Department and within the San Dieguito River Park Focused Planning Area (FPA). The project currently under consideration is proposed in the *San Dieguito River Park Concept Plan* (1994). The bridge is also mentioned as a potential future project in the City of San Diego adopted *San Pasqual Valley Plan* (1995). In addition, the bridge is identified as a "Programmed Bikeway Project" Class I bicycle transportation facility in the City's Bicycle Master Plan (2002). The project would be constructed by the JPA with funds from the Federal Highway Administration Transportation Enhancement Activity (TEA) grant administered by the California Department of Transportation, District 11.

The 12-foot wide bridge (14-feet wide outside dimension) is proposed as a "stress ribbon" design with two piers in the lake with concrete abutments at either end. The bridge would be constructed by a series of pre-cast concrete panels that would be strung on cables anchored into the two bridge abutments. The bridge platform would be supported by two piers in the lake. The bridge would broaden at each pier to create two 24-foot wide belvederes for interpretive displays and bench seating. Two seating areas overlooking the lake would also be installed at the north and south ends.

On the north side of the lake, the North Shore Trail would be realigned slightly to accommodate the bridge abutment. Approximately 400 linear feet of the trail would be resurfaced with a non-permeable polymer binder mixed with decomposed granite to create an 8-foot-wide smooth hardened surface for bicycles and wheelchairs. Also, the 150 feet of trail that follows the alignment of old Highway 395 would be repaired with asphalt patches and/or new asphalt, depending on the current level of asphalt deterioration, to create a smooth riding surface for bicycles and retain the historic highway alignment.

As a second phase of the project, a 2,600 linear foot Class I bike path and trail connection would be constructed from the southern bridge abutment along the shoulder of West Bernardo Drive to the Bernardo Bay trail staging area and the Rancho Bernardo Community Park. A 690-foot section of the Class I bike path would cantilever over the lakeshore on a concrete slab transitioning to the bike path along West Bernardo Drive. Adjacent to West Bernardo Drive, the bike path surface would transition from concrete to non-permeable polymer binder mixed with decomposed granite to create a natural looking, smooth riding surface for bicycles. The project would follow along the west side of the Bernardo Bay trail staging area and then rejoin with the West Bernardo Drive roadway right-of-way to terminate at the Rancho Bernardo Community Park intersection.

**PURPOSE AND NEED**

Currently there is no non-vehicular north/south crossing over the San Dieguito River Valley east of Via de Santa Fe in Fairbanks Ranch for a distance of 19 miles, with the exception of the Interstate 15 freeway bridge. The freeway bridge does provide access for bicyclists in order to cross the lake; however, this route is not desirable for average or novice cyclists, recreational riders or families with children.

The lack of a crossing for most people effectively divides the non-motorized community into the north and south sides of the lake. The communities of Rancho Bernardo on the south side of the valley and Escondido on the north side are major urban areas with shopping and office complexes, schools and cultural facilities in close proximity. Both of these areas have a network of bicycle lanes on the roads that abut Lake Hodges. Given the residential and employment centers in each community, the potential for commuting is high, but many potential new commuters are inhibited from initiating this activity on the freeway for safety reasons. The freeway is also not a positive recreational option.

In addition, there are recreational trails on both sides of Lake Hodges that are open to bicyclists and pedestrians. However, the only way to access these trails on the opposite side of the lake is to use I-15. Several popular recreational facilities such as the Hodges North Shore Trail (a segment of the planned 55-mile long Coast to Crest Trail), the Lake Hodges boat dock, and the restored Sikes Adobe Farmhouse are on the north side of the lake. The south side includes the Piedras Pintadas Interpretive Trail, Rancho Bernardo Community Park, and the Bernardo Bay Natural Area. Other facilities also exist within a 0.5-mile radius of I-15 including North County Fair (a regional shopping center), schools, parks, additional trials, and a retirement complex.

The primary purpose of the proposed Lake Hodges Bicycle/Pedestrian Bridge is to provide bicyclists and pedestrians a safe, direct and desirable commuting and recreational route for crossing Lake Hodges and the San Dieguito River Valley and to provide recreational users access to the network of trails on both sides of the lake without using an automobile. The Lake Hodges area, which was designated in 1999 as a Globally Important Bird Area by the National Audobon Society, is heavily

used by the recreating public. The Sunset Drive trail staging area, just east of I-15, receives approximately 300 visitors per day on a typical weekend.

The primary trail that the Lake Hodges Bridge will access is the Hodges North Shore Trail (a segment of the planned Coast to Crest Trail), which exists along the entire north shore of Lake Hodges. The North Shore Trail travels approximately 7 miles west of the proposed northern Bridge abutment and continues past the proposed bridge site for another approximately 10.5 miles to the east through San Pasqual Valley for a total trail length of approximately 17.5 miles. The planned Coast to Crest Trail, which is a regional multi-use trail, will eventually be extended for a total of 55 miles from the beach in Del Mar to Volcan Mountain, and will connect with other major trails such as the Coastal Rail Trail. The Lake Hodges Bridge will provide direct access for pedestrians and bicyclists to the planned Coast to Crest Trail from the south side of the lake. The Lake Hodges Bridge will also provide direct access to the Piedras Pintadas loop trail on the south side of Lake Hodges and Rancho Bernardo Community Park via the proposed bike path along West Bernardo Drive. For bicycle commuters the Bridge will connect directly to West Bernardo Drive on the south side and Sunset Drive on the north side of the lake via the Hodges North Shore Trail. No horses would be allowed on the Bridge. Although equestrians are a permitted user on the Coast to Crest Trail, no equestrian facilities exist on the south side of the lake nor are horses permitted on the Piedras Pintadas Trail.

Currently, bike lanes (painted lanes) exist along the shoulder of West Bernardo Drive. The proposed bridge would add a physically separated bike path along West Bernardo Drive as a transportation and recreational amenity.

**PROJECT OBJECTIVES**

The objectives of the proposed project are to:

- Provide a direct north/south pedestrian/bicycle crossing over Lake Hodges as an alternative to I-15 for bicycle commuters and recreational users.
- Expand opportunities for bicycle commuting.
- Provide direct pedestrian/bicycle access from the south side of Lake Hodges to the planned Coast to Crest Trail, which is on the north side of the lake.
- Be sensitive to aesthetic, environmental, and visual considerations and to a landmark location in a park setting.
- Provide a desirable commuting and recreational experience.
- Minimize impacts to biological and cultural resources.
- Allow for viewing opportunities and interpretation from the bridge.

## ENVIRONMENTAL SETTING

The proposed bridge would cross Lake Hodges, a potable water reservoir owned and operated by the City of San Diego Water Department. Currently the Santa Fe Irrigation District purchases Hodges Reservoir water from the City of San Diego to serve the communities of Solana Beach, Rancho Santa Fe, Encinitas and Carlsbad under an agreement with the City. The reservoir and surrounds are mostly undeveloped with the exception of I-15, which crosses the lake in a north/south direction, and residential homes on some of the surrounding hillsides. Steep undeveloped hillsides form the valley basin at the eastern extreme of the lake, which then broadens east of I-15 at the foot of San Pasqual Valley, an agricultural preserve. Lake Hodges is 1,234 surface acres in size and follows the topographic bends in the river valley, therefore only the eastern end of the lake is visible from the project area.

The lake is often dry at the eastern end where the project is proposed. The lake relies solely on rainfall and as of January 2005, the lake was at an elevation of 285 feet (29 percent full) after several years of drought. Over the past two years large willow trees have grown in the lakebed. At the project site, some of the trees reach 20 to 30 feet tall. Historically, the lake has filled about every five to ten years depending on rainfall. The eastern end of the lake contains over 15 feet of water when the lake is at capacity (or spilling over the dam), which last occurred in 1995. During high lake levels the water level extends east of I-15. Although not often full, the lake frequently has standing water at the eastern end during the rainy season. This situation is expected to change this decade as the County Water Authority's Emergency Storage Project (ESP) comes on line (estimated to be in 2008). Already being implemented with the recently completed Olivenhain Reservoir, the Emergency Storage Project will maintain the water level of Lake Hodges at a consistent level of between 296 feet and 311 feet by transferring water between Hodges and Olivenhain reservoirs via a new pipeline. With the ESP, the eastern end of Lake Hodges will contain water much of the year.

In 1999, the lake was designated a Globally Important Birding Area by the National Audubon Society. It is home to many species of waterfowl as well as foraging habitat for many other bird species. The surrounding coastal sage scrub is also habitat for many sensitive bird species most notably the California gnatcatcher and golden eagle.

### Recreational Opportunities

The lake and surrounding area is heavily used as a recreational resource with several trails around the lakeshore. The San Dieguito River Park's Hodges North Shore Trail is an existing segment of the planned 55-mile long multi-use non-motorized Coast to Crest Trail. The planned Coast to Crest Trail will accommodate hikers, bicyclists and equestrians, and will start at the ocean in Del Mar and end at Volcan Mountain. The 7-mile long North Shore Trail follows the north lakeshore from the Hodges Dam to just east of I-15. The trail crosses under I-15 on a concrete underpass and then connects to the 10-mile long Mule Hill/San Pasqual Trail segment at the Sunset Drive trail staging area located on the east side of I-15. These two trail segments represent about 17 miles of the planned Coast to Crest Trail.

The San Dieguito River Park's Piedras Pintadas Interpretive Trail exists on the south side of the lake starting at the Bernardo Bay Natural Area trail staging area off of West Bernardo Drive. The Piedras Pintadas Trail is not part of the planned Coast to Crest Trail and accommodates hikers and bicyclists. Horses are not permitted on this trail.

Besides trails, the lake itself is open to boating and fishing. A boat dock, concessionaire and other facilities are available and heavily used. Boats include small, motorized fishing boats, kayaks and sailboards.

**Project Site**

The north end of the bridge is proposed on the north shore of the lake adjacent to the North Shore Trail. Part of the North Shore Trail follows asphalt paving that is part of the alignment of the old Highway 395, which was later replaced by I-15. Other remnants of the highway can be seen such as rip-rap along the lake bank and highway posts along the trail. The surrounding area is heavily vegetated with native coastal sage scrub and wetland species along the shoreline.

The south shore just west of the freeway bridge is a steep slope currently covered with willow trees and other vegetation. The shoulder of West Bernardo Drive is at the top of the slope. The proposed bridge abutment on the southern lakeshore is across from a freeway on/off ramp at West Bernardo Drive and I-15. West Bernardo Drive crosses over I-15 and continues in an easterly direction becoming Pomerado Road. West of I-15, West Bernardo Drive follows the lakeshore for a short distance and then continues up a steep grade in a southerly direction. As the road travels up the grade, the dirt shoulder becomes wider and is heavily eroded and rutted from runoff. A dirt path exists along a portion of the roadway shoulder, which eventually connects to the Bernardo Bay trail staging area.

## PROJECT BACKGROUND

The Lake Hodges Bicycle/Pedestrian Bridge is a component of the San Dieguito River Park's overall proposed trail network. The trail network includes the 55-mile-long, multi-use planned Coast to Crest Trail, trail connections to points of interest and spur trails in some areas. The Bridge project is incorporated into the *San Dieguito River Park Concept Plan* (1994; updated 2002), the guiding planning document for the River Park. The bridge is also mentioned as a potential future project in the City of San Diego adopted *San Pasqual Valley Plan* (1995). In addition, the bridge is identified as a "Programmed Bikeway Project" Class I bicycle transportation facility in the City's *Bicycle Master Plan* (2002). The Bridge is in SANDAG's 2020 *Regional Transportation Plan* (RTP).

As part of the preliminary planning done for the River Park's trail network, several alternative bridge alignments were evaluated by the JPA to determine which alignments would minimize environmental impacts and best serve its users. Technical reports that evaluated the various alternatives are available at San Dieguito River Park offices. The JPA began formally studying the feasibility of a bicycle bridge over Lake Hodges in 1991 when they commissioned a feasibility study (BHA 1991). The 1991 study evaluated several bridge crossings as well as a berm across the lake. Based on cost, environmental, and maintenance factors a berm across Lake Hodges was not considered feasible. In addition, the 1991 study addressed a separate lane on I-15 to accommodate the bicycle crossing; however, based on consultation with the Department of Transportation, the lane would have to be designed for vehicular loads, not bicycle/pedestrian loads, which made the alternative infeasible from a cost perspective.

In 1993, the JPA conducted another study to further assess bridge locations and styles considering constructability, environmental impacts, connectivity, and administrative issues (BRW 1993). Six bridge alignments were evaluated and ranked in that study. Three alternative alignments ranked higher in preference than the others including an alignment similar to that presented in this Initial

Study. The alignments that ranked lower using the assessment criteria were eliminated from further study. At that time, the River Park began soliciting funding to design and construct the bridge. Funding was secured in 1999 from a state-share Federal Highway Administration Transportation Enhancement Activity (TEA) grant administered by the Department of Transportation.

After funding for the project was secured, the JPA conducted a more focused alternatives analysis in 2001 reassessing three alternative bridge alignments previously studied based on a set of criteria that included cost, potential environmental impacts, constructability, and connectivity (Kimley-Horn and Associates 2001) (Figure 9). Alignments for the proposed project were selected using the site selection criteria established by the *San Dieguito River Park Concept Plan* and Concept Plan Program EIR.

In 2002, the JPA conducted additional analysis to address design features for the Bridge. Three different design styles were assessed and the stress ribbon bridge type was selected as the preferred bridge design based on the report findings and public input (T.Y. Lin 2002). All the studies mentioned above are available for review at the JPA offices.

## PROPOSED BRIDGE AND TRAIL IMPROVEMENTS

The following description of project features addresses the bridge structure, abutments and trail connections proposed as part of the project. The description is based on design drawings prepared by T.Y. Lin International (2003). The project footprint is approximately two acres, which includes both permanent and temporary construction areas (Figure 2). The total project would involve 254 cubic yards (cy) of cut and 2,708 cy of fill as quantified in Table 1.

**Table 1**
**PROJECT GRADING BREAKDOWN**
**(cubic yards (cy))**

| Project Component | Cut | Fill |
|---|---|---|
| Bridge Structure | -- | -- |
| Hodges North Shore Trail Realignment | 2 cy | 159 cy |
| South Shore Viaduct and Trail | 72 cy | 416 cy |
| Rock Slope Protection (rip-rap)* | -- | 1,863 cy |
| South Bike Path Extension | 180 cy | 270 cy |
| **TOTAL GRADING AMOUNTS** | 254 cy | 2,708 cy |

*RSP at both north and south abutments.

### Bridge Structure

The bridge would be approximately 990 feet long with two support piers situated in the lake. Each pier would rest on a 19-foot by 24-foot footing supported by 20 drilled, pre-cast, pre-stressed concrete piles that would be fabricated off-site and positioned in the lake by a crane (Figure 3). The piles and footings would be buried below the existing grade of the lakebed bottom. The proposed bridge type, called a "stress ribbon" design, would consist of a series of precast concrete panels strung along cables extended across the lake. The cables would be anchored into each abutment using rock anchors and

"stressed" with tension at each abutment to create a rigid, continuous bridge platform. Each of the 87 concrete panels to be strung on the cables would be 14 feet wide by 10 feet long by 1 foot 4 inches thick. Once assembled, the concrete panels would produce a thin bridge profile when viewed from the side (Figures 3 and 4). A top coat would be applied with a slightly rough finish to prevent slippage. All concrete work would be stained an earth tone color to blend with the surrounding landscape.

The bridge height above the water level would vary across each segment of the structure with minimum vertical clearances of 10.5 to 17.9 feet above the lake surface when the lake is full at 315 feet above mean sea level (MSL). The bridge height would allow fishing boat traffic to travel underneath the Bridge around the piers. The lowest chord of the Bridge (i.e., the lowest point of the Bridge, located at the midpoint of the north-most span) provides approximately 0.5 feet of clearance over the 50-year flood elevation and is approximately at the 100-year flood elevation of 325.8 feet. The bridge would range from 26 to 36 feet above the lake bottom.

The bridge inside travel width would be 12 feet with a total outside dimension of 14 feet, including railings. The bridge would broaden at each pier creating two 24-foot wide belvederes to accommodate interpretive displays and bench seating overlooking the lake (Figure 4). Rustic materials, such as rock, wood and metal, would be used for many of the displays and benches, to the extent feasible. A 4-foot, 6-inch high steel cable railing would be placed on both sides of the bridge platform. Vertical steel cables would be spaced 4 inches apart along the railing to meet state safety codes and to discourage climbing of the railings. The steel cables are proposed to minimize the visibility of the railing and allow for viewing opportunities from the bridge and belvederes. Earth tones would be used on all concrete surfaces and no reflective materials are proposed. The bridge would be used by pedestrians and bicyclists, no equestrian uses would be allowed.

The bridge travel surface would be illuminated for safety purposes with low-level recessed lights incorporated into the lower portion of the railing posts. The lights would be at a ½ foot-candle, which is the minimum illumination recommended by the Illuminating Engineering Society for this type of bicycle facility. The light fixtures would be covered by aluminum louvers and staggered along the bridge length (every ten feet on opposite sides of the railing). The trails leading to each end of the bridge would not be lit.

**Northern Bridge Abutment and Trail Connection**

Access to the bridge from the north would be via the Hodges North Shore Trail. The proposed bridge's northern abutment would connect directly to the trail approximately 1,000 feet west of I-15. The north abutment would be a below-grade concrete structure approximately 31- by 36-feet in size. Permanent below-grade rock anchors would be installed to secure the abutment and bridge cables structurally. Riprap would be placed down slope of the abutment at the toe of the lakeshore to provide scour protection. The north end of the bridge would include a seating/interpretation area on the southeast side of the bridge/trail transition. A wing wall and cast-in-place retaining wall from the bridge structure (19 feet long by a maximum of 5 foot above grade) would create the interpretive/seating area along the north shore as a transition to the North Shore Trail (Figure 5). All concrete work would be stained an earth tone color.

To make the connection to the northern bridge abutment, about 400 linear feet of the North Shore Trail would be realigned slightly to the north to create a smooth transition from the trail onto the bridge (Figure 5). The trail realignment would require 2 cy of cut and 159 cy of fill.

In addition to the trail realignment, a portion of the North Shore Trail would be resurfaced. A portion of the existing trail follows an abandoned section of old Highway 395, which was replaced by the I-15 freeway. This 150-foot long section of trail consists of old asphalt paving that is in various stages of deterioration. Some of the asphalt is in good condition while other portions are broken up or completely deteriorated and would require some improvements to create an 8-foot wide smooth riding surface for bicyclists and wheelchairs. The intent would be to retain as much of the old Highway 395 paving as possible for historic interpretation. Therefore, rather than completely resurfacing the trail, potholes would be filled in with asphalt to match the existing asphalt. Areas where the asphalt is completely deteriorated would be resurfaced with new asphalt. Once the North Shore Trail leaves the old Highway 395 alignment, a 250-foot long section of dirt trail surface would be resurfaced using a non-permeable, polymer binder mixed with decomposed granite to create a continuous 8-foot wide smooth hardened surface for bicycles leading to the bridge.

**Southern Bridge Abutment**

The southern bridge abutment would be located adjacent to West Bernardo Drive across from the intersection with the I-15 freeway on-ramp. The below-grade bridge abutment would be approximately 26 feet long by 31 feet wide and about 10 feet deep and located at or above the 318-foot contour elevation. A total of four 9-foot diameter shafts would be drilled into the soil below grade to structurally support the abutment and cables. The bridge abutment would connect to the proposed Class I bike path to be constructed along West Bernardo Drive. Riprap would be installed down slope of the abutment at the toe of the lakeshore to protect the structure from scour. Figure 6 provides an illustration of the proposed southern bridge abutment and associated trail improvements.

A signalized intersection at the I-15/West Bernardo Drive freeway on-ramp is to be installed by Caltrans as part of their I-15 Managed Lanes Project. The proposed bridge would take advantage of the signal and provide a controlled crossing for road cyclists that want to transition from the bridge to the road network. The JPA and Caltrans have coordinated the two projects so that the Class I bike path to be constructed as part of the Pomerado/West Bernardo Drive freeway overcrossing would also connect directly to the San Dieguito River Park Bridge bike path on West Bernardo Drive.

**Class I Bike Path/Cantilever**

As phase two of the project, a Class I bike path consisting of an 8-foot wide bicycle path with 2-foot wide shoulders on each side would be constructed from the southern bridge abutment southwestward, along the northwest shoulder of West Bernardo Drive, connecting to the Bernardo Bay staging area and terminating at the Rancho Bernardo Community Park intersection for a total distance of 2,600 feet (Figure 7). The first 690 linear feet of the bike path along the lakeshore would be placed on a concrete slab cantilevered over the lakeshore and supported by a series of 18-inch diameter pre-cast concrete piles at 15 feet on center (i.e., approximately 48 piles total). The cantilevered structure or viaduct would extend approximately six feet beyond the lakeshore, partially hiding the piles from view and providing seating opportunities for trail users (Figure 7). The existing slope along the lakeshore would be planted with native willows in front of the concrete piles to further screen them from view. The existing slope along the lake side of West Bernardo Drive is made of engineered fill that was

placed there when West Bernardo Drive was constructed. The existing slope is unstable and would need to be stabilized prior to the cantilevered bike path being installed (see the Geology/Soils section of this IS for more explanation).

Beyond the lakeshore, the bike path surface would transition from concrete to a non-permeable polymer binder mixed with decomposed granite to create a smooth hardened surface for a distance of 1,060 feet to the Bernardo Bay staging area (Figure 2). The bike path would then travel along the western side of the staging area and connect back to the shoulder of West Bernardo Drive and terminate at the intersection at Rancho Bernardo Community Park. The Class I bike path alignment would be constructed at grade although some fill would be necessary to create a flat path. The bike path would be located entirely on the lake side of the existing roadway guardrail and would not require reducing the West Bernardo Drive travel lanes. The bike path would include a 4-foot, 6-inch high cable railing similar to the bridge railing on the lakeside of the bike path and a 4-foot, 6-inch high pipe railing along the edge near West Bernardo Drive. At its closest point, the pipe railing would be located about 3 inches away from the existing guard rail along West Bernardo Drive and would provide an additional barrier between the pathway users and vehicles. An 18-inch wide by 6-inch deep gravel drainage channel would also be constructed adjacent to the bike path to convey storm water. The channel would join an existing drainage ditch that drains into Lake Hodges. The gravel drainage channel would improve the existing condition along the shoulder of West Bernardo Drive, which is heavily eroded.

### Landscaping/Interpretive Component

All areas disturbed by the proposed project would be revegetated using native species compatible with existing plant communities in the project area. The majority of the landscaping would be hand planted coastal sage scrub and southern willow scrub species and hydroseeding (Spurlock Poirier 2003, HELIX 2004). Interpretive signage and seating areas would be incorporated into the bridge project in four places: at the two abutments and at each of the two bridge belvederes.

Safety and trail information signage would be posted at either end of the bridge to outline the rules and regulations of bridge usage. Motorized vehicles, horses and fishing would be prohibited from the bridge.

## PROJECT/CONSTRUCTION PHASING

Construction of the bridge structure would take approximately eight months to complete, and the northern trail realignment and resurfacing would require approximately three months. These times are based on a consecutive work period assuming that Lake Hodges is in a dry condition. Work would be done concurrently, to the extent feasible. The proposed bridge is expected to be constructed between September 2005 and March 2006 during the non-breeding season for the least Bell's vireo and California gnatcatcher (mid-September to March). The bridge would be opened for public use by Spring 2006. Construction of the south cantilevered structure and Class I bike path would take approximately five months anticipated to be between October 2006 and February 2007. Therefore, the bridge would function without the bike path along West Bernardo Drive for at least 7 months (i.e., between March and October 2006). During this time period, users would travel in the existing West Bernardo Drive bike lane to access the Bernardo Bay trial staging area or other destinations from the Bridge.

## CONSTRUCTION STEPS AND METHODS

The project construction operation would generally consist of the following activities in sequential order:

1. Construction of the temporary construction access road
2. Geotechnical borings in lakebed
3. Excavating the abutments
4. Construction of the abutments
5. Construction of the piers
6. Assembly of the bridge superstructure
7. Realignment of the northern trail
8. Construction of the south bike path cantilever
9. Construction of the south bike path

Table 2 lists each construction operation step and the approximate construction period.

**Table 2**
**CONSTRUCTION TIME TABLE**

| CONSTRUCTION OPERATION | APPROXIMATE TIME PERIOD |
|---|---|
| • Establish construction access road in lakebed<br>• Geotechnical borings in lakebed<br>• Excavate abutments<br>• Excavate pier footings | September – October 2005 |
| • Drill abutment 1 foundation piles<br>• Drill abutment rock anchor cores<br>• Drive pier foundation piles | November – December 2005 |
| • Construct abutment 1 and 4 | January 2006 |
| • Stress rock anchors<br>• Construct pier walls<br>• Backfill pier footings | February 2006 |
| • String prestress cables<br>• Backfill abutment slopes<br>• Place deck panels<br>• Construct cast-in-place segments<br>• Place rip rap<br>• Remove access road<br>• Stress bridge structure<br>• Place curbs and railing<br>• Resurface North Shore Trail | March 2006 |

| Table 2 (cont.) | |
|---|---|
| **CONSTRUCTION OPERATION** | **APPROXIMATE TIME PERIOD** |
| • Construct south bike path cantilever | October – December 2006 or later depending on funding |
| • Construct south bike path | January/February 2007 or later depending on funding |

**CONSTRUCTION STAGING/ACCESS**

Two construction staging areas would be needed for the project (identified as Staging Area 1 and 2 on Figure 2). A portion of the Bernardo Bay staging area would be used for construction staging on the south side of the project (i.e. Staging Area 2). Up to 0.5-acre of the existing 0.75-acre parking area would be temporarily closed for a total of approximately 13 months during construction. Construction staging on the north side would occur at an existing 0.4-acre area located adjacent to the North Shore Trail (i.e. Staging Area 1). The northern staging area would have direct access from I-15 via an existing gated entry south of the Via Rancho parkway on-ramp. These staging areas would be fenced and used to store construction vehicles, equipment and materials.

A temporary construction access road is also proposed to enable heavy construction vehicles to ascend the steep slope of the southern lakeshore from West Bernardo Drive and access the construction site in Lake Hodges. The access road would be 12 feet wide with a gravel surface along the lakeshore and would widen to 24 feet as it enters the lakebed. The access road would extend from the southern lakeshore to the southern bridge pier for a total of approximately 700 feet. Once bridge construction is complete, the access road would be removed, the ground would be restored to its original grade, and the disturbed areas would be planted with native vegetation.

**TRAFFIC MANAGEMENT/TRAIL DETOUR**

During project construction of the travel lanes of West Bernardo Drive would be temporarily reduced to approximately 11 feet wide (from an existing 12 foot width) and shifted slightly to the south (by temporary street restriping) to provide enough room to construct the southern abutment and bicycle path along West Bernardo Drive. Two-way traffic would be maintained at all times. Once the project construction is complete, the roadway would be restriped and restored to its original condition.

During construction of the northern trail realignment and bridge, part of the North Shore Trail would be used for construction access from the freeway undercrossing to the north bridge abutment. A trail detour would be used to minimize disruptions in trail traffic (Figure 8). The detour trail is an existing dirt path that travels up the slope from the North Shore Trail and connects to the North Shore Trail at both ends. The width is adequate to accommodate the rerouted trail users and no improvements to the detour trail are proposed. Use of this detour trail route would not involve disturbance of previously undisturbed areas.

**LONG-TERM MAINTENANCE**

Long-term maintenance of the project would be done by the JPA. The JPA staff includes full-time park rangers and a resources manager who, among other duties, maintain all of the San Dieguito River Park trails. Maintenance would include regular sweeping, litter control and removal of pet waste, as necessary. Trash receptacles would be located at both bridge ends. Dog manure bags are provided at the two trail heads in the vicinity of the proposed bridge (Sunset Drive and Bernardo Bay trail staging areas), so pet waste is expected to be minimal. Other maintenance activities would include repairing or replacing damaged or worn signs, fencing, benches and other structures, and maintenance and monitoring of the revegetation sites. Regular trail patrols would also occur along the bridge by the JPA park rangers and the JPA's volunteer trail patrol program.

## ENVIRONMENTAL ANALYSIS

See discussion below and attached Initial Study Checklist.

## DISCUSSION OF ENVIRONMENTAL IMPACTS

The following issues required additional evaluation during the Initial Study process:

**LAND USE**

**Existing Conditions**

The proposed project is located within the San Pasqual Valley community planning area and the San Dieguito River Park Focused Planning Area (FPA) on land owned by the City of San Diego. The area is in the Open Space and Hodges Reservoir land use designations per the *San Pasqual Valley Plan* (1995). The site is directly adjacent to I-15 and Lake Hodges, in the central portion of San Diego County. The site is zoned AR-1-1 (Agricultural Residential).

Current uses include Lake Hodges, a potable water reservoir owned and managed by the City of San Diego Water Department. Lake Hodges and the surrounding area is also a regional recreational resource and includes boating and fishing activities on the lake itself and a network of trails around the lake. The I-15 freeway, a major north-south transportation corridor, is located approximately 600 to 1,000 feet east of the project site. A limited number of single-family residences lie on the northern slope ridges above the project in the City of Escondido. The Casa de las Campanas retirement complex lies on the ridgeline to the south above the lake in Rancho Bernardo. The Rancho Bernardo Community Center is located on West Bernardo Drive adjacent to the Bernardo Bay trail staging area.

The project area is considered to be of high scenic value. The scenic attributes include Lake Hodges and undeveloped steep slopes on the north and south sides of the lake, which are all within the San Dieguito River Park Focused Planning Area. Lake Hodges is designated a Globally Important Bird Area by the National Audubon Society and American Bird Conservancy. The area surrounding the lake contains habitat for many sensitive birds and animals. The entire lake and surrounding area is within the City's MHPA (see Biological Resources section). Interstate 15 is also designated a scenic highway in the City of San Diego Progress Guide and General Plan.

The 7-mile long Lake Hodges North Shore segment of the San Dieguito River Park's planned Coast to Crest Trail travels along the north shore of Lake Hodges from the Hodges dam to I-15. This regional trail continues eastward from I-15 for another 10.5 miles through the San Pasqual Valley. The Bernardo Bay Natural Area also exists on the lake's southern shore just west of I-15 and includes the San Dieguito River Park's Piedras Pintadas Trail. West Bernardo Drive exists as a two-lane roadway along a short stretch of the southern lakeshore and then veers south into Rancho Bernardo.

**Impacts**

**Land Use and Community Plans**

The project is a park proposal in the *San Dieguito River Park Concept Plan* and is identified as a future project in the City of San Diego's *San Pasqual Valley Plan* (1995) and would not conflict with these plans. In addition, the bridge is identified as a "top priority" Class I bicycle transportation facility in the City's *Bicycle Master Plan* (City of San Diego 2002). The project is also consistent with City of San Diego's *Multiple Species Conservation Plan* (MSCP) (see Table 3-4 in Section 3.1).

West Bernardo Drive is designated as a 4-Lane Major roadway according to the *Rancho Bernardo Community Plan*, which proposes that the roadway be widened from 2 lanes to 4 lanes between Andanza Way and I-15. The proposed project is not in conflict with the *Rancho Bernardo Community Plan* regarding the future widening of West Bernardo Road. According to the City's Draft Facilities Financing Program, this section of West Bernardo Drive is identified as an engineering and capital project (#31-2). The City's Draft FFP identifies a widening project in three phases, the first of which was already completed. The second phase is to improve the road to a 2-lane collector in 2008. The third phase is to widen the roadway to a 4-lane major street "when funding becomes available", projected to cost $21.45 million. According to City planning staff, there are no funds, proposed development plans, or a timeline for the 4-lane widening project.

The proposed project would not preclude/prevent the widening of West Bernardo Drive in the future. As the lease holder for the proposed project, the City would retain the ability to use the road right-of-way in the future. The bike path portion of the proposed project would be along the lakeside of West Bernardo Drive, cantilevering over the lakeshore, and along the shoulder of the West Bernardo Drive right-of-way. If the roadway is widened in the future, there is the possibility that a portion of the cantilever or bike path may have to relocated or reconfigured to accommodate a widening. It is also possible that no relocation would be required. According to City staff, there are options to widen the roadway on the other side where no development exists. However, because roadway widening construction plans are not available at this time and the timeline is not known, environmental impacts and costs that might be associated with relocation of the cantilever or bike path are speculative and cannot be determined at this time. Accordingly, the proposed project would not be in conflict with the *Rancho Bernardo Community Plan*. Per Section 15145 of the CEQA Guidelines, when a particular impact is too speculative for evaluation it need not be included in the environmental analysis. A separate CEQA document for the roadway widening project would need to be done at the time it is a defined proposed project

**Existing Land Uses**

The proposed project would not change or conflict with any land uses within the project area. The project would not impact water quality or the use of Lake Hodges as a potable water source. Water

quality issues are discussed in detail elsewhere in this document. The project use would add a public recreational resource within a regional park area and improve public access to the surrounding recreational facilities. The use of Lake Hodges for boating and fishing would not be affected by the project. Boats would be able to pass under the bridge in several places, if desired. The low cord of the bridge (the lowest point) is 325.5 feet. When the lake is at full capacity at 315 feet, there would be a minimum clearance of 10.5 feet for the entire length of the bridge and a maximum clearance of 17.9 feet around the southern pier (Pier 2). This clearance would be adequate for boats using Lake Hodges to pass under. Fishing would not be permitted from the bridge.

The construction of the bridge would not seriously impact trail users. A detour trail would be provided so that the North Shore Trail remains accessible during construction (detour route is described in the project description section). Any temporary inconvenience to trail users would be offset by the increase in recreational use and enjoyment from completion of the proposed project. Although ¾ of the Bernardo Bay trail staging area would be temporarily used for project construction staging, this parking lot is not heavily used and additional nearby parking exists at the Rancho Bernardo Community Park.

**San Dieguito River Park Concept Plan**

The Final Program EIR for the *San Dieguito River Park Concept Plan* identifies measures that are to be followed when siting new park facilities. The measures that have been incorporated into the proposed bridge project design include:

- Site or trail alignment selection shall take into consideration other uses, such as residential development, agricultural activities, and roadways, that may be present in the general vicinity of a project site or are planned for the area in adopted land use plans. Adequate separation, to be determined on a case-by-case basis, shall be provided between such uses in order to minimize compatibility issues. Separation can be achieved in the form of setbacks or through effective use of the existing site conditions such as elevational differences or vegetative screening.

- The use of night lighting should be limited to that required for safety purposes.

- Major trail entry points shall have signs providing information regarding trail rules and regulations. Consideration should be given on a case-by-case basis to include the following regulations: hours of use; keeping dogs on leashes at all times; no alcoholic beverages on the trail; no smoking; and fire hazard potential. Signs should state that no motorized or off-road vehicles are permitted. Signs should indicate that trails are subject to closure due to fire hazard, flooding, etc. Rules of etiquette for priority right of way when difference types of park users share the trail should be provide as appropriate.

No significant land use impacts would be caused by the project.

**Mitigation Measures**

The project would not cause any land use impacts; thus, no additional site-specific measures are needed.

## VISUAL/AESTHETICS

The visual quality impacts of the proposed bridge have previously been evaluated in Section IV.G of the Final Program EIR for the San Dieguito River Park Concept Plan (San Dieguito River Park Joint Powers Authority 1993). The program analysis concluded that the visual impacts of the bridge would be considered potentially significant until more detailed project information regarding the design is made available. Adherence to the Design and Development Standards contained in the Concept Plan would reduce the impacts to below a level of significance.

### Existing Conditions

The project is located within an area considered to be of high scenic value. The scenic attributes include Lake Hodges and undeveloped steep slopes on the north and south sides of the lake, which are all within the San Dieguito River Park Focused Planning Area. The area surrounding the lake contains habitat for many sensitive birds and animals. Lake Hodges is designated a Globally Important Bird Area by the National Audubon Society and American Bird Conservancy and the surrounding land is designated cornerstone preserve land in the City's MSCP. The I-15 Bridge and several roadways east of I-15 are recommended for scenic route designation in the City of San Diego's *Progress Guide and General Plan*. The area is heavily used as a regional recreational resource.

The reservoir and land immediately surrounding it is owned by the City of San Diego Water Department for watershed protection ~~and is unlikely to ever be developed~~. Interstate 15, which travels north/south over Lake Hodges is the only ~~intrusion~~ predominant urban feature in~~to~~ this scenic area and offers views of the area. Scenic vistas can also be seen from the Lake Hodges North Shore trail segment of the San Dieguito River Park Coast to Crest Trail. In addition, the area is part of the visual setting for approximately 20 homes that exist on hills to the north of Lake Hodges and from a retirement complex on the south side of the lake.
The eastern end of Lake Hodges is probably seen by more residents of San Diego than any other part of Lake Hodges due to its visibility from I-15, a heavily traveled regional freeway. Drivers on I-15 recognize this area as a vivid landscape with its combination of water views (or broad valley when the lake is dry) and undeveloped natural slopes that punctuate the horizontal plane.

Because of the area's natural setting, visual integrity is high. Most of the area is within the floodplain and publicly owned and zoned for open space or agricultural uses; therefore, change in this natural landscape is almost non-existent. Some of the privately owned surrounding ridgelines that were once natural have been developed with houses in the past decade, but little additional change to the landscape is anticipated.

Lake Hodges can be seen as the unifying element of the area's natural landscape. It defines the area's natural setting and creates a natural landmark visible to many people that travel on I-15 or use the area's recreational facilities (i.e., the trail and lake).

The visual character of the lake itself changes seasonally based on the amount of rainfall received. At the time of this study, San Diego County was experiencing a several-year-long drought that has reduced the water level of Lake Hodges such that the area around the project site (and several miles downstream) is dry lakebed. A "forest" of willow trees now appears in the lakebed many over 20 feet high. Historically the lake has filled every five to ten years and it is anticipated that the lake level will rise again so that the lake area around the project site up to just east of I-15 is full. In addition, the

Emergency Storage Project by the San Diego County Water Authority is expected to be online by 2008, which will keep the lake level between 296 feet and 311 feet instead of extended periods of low level conditions.

**Impacts**

A number of key viewpoints within the viewshed were selected that most clearly display the visual effects of the project. The key views also represent the primary viewer groups that would potentially be affected by the project (Figure 10). The major viewer groups in the project area are:

- Travelers along southbound I-15 (the Bridge would not be visible from the northbound lanes)
- Recreational users of the San Dieguito River Park and Lake Hodges
- Travelers along West Bernardo Drive and Pomerado Road
- Ridgeline homes that have views of the lake.

A description of each key viewpoint is as follows:

- ***Key View #1***: This key viewpoint is along southbound I-15 as it crosses Lake Hodges (Figure 11).

- ***Key View #2***: The Hodges North Shore Trail, which travels along the northern shoreline of Lake Hodges, is a segment of the San Dieguito River Park's 55-mile long Coast to Crest Trail (Figure 11).

- ***Key View #3***: From Lake Hodges in proximity to the proposed bridge site.

- ***Key View #4***: This viewpoint is from West Bernardo Drive traveling southeast toward I-15.

- ***Key View #5***: This viewpoint is from westbound Pomerado Road as it crosses the freeway looking toward the Bridge site (Figure 12).

- ***Key View #6***: The Bridge would be visible from the ridgelines from both sides of the lake at a distance of approximately 1,000 feet. The view from the northern ridgeline would be from a few single-family homes in the neighborhood called Lomas Serenas in Escondido (Figure 12).

- ***Key View #7***: The view from the southern ridgeline would be from the residential units of the Casas de la Campanas retirement complex in Rancho Bernardo that face the lake approximately 1,000 feet from the lake.

- ***Key View #8***: A distant view of the bridge would be seen from the west-facing perimeter homes in the Vista del Lago neighborhood located east of I-15 in Rancho Bernardo (Figure 13).

Table 3 provides a summary of major viewer groups and their sensitivity to change, among other factors. Viewer response is composed of two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the public might react to visual changes brought about by a bicycle/pedestrian bridge project. Views of the proposed bridge from I-15 would

be seen by a large number of viewers. According to the Department of Transportation, the 1999 Average Daily Traffic flow on southbound I-15 was 104,700 trips. The traffic volume is projected to increase to 117,500 average trips by 2020 (with the implementation of the I-15 Managed Lanes project). Although a large number of viewers would be exposed to views of the proposed Bridge, the duration of the view would only be moderate due to high freeway travel speeds. The proposed Bridge would be seen for approximately 20 seconds as one travels southbound on I-15 at 60 MPH. Due to the area's natural setting and high visual quality, viewer sensitivity to change is high and overall viewer response is high.

Views of the bridge structure itself for local drivers along short stretches of West Bernardo Drive/Pomerado Road would be far fewer than from I-15. The weekday traffic volume along West Bernardo Drive is approximately 13,980 (year 2000 data). Views could be seen from either direction along West Bernardo Road/Pomerado starting from where westbound Pomerado Road crosses I-15 to approximately 1,200 feet beyond the freeway interchange on the west side of I-15. The proposed bridge would not be visible from the east side of I-15 due to intervening topography. The duration of the views from West Bernardo Drive/Pomerado Road are low due to the short stretch of roadway from which the proposed bridge would be visible. The proposed bike path along West Bernardo Drive would be visible for a longer duration and from a closer range than the bridge structure itself. Overall viewer response is considered moderate.

Trail users would have the highest viewer sensitivity of the viewer groups due to the very reason for enjoying the trail experience in this area, high visual quality and natural surroundings. This trail receives approximately 300 visitors per day on a typical weekend. Trail users of the Hodges North Shore Trail (a segment of the San Dieguito River Park's Coast to Crest Trail) would have the longest duration of views to the proposed project. It is estimated that the project would be visible from about a 0.7-mile long segment of trail from just west of I-15 to where the trail follows a sharp bend in the lake further to the west where the project would no longer be in view. Due to the scenic experience desired by trail users, overall viewer response is considered high.

Views from the lake itself would also have a high sensitivity because of the high scenic quality of the area. The number of viewers would be relatively small because access to the lake by boaters and fisherman is limited to when the eastern end of the lake is full. When this end of the lake is accessible, view durations of the proposed bridge would be relatively high. Overall viewer response is moderate because this end of the lake is only infrequently utilized.

| Table 3<br>SUMMARY OF MAJOR VIEWER GROUPS | | | | |
|---|---|---|---|---|
| **Viewer Groups** | **Viewer Sensitivity** | **Quantity of Viewers** | **Duration of View** | **Overall Viewer Response** |
| I-15 drivers | H | H | M | H |
| Local drivers | M | M | L | M |
| Recreational users - trail | H | L | H | H |
| Recreational users - lake | H | L | H | M |
| Residential | H | L | H | M |

Viewer Sensitivity:
L = Low
M = Moderate
H = High

Viewer Quantity (# of persons):
L = <1,000
M = 1,000 – 50,000
H = >50,000

The final viewer group would be residential neighborhoods with views of the lake. The homes with views of this end of the lake is limited to three areas: about 20 homes along the northern ridgeline in Lomas Serenas, the approximately 65 residential units within the retirement complex called Casa de las Campanas that face the lake, and approximately 15 homes on the perimeter of the Vista del Lago development located east of I-15 with views toward the lake and proposed bridge. Viewer sensitivity from these homes is high due to the high visual quality of their views. Viewer response from these areas is considered moderate because the bridge would be visible only at a distance.

**Key View #1**

Key View #1 is from the southbound lanes of I-15 looking towards the west. A visual simulation of the project from this view is shown in Figure 14. The simulation represents the proposed project design but decisions regarding final design details such as color selection have not been made. The proposed Bridge would be a distance of 600 to 1,300 feet from the freeway. The proposed Bridge would be visible for approximately 20 seconds as one drives southbound in the furthest outside lane. The existing visual quality of this view is high due to the area's natural setting of water and natural landscape. The project features that would be easily seen include the bridge structure itself including bridge piers (particularly when the lake is dry). The south shore cantilever would also be somewhat visible although at a greater distance and would be partially obstructed by vegetation (willow trees).

Viewer response to adding a man-made element into this natural view is high. The natural setting is sensitive to change and new elements introduced into this setting have the potential to negatively detract from the area's visual attractiveness. The visual effect of the project's placement in this setting was seriously considered and one of the project's objectives is to "be sensitive to the aesthetic, environmental, and visual considerations and to a landmark location in a park setting" (see Chapter 1, Purpose and Need).

The placement of the bridge in this particular location across the lake and close to existing transportation linkages (i.e., roads and trails) is necessary to meet the project objectives. As described in Chapter 1, the Lake Hodges Pedestrian/Bicycle Bridge would provide the only non-vehicular north/south crossing over the San Dieguito River east of Via de Santa Fe at Fairbanks Ranch for a distance of 19.0 miles. The primary purpose of the proposed bridge is to provide bicyclists and pedestrians a safe, direct and desirable commuting and recreational experience as an alternative route to crossing Lake Hodges and the San Dieguito River Valley and to provide recreational users access to the network of trails on both sides of the lake without using an automobile.

Because of its sensitive location, several design features are proposed to minimize the project's potential intrusion into the landscape. These features include:

- "Stress ribbon" bridge type that features a thin superstructure profile (16" high), and only two piers in the lake (Figure 4).

- Use of earthtone colored concrete to blend with the surrounding natural landscape to minimize glare.

- Steel railings that will be nearly invisible in the distance. This railing type was designed to provide a light transparent look so that the railings do not dominate the bridge design and to allow views through to the lake from the bridge sides. Bridge users will be able to see the lake and surroundings through the railings and likewise viewers of the bridge will not see a heavy solid structure.

- Use of shielded lights that are directed onto the bridge surface only.

- On the south side of the project for the trail along the lakeshore a cantilever will be used for the bike path/trail instead of a large retaining wall. Cantilever piers will be screened with native willow vegetation to blend with the surrounding habitat.

- Use of a hardened soil surface (instead of concrete or asphalt) for the bike path along West Bernardo Drive. This surface will blend with the adjacent slopes.

- Retention of existing native soil surface on the Hodges North Shore Trail.

- Use of rustic materials, such as rock and wood, and "warm-colored" earthtone concrete for the interpretive viewing areas.

- Revegetate all areas disturbed by construction activities with native species to blend with the surrounding landscape.

The proposed "stress-ribbon" bridge design allows a thin bridge profile (approximately 1 foot-4 inches) and minimizes the number of piers in the lake to two. The thin bridge profile and narrow width (outside dimension of 14 feet) and bridge "sag" create a concrete ribbon across the lake that resembles a trail. The bridge would also have a low profile above the water. The bridge height above the lake level would vary across each segment of the structure (from 10 feet to 17.9 feet) above the lake spillway elevation (315 feet). The concrete would be colored an earthtone shade to match the

surrounding landscape to minimize glare. On the south side a cantilever (or viaduct) is used instead of a large retaining wall that would have appeared massive and greatly contrasted with the surrounding landscape. To augment native willows that exist along the slope, new willow trees will be planted to partially obscure the cantilever piers.

Viewer response to adding a new element into this key view is high. However the bridge has been designed to minimize intrusion into the natural setting. Rather than stand out as a dramatic contrast with the environment, the low profile and minimal features of the bridge serve to minimize its visual intrusion. The Bridge will certainly be visible as a new manmade element but due to the design features incorporated into the project, the resulting visual impact is considered mitigated. As discussed above, the location chosen for the bridge was determined based on factors including bridge use, environmental impacts, and constructability.

**Key View #2**

Key View #2 is from the Hodges North Shore Trail just west of I-15. A visual simulation of the project from this viewpoint is shown in Figure 15. The proposed bridge would be visible from along about a 0.7-mile stretch of the trail both from a distance and close up. The existing visual quality of this view is high due to the area's natural setting of water and undeveloped rugged landscape. The trail's very attraction is due to its scenic location. The trail is heavily used by hikers, mountain bikers, and equestrians. The entire bridge will be visible including the south shore cantilever across the lake. The degree of contrast between the lake and bridge would be higher when the lake is full (Figure 16).

Viewer response to adding a new element into this key view is high. However, as described above for Key View #1, design features have been incorporated into the project to minimize visual intrusion into the landscape. The Bridge will be designed as a feature of the Hodges North Shore Trail and will serve to increase the recreational opportunities within the San Dieguito River Park. For these reasons, the resulting visual impact is considered mitigated.

**Key View #3**

The proposed bridge will be visible from the eastern end of Lake Hodges. Due to the abrupt bends in the lake, the area of visibility would be restricted to the very eastern end of the lake. This end of the lake is heavily used by hikers, bicyclists, and equestrians along the North Shore Trail described above, but lake use is limited to the occasional boater only when the lake is full enough to provide access to the eastern end (basically when the reservoir is at capacity). Fishing is also common along the eastern lakeshore when the lake is full. Views of the bridge would be similar to those shown in visual simulations #1 and #2. Boaters would be able to view the bridge at close range because the bridge would be designed to allow boats to pass under the bridge structure.

Although viewer response to adding a new element on the lake is relatively high because of the area's fairly pristine nature, the limited number of viewers and the infrequency of the view makes overall viewer sensitivity low. As described above for Key View #1, design features have been incorporated into the project to minimize visual intrusion into the landscape. The resulting visual impact is considered to be low.

**Key Views #4 and #5**

These views are both from different points along West Bernardo Drive. Key View #4 is from West Bernardo Drive traveling east (north) toward I-15 looking over Lake Hodges. At this point, a portion of the bridge structure and the bike path would be visible. Figure 17 shows the bridge view from Key View #4. Key View #5 is from the Pomerado Road/West Bernardo Drive bridge over I-15. From this vantage, the northern portion of the bridge structure would be visible. Viewer sensitivity would be moderate due to the scenic nature of the view and the visual relief of the lake and slopes in contrast to the more urban experience on the roadway as it approaches I-15. Viewer duration would be relatively low along this stretch of roadway due to the limited section of road where the bridge would be visible and the limited amount of time a driver would experience the view. A driver would only catch glimpses of portions of the bridge depending on the driver's location along the roadway. In Key View #4 the bike path would be clearly visible but the bridge would appear in the distance.

As described above, the bridge design would soften the appearance of adding a new element to a natural landscape. The resulting visual impact is considered to be moderate.

**Key Views #6, #7, and #8**

These views are from three different residential neighborhoods with views of the lake and proposed bridge site. View #6 is from the houses that line the ridgeline in the neighborhood of Lomas Serenas (Figure 12). Approximately 20 homes would have at least a partial view of the bridge. The ridgeline homes are at least 100 feet higher in elevation than the lake so views would be relatively distant. However, the homes are relatively close to the lake. The cantilever bike path would also be visible at a distance across the lake. Viewer sensitivity from these homes would be relatively high due to proximity to the lake and the view's high visual quality.

Key View #7 is from the units in the Casa de las Campanas retirement complex that have views over the lake. The view would be similar to that shown in Figure 12. These units would have a closer view to the bike path along West Bernardo Drive and the bridge would be in the distance. Still, viewer sensitivity from this area would be relatively high due to the view's high visual quality.

Key View #8 (Figure 13) is from the homes in the neighborhood called Vista del Lago on the east side of I-15. These views are much more distant than those from the previous two neighborhoods. The bridge would be visible from approximately 15 homes in the Caminito Cantilena area that have backyard views toward the freeway and lake. The bridge structure itself as well as the cantilever bike path would be visible from these homes and from a small park located on the edge of the development. The homes are located approximately 1/4 mile from the project site and are located at a much higher elevation. Although the lake and surrounding slopes are scenic, the view is interrupted by the eight-lane freeway, which is also dominant in the landscape. Even so, viewer sensitivity from these homes would be moderately high due to the high visual quality of the view.

Again, due to the distant views and the use of a low profile and narrow width, the bridge structure would not dominate the view nor would it greatly contrast with the surrounding environment. Resulting visual impact is considered low. Although some homeowners may consider any change to the environment a negative impact.

The bridge travel surface would be illuminated for safety purposes with low-level recessed lights attached to the lower portion of the railing posts. The lights would be at a ½ foot-candle, which is the minimum recommended by the Illuminating Engineering Society of this type of bicycle facility. The light fixtures would be covered by aluminum louvers and staggered along the bridge length (i.e., every ten feet on opposite sides of the railing). Thus, bridge lighting would not result in significant light or glare. The trails leading to each end of the bridge would not be lit.

Based on review of the key viewpoints and simulations in the previous section, the bridge's architectural appearance and design would minimize impacts to the viewshed. Design elements have been incorporated into the project to minimize visual intrusion on a scenic area. The project would add a manmade element into the natural landscape but it is designed to respect the area's natural surroundings. The project purpose is to provide bicyclists and pedestrians a safe, direct and desirable commuting and recreational experience as an alternative route to crossing Lake Hodges and the San Dieguito River Valley and to provide recreational users access to the network of trails on both sides of the lake without using an automobile. Therefore, the placement of the bridge across the lake and close to existing transportation linkages (i.e., roads and trails) is necessary to meet the project objectives. The scenic setting was carefully considered and several design alternatives were evaluated. The project's minimalist design is considered the least obtrusive, mimics a trail, and is considered compatible with the natural landform. Impacts would be mitigated by project design.

Since no substantial grading is proposed and most of the project will be at grade with only minor modifications, no impacts to landform are assumed to occur.

**~~Mitigation Measures~~San Dieguito River Park Concept Plan**

~~the~~ The project has been designed to be consistent with the Design and Development Standards contained in the San Dieguito River Park Concept Plan~~, as well as project-specific design measures, would mitigate all visual impacts to a level less than significant~~. The Concept Plan standards require that ~~future~~ park amenity projects, including the proposed bridge, implement the following design and construction criteria:

- Grading associated with the construction with park amenities should be limited to the extent possible and where grading is proposed it should be designed so as to retain the natural shape of the landform and reflect the topographic constraints of the terrain. In all cases mass grading shall be avoided.

- The form, mass and profile of all structures and architectural features shall be designed to blend with the natural terrain.

- Materials, finishes and colors of buildings, accessory structures, walls and fences should be compatible with the intent of minimizing the visual impacts on the Focused Planning Area (FPA). Colors should be limited to subtle earthtone hues with style and texture that reflects the traditional/rural character of the FPA.

- Native species should be the predominant plant material used in park landscape proposals. The use of non-native species, which would most likely be utilized for screening, should be limited to areas located adjacent to developed lands. Under no circumstances should invasive species be utilized.

**Mitigation Measures**

~~Design~~ The project design ~~elements~~ features that have been incorporated into the project to ~~mitigate~~ avoid visual impacts are discussed in the Impacts section above and are summarized below. These measures helped the project to avoid all significant visual impacts. ~~and no additional measures would be necessary. The mitigating elements that have been incorporated into the design are summarized below:~~

- Non-obtrusive, thin bridge deck depth design
- "Transparent" railing detail
- Use of earthtone colors
- Discreet lighting
- Willow tree plantings at the south shore trail
- Use of natural trail/bike path surfacing
- Revegetation of all disturbed surfaces with native species

**BIOLOGICAL RESOURCES**

Biological resources impacts from the implementation of the San Dieguito River Park Concept Plan were addressed in Section IV.B of the Final Program EIR for the Concept Plan (1993). The Final Program EIR concluded that direct effects to native habitat and sensitive species caused by the Concept Plan, including the proposed pedestrian/bicycle bridge, would constitute a significant environmental impact. Specifically, the Program EIR concluded that the bridge project would result in impacts to wetlands and Diegan coastal sage scrub, depending on the ultimate design and alignment. In addition, direct and indirect impacts to sensitive animal species, such as the coastal California gnatcatcher, and sensitive riparian species, including the least Bell's vireo, were identified as potentially significant. Adherence to the Design and Development Standards in the Concept Plan would mitigate the impacts to below a level of significance.

The Design and Development Standards contain policies on avoidance and mitigation for unavoidable impacts. The standards consist of siting criteria, trail alignment criteria, buffer criteria, mitigation ratios requirements and management policies/recommendations (refer to pages 150 through 154 of the Program EIR for the specific language in those standards). The following is a project-specific analysis of the proposed bridge project based on the project biological technical report (HELIX July 2004).

**Existing Conditions**

Project-specific biological surveys were conducted in accordance with the City of San Diego Biological Review Guidelines and requirements in the *San Dieguito River Park Concept Plan*. Vegetation was mapped, a list of plant and animal species observed/detected was compiled, the potential for sensitive species was assessed, and a jurisdictional delineation was performed in the study area. In 2002 and 2003, USFWS protocol surveys were conducted for the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and coastal California gnatcatcher (*Polioptila californica californica*). The survey areas included potential vireo, flycatcher, and gnatcatcher habitat in the study area for the bridge and trail project and 500 feet beyond. A focused survey for San Diego ambrosia was also conducted. The results of these surveys are described below.

### Vegetation

Six vegetation types and developed land were identified in the area studied for the proposed bridge and trail alignment including southern willow scrub, reservoir (southern willow scrub/disturbed wetland), Diegan coastal sage scrub (including disturbed Diegan coastal sage scrub), non-native grassland, eucalyptus woodland, and disturbed habitat. The vegetation category "Reservoir" includes area within Hodges Reservoir. When the lake is partially or completely full, the category would include standing open water. Currently, the reservoir level is low and the vegetation consists of mainly southern willow scrub. All types but eucalyptus woodland and disturbed habitat are granted some sensitivity status by the City of San Diego and require mitigation for project impacts (eucalyptus woodland is only considered sensitive if nesting raptors are present). Due to the project's location within the City's Multi-Habitat Planning Area (MHPA) boundaries, impacts and proposed mitigation ratios were determined using the City of San Diego's *Significance Determination Guidelines and Land Development Code Biological Review References* (July 2002). Figure 18 illustrates the existing biological resources in the vicinity of the proposed project.

The project area also includes significant stretches of wetlands. These areas are considered sensitive because they are unique communities that host many species of plants and animals that are rare or substantially depleted. Policies utilized to protect and enhance wetlands in San Diego include the City of San Diego Environmentally Sensitive Lands regulations (ESL); the State of California Fish and Game Code (Sections 1601-1607); and Section 404 of the federal Clean Water Act, which is jointly administered and enforced by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency (EPA).

### Sensitive Species

One federally listed endangered, one federally listed threatened, and four sensitive animal species were observed in the study area (Figure 18): least Bell's vireo (federally listed endangered), coastal California gnatcatcher (federally listed threatened), orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*), yellow warbler (*Dendroica petechia brewsteri*), yellow-breasted chat (*Icteria virens*), and white-faced ibis (*Plegadis chihi*). In addition, a species of bat was observed exiting from a likely night roost among the rip rap below West Bernardo Drive. Furthermore, several sensitive animal species have potential to occur in the study area (Table 4).

| Table 4<br>LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR | | |
|---|---|---|
| **SPECIES** | **STATUS*** | **POTENTIAL TO OCCUR** |
| **Insects** | | |
| Quino checkerspot butterfly (*Euphydryas editha quino*) | FE/-- | Low. No surveys are necessary for the study area under USFWS protocol. |
| Hermes copper (*Lycaena hermes*) | FSC/-- | Moderate. Food plant spiny redberry (*Rhamnus crocea*) found in Diegan coastal sage scrub. Impacts to the species unlikely due to the few, if any, redberry that could be impacted. |
| **Amphibian** | | |
| Arroyo southwestern toad (*Bufo microscaphus californicus*) | FE/CSC | Low. Breeds in shallow pools and open sand and gravel flood terraces of medium- to large-sized intermittent or perennial streams not present in the project area. |
| **Reptiles** | | |
| Coastal whiptail (*Cnemidophorus tigris multiscutatus*) | FSC/CSC | High in coastal sage scrub. The potential for impacts to this species are moderate to high, particularly from direct habitat impacts. |
| Red diamond rattlesnake (*Crotalus exsul*) | FSC/CSC | High in coastal sage scrub especially with rocky outcrops. The potential for impacts to this species are moderate to high, particularly from direct habitat impacts. |
| San Diego horned lizard (*Phrynosoma coronatum blainvillei*) | FSC/CSC | High in coastal sage scrub. The potential for impacts to this species are moderate to high, particularly from direct habitat impacts. |
| **Birds** | | |
| Southwestern willow flycatcher (*Empidonax traillii extimus*) | FE/SE | Moderate. The USFWS named this federally listed species as having potential to occur in the project area. A USFWS protocol survey for this species was conducted in 2003, and the results were negative. Occurs in dense riparian woodland, similar to the type of habitat that is beginning to develop in the reservoir under the current drought conditions. |
| Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) | FSC/CSC | High in coastal sage scrub. Was observed outside the study area. The potential for impacts to this species are moderate to high, particularly from direct habitat impacts. |

| Table 4 (cont.)<br>LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR | | |
|---|---|---|
| **SPECIES** | **STATUS*** | **POTENTIAL TO OCCUR** |
| **Birds (cont.)** | | |
| Bell's sage sparrow<br>(*Amphispiza belli belli*) | FSC/CSC | High in coastal sage scrub. The potential for impacts to this species are moderate to high, particularly from direct habitat impacts. |
| Golden eagle<br>(*Aquila chrysaetos*) | --/CSC<br>Fully protected | Low to moderate potential to forage in the study area. Historically and/or recently, the golden eagle is known from Bernardo Mountain west of the study area and Rancho Cielo west of the Lake Hodges dam. The potential for impacts to this species are low because most of the project's impacts occur in the reservoir bottom. |
| Osprey<br>(*Pandion haliaetus*) | --/CSC | High. Was observed at Lake Hodges in the early 1990s (D. Pudoff 2001, pers. obs.). Frequently observed at Lake Hodges (Unitt 1984). Low potential for direct impacts to the species because it mostly fishes in open water, and construction will not occur in the reservoir bottom when there is open water. Also, active raptor nests have to be avoided. |
| White-tailed kite<br>(*Elanus leucurus*) | --/--<br>Fully protected | High. Was observed in the reservoir west of the study area. Potential for impacts from habitat loss, but active raptor nests have to be avoided. |
| **Mammals** | | |
| Northwestern San Diego pocket mouse<br>(*Chaetodipus fallax fallax*) | FSC/CSC | Moderate in coastal sage scrub and ruderal areas, often in sandy washes. The potential for impacts to this species are moderate to high, particularly from direct habitat impacts. |
| San Diego black-tailed jackrabbit<br>(*Lepus californicus bennetii*) | FSC/CSC | High in open shrubland habitats and grassland in the study area. The potential for impacts to this species are moderate to high, particularly from direct habitat impacts. |
| San Diego desert woodrat<br>(*Neotoma lepida intermedia*) | FSC/CSC | Moderate. Habitat is coastal sage scrub and other xeric habitats. The potential for impacts to this species are moderate to high, particularly from direct habitat impacts. |
| Southern grasshopper mouse<br>(*Onychomys torridus ramona*) | FSC/CSC | Moderate. Could occur in all arid habitats, including all shrublands. The potential for impacts to this species are moderate to high, particularly from direct habitat impacts. |

| Table 4 (cont.)<br>LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR | | |
|---|---|---|
| **SPECIES** | **STATUS*** | **POTENTIAL TO OCCUR** |
| **Mammals (cont.)** | | |
| Yuma myotis<br>(*Myotis yumanensis*) | FSC/-- | Moderate potential to roost under the I-15 bridge over Lake Hodges adjacent to the study area and forage and drink in the study area. This species has been seen roosting in abandoned swallow nests and under bridges (CDFG 1990). Swallow nests occur under the I-15 bridge. Bat guano (not identified to species) was observed at the base of the columns of the I-15 bridge (Department of Transportation 2000). Impacts to an active bat roost in the study area could be significant since there is unknown or insufficient data on the life history of many bat species. |
| Other bat species | FSC and/or CSC | Moderate potential for other bat species to roost under the I-15 bridge and use the study area for foraging and/or drinking. One bat species was observed exiting from rip rap below West Bernardo Drive on July 1, 2002. Impacts to an active bat roost could be significant since there is unknown or insufficient data on the life history of many bat species. |

*A listing and explanation of status codes are provided in Biology Technical Report.

No sensitive plant species were observed in the study area. A focused survey for San Diego ambrosia was conducted in July 2003; the results were negative. Table 5 provides a discussion of the potential for sensitive species to occur that are not City narrow endemic species. Table 6 provides the same information for all of the City's narrow endemic species.

| Table 5<br>SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR | | |
|---|---|---|
| **SPECIES** | **STATUS*** | **POTENTIAL TO OCCUR** |
| White coast ceanothus (*Ceanothus verrucosus*) | FSC/--<br>CNPS List 2<br>R-E-D 1-2-1 | Low. Shrub occurring in chaparral. |
| Western dichondra (*Dichondra occidentalis*) | --/--<br>CNPS List 4<br>R-E-D 1-2-1 | Low to moderate. Perennial herb occurring in chaparral, coastal sage scrub, and valley and foothill grasslands. May occur in dense Diegan coastal sage scrub, especially after fire events. |
| Palmer's grapplinghook (*Harpagonella palmeri*) | --/--<br>CNPS List 2<br>R-E-D 1-2-1 | Low. Occurs on clay soils in chaparral, coastal sage scrub, and grasslands. Clay soils are not present in the study area. |
| San Diego goldenstar (*Muilla clevelandii*) | --/--<br>CNPS List 1B<br>R-E-D 2-2-2 | Low. Perennial herb occurring in chaparral, coastal sage scrub, valley and foothill grasslands, and vernal pools. Prefers clay soils that are not present in the study area. |

| Table 6<br>POTENTIAL FOR ALL NARROW ENDEMIC PLANT SPECIES TO OCCUR | | |
|---|---|---|
| **SPECIES** | **STATUS*** | **POTENTIAL TO OCCUR** |
| San Diego thornmint (*Acanthomintha ilicifolia*) | FT/SE<br>CNPS List 1B<br>R-E-D 2-3-2 | Low because clay soils not present in the study area, upon which this species occurs in open areas. |
| Shaw's agave (*Agave shawii*) | FSC/--<br>CNPS List 2<br>R-E-D 3-3-1 | Low in coastal sage scrub and maritime succulent scrub. Considered native (i.e., not introduced) at one, and maybe only two, locations in the U.S. (Border Field State Park near the border with Mexico and on sea cliffs south of Point Loma, respectively; Reiser 2001). |
| San Diego ambrosia (*Ambrosia pumila*) | FE/--<br>CNPS List 1B<br>R-E-D 3-3-2 | Low to moderate. The USFWS named this federally listed species as having potential to occur in the project area. A survey conducted by HELIX on July 1, 2003 for this species in the project study area was negative. Reiser (2001) reported this species from one mile north of Lake Hodges where it was poorly mapped and not recently observed. The Department of Transportation (2000) reported that approximately 100 individuals were found along a dirt road just south of Via Rancho Parkway, west of I-15, and north of Lake Hodges. |

| Table 6 (cont.)<br>POTENTIAL FOR ALL NARROW ENDEMIC PLANT SPECIES TO OCCUR | | |
|---|---|---|
| **SPECIES** | **STATUS*** | **POTENTIAL TO OCCUR** |
| Aphanisma<br>(*Aphanisma blitoides*) | FSC/--<br>CNPS List 1B<br>R-E-D 2-2-2 | None. Occurs on coastal bluffs and beach dunes. No known populations occur in the MSCP Plan Area. |
| Coastal dunes milk vetch<br>(*Astragalus tener* var. *titi*) | FE/SE<br>CNPS List 1B<br>R-E-D 3-3-3 | None. Occurs in sandy places along the coast. |
| Encinitas baccharis<br>(*Baccharis vanessae*) | FT/SE<br>CNPS List 1B<br>R-E-D 2-3-3 | Low to moderate potential to occur in the study area. Occurs in chaparral, and is known from the Lake Hodges area. |
| Otay tarplant<br>(*Deinandra conjugens*) | FT/SE<br>CNPS List 1B<br>R-E-D 3-3-2 | Occurs from Sweetwater Reservoir area south to the Mexican border. Low potential to occur in the study area. |
| Short-leaved dudleya<br>(*Dudleya blochmaniae* ssp. *brevifolia*) | --/SE<br>CNPS List 1B<br>R-E-D 3-3-3 | Low. Occurs in open areas of chamise chaparral or Torrey pine forest with small, iron bearing concretions; neither of which are not present in the study area. |
| Variegated dudleya<br>(*Dudleya variegata*) | FSC/--<br>CNPS List 1B<br>R-E-D 2-2-2 | Low to moderate. Occurs in openings in sage scrub and chaparral, rocky substrates in grassland, and near vernal pools. |
| San Diego button-celery<br>(*Eryngium aristulatum* var. *parishii*) | FE/SE<br>CNPS List 1B<br>R-E-D 2-3-2 | Low due to lack of habitat. Vernal pool species with limited number of populations. |
| Prostrate navarretia<br>(*Navarretia fossalis*) | FT/--<br>CNPS List 1B<br>R-E-D 2-3-2 | Low due to lack of habitat. Vernal pool species with limited number of populations. |
| Snake cholla<br>(*Opuntia parryi* var. *serpentina*) | FSC/--<br>CNPS List 1B<br>R-E-D 3-3-2 | No potential to occur in the study area. Occurs in chaparral and coastal sage scrub from Point Loma south to Chula Vista and Baja California, Mexico. |
| California orcutt grass<br>(*Orcuttia californica*) | FE/SE<br>CNPS List 1B<br>R-E-D 3-3-2 | Low due to lack of habitat. Vernal pool species. |
| San Diego mesa mint<br>(*Pogogyne abramsii*) | FE/SE<br>CNPS List 1B<br>R-E-D 2-3-3 | Low due to lack of habitat. Vernal pool species. |
| Otay Mesa mint<br>(*Pogogyne nudiuscula*) | FE/SE<br>CNPS List 1B<br>R-E-D 3-3-2 | None. Otay Mesa vernal pool species. |

*A listing and explanation of status codes are provided in Biological Technical Report.

### Wildlife Movement

The study area occurs within the Hodges Reservoir/San Pasqual Valley core area, which represents one of the largest blocks of habitat in the MSCP study area and serves as a major east-west wildlife movement corridor (City 1997). Although formal wildlife movement studies were not conducted for the proposed project, large- and medium-sized animals that are often tracked in such studies were observed or detected in the study area and likely move east-west through it. These animals include mule deer (*Odocoileus hemionus*), bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*).

### Multiple Species Conservation Program

The project is also guided by the City of San Diego's Multiple Species Conservation Program (MSCP) Subarea Plan (1997) and is subject to the policies and directives of that plan. The study area occurs within the Cornerstone Lands in the Hodges Reservoir/San Pasqual Valley core area. These lands are commonly referred to as "cornerstone" because they are considered essential building blocks for creating a viable habitat preserve system. The Hodges Reservoir/San Pasqual Valley core area represents one of the largest blocks of habitat in the MSCP study area and serves as a major east-west corridor. The most important areas for conservation are those natural areas around Lake Hodges and riparian and upland habitats upstream in San Pasqual Valley. Core resource areas are considered to have a high concentration of sensitive biological resources, which, if lost, could not be replaced or mitigated elsewhere. In addition to its function as a wildlife corridor, the San Pasqual Valley also provides habitat for California gnatcatcher, coastal cactus wren and foraging raptors. It is also known to support the narrow endemic Encinitas baccharis and wetland habitats associated with the San Dieguito River, which also provide habitat for listed riparian species such as southwestern willow flycatcher, least Bell's vireo, and arroyo toad.

Because of its importance as a biological core area, specific management directives have been established for the Hodges Reservoir/San Pasqual Valley area in the City's Subarea Plan. Those that may apply to the project are listed in Table 7 with a corresponding response to how the project conforms with each policy/directive.

In addition to the MSCP, the *San Pasqual Valley Plan* and the *San Dieguito River Park Concept Plan* also direct management of this area, which include the proposed project. Both plans were consulted during the development of the City's MSCP policies, and management recommendations from each have been incorporated into the subarea plan.

The project conforms to each management policy and directive to the maximum extent practicable. The JPA contributes to the management of the MHPA through habitat restoration and trail closures, for example, but the City is ultimately responsible for management of the MHPA. A draft management plan for this area (Conservation Biology Institute 2003) has been prepared and is currently being reviewed by the City.

**San Dieguito River Park Concept Plan**

The *San Dieguito River Park Concept Plan* provides design standards for development within the FPA, many of which are compatible with the MSCP policies and directives listed above. Applicable policies and directives include:

- Avoid disturbance to wetlands, the only exception being where bridges or undercrossings are required for trail access.

- Aligning park trails within existing dirt roads and trails to the extent feasible.

- Avoid paving trails and minimize trail widths except where necessary to accommodate multiple uses or disabled access.

- Controlling off-trail activities through trail design, fencing, and/or signage.

**Table 7**
**CONFORMANCE WITH MSCP POLICIES AND DIRECTIVES**

| POLICY/DIRECTIVE | CONFORMANCE |
|---|---|
| Contain active recreational uses in areas determined appropriate in the *San Dieguito River Park Concept Plan* and by the City. | The project is consistent with the *San Dieguito River Park Concept Plan*, which includes the Lake Hodges Bridge project as a park proposal.<br><br>The project trails follow existing trail routes (e.g., the North Shore Trail) and/or follow West Bernardo Drive to direct trail users away from sensitive species.<br><br>The project will control off-trail activities through trail design, trail patrol, fencing, and/or signage as necessary. |
| Restrict public use of steep slopes. Any trail system developed on the south side of the reservoir should use the existing utility road and minimize impacts on sensitive resources. Provide signage identifying appropriate trails, and take necessary measures to protect habitat and direct access to approved use areas. | The project aligns the trails within existing dirt roads and trails to the extent feasible (e.g., North Shore Trail). The project will control off-trail activities through trail design, fencing, and/or signage as necessary. |
| Minimize trail widths to reduce impacts to critical resources. For the most part, do not locate trails wider than 4 feet in core areas and wildlife corridors. | The project trails follow existing trail routes (e.g., North Shore Trail) and/or follow West Bernardo Drive to direct trail users away from sensitive species. The trails will be 8 feet wide in order to accommodate bicycles and pedestrians. |

| Table 7 (cont.) | |
|---|---|
| **POLICY/DIRECTIVE** | **CONFORMANCE** |
| Manage public use of mitigation lands on the slopes north of the reservoir in a manner consistent with the habitat function and mitigation requirements. Split rail or wire fencing may be constructed adjacent to the roadside or public areas to accommodate wildlife movement. | The project will control off-trail activities through trail design, fencing, and/or signage as necessary. |
| Direct public access to authorized trails with signage and barriers. | The project will control off-trail activities through trail design, fencing, and/or signage as necessary. |
| Regularly monitor and maintain the shores and uplands of Lake Hodges for litter and invasive non-native plant species and off-trail use including motorized vehicle activity. Remove and dispose of litter and invasive non-native plants as soon as possible. | The JPA monitors and maintains the San Dieguito River Park trail system including litter control and off trail use. The JPA also conducts regular exotic species control and trail closures when appropriate. All litter encountered during construction and all invasive non-native plants removed during project mitigation will be removed from the site and disposed of in a safe and legal manner. |
| Utilize the existing fire maintenance road along the north shore of the reservoir as the trail system and avoid cutting new trails through native habitats, especially between the marina and I-15. | The project trails follow existing trail routes (e.g., North Shore Trail) and/or follows West Bernardo Drive to avoid cutting new trails through native habitats. |
| Use non-impactive erosion control methods to repair areas experiencing erosion. Re-seed and restore these areas as soon as possible. | The project will use Best Management Practices during construction (e.g., fiber rolls) to control erosion and will revegetate disturbed areas with native vegetation post-construction. |

**Regulatory Agency Permit Requirements**

The ACOE regulates impacts (dredge and fill) in jurisdictional wetlands and non-wetland Waters of the U. S. under Section 404 of the federal CWA. According to the ACOE (Terry Dean 2001, pers. comm.), the reservoir is under the ACOE's jurisdiction, and the Ordinary High Water Mark and adjacent wetlands are typically the edge of ACOE jurisdiction. Since the bridge pilings would be pre-cast and driven in place, they are not considered fill, and a permit from the ACOE is not necessary. The rip rap (not more than 0.01 hectare (0.03 acre)) around the abutments is considered fill, therefore the project will utilize an ACOE Nationwide Permit for the rip rap. Construction access to the lake bottom may also be regulated depending on how the access is gained to the lake bottom. For example, placing fill, as is proposed, to create the access road would likely be regulated, but simply laying down removable mats to drive over would likely not. Water quality certification or waiver would be necessary from the California Regional Water Quality Control Board (RWQCB) prior to impacts to ACOE jurisdiction.

Due to the presence of federally listed species (i.e., least Bell's vireo and coastal California gnatcatcher), the Federal Highway Administration (FHWA) will initiate consultation with the USFWS regarding endangered wetland species issues under the federal Endangered Species Act.

The CDFG would regulate alterations to Lake Hodges under Section 1602 of the California Fish and Game Code and impacts to the least Bell's vireo under Section 2080.1 of the California Fish and Game Code. The project would require a Lake or Streambed Alteration Agreement with the CDFG.

Impacts to biologically sensitive and wetland areas are regulated by the City's Environmentally Sensitive Lands ~~Ordinance~~ Regulations (City 2000). The ESL requires that impacts to wetlands be avoided or minimized to the maximum extent possible.

## Impacts

### Sensitive Vegetation Communities

The following sensitive vegetation communities would be directly impacted by the project: Diegan coastal sage scrub, Diegan coastal sage scrub-disturbed, southern willow scrub, and reservoir (currently southern willow scrub/disturbed wetland vegetation but could become open water with rainfall; Figure 18). Table 8 lists these communities according to temporary and permanent impacts.

The majority of the impacts to Diegan coastal sage scrub occur from construction of the connecting trail on the south side of the reservoir. Impacts to this habitat have been minimized as much as possible by placing the trail immediately adjacent to West Bernardo Drive. This placement avoids fragmenting the high quality coastal sage scrub habitat occupied by the coastal California gnatcatcher that occurs west of West Bernardo Drive.

**Table 8**
**DIRECT IMPACTS TO SENSITIVE VEGETATION COMMUNITIES** (hectare [acre])

| IMPACT | VEGETATION COMMUNITY | | | |
|---|---|---|---|---|
| | **Diegan coastal sage scrub** | **Diegan coastal sage scrub – disturbed** | **Southern willow scrub** | **Reservoir (southern willow scrub/disturbed wetland)** |
| Permanent (bridge piers, abutments, rip rap, trail) | 0.1 (0.25) | 0.05 (0.13) | 0.004 (0.01) | 0.02 (0.04) |
| Temporary (access road and abutment construction areas) | 0.03 (0.08) | 0.05 (0.13) | 0.01 (0.03) | 0.28 (0.69) |
| Temporary (Staging Area 1) | 0.07 (0.18) | 0.~~010.~~03 (0.09) | 0.0 | 0.0 |
| Temporary (Staging Area 2) | 0.0 | 0.0 | 0.0 | 0.0 |
| **TOTAL** | **0.22 (0.51)** | **0.13 (0.35)** | **0.02 (0.04)** | **0.28 (0.73)** |

**Unavoidable Impacts to Wetlands**

Wetlands are considered sensitive because they are unique communities that host many species of plants and animals that are rare or substantially depleted. Policies utilized to protect and enhance wetlands in San Diego include the City of San Diego ESL regulations; the State of California Fish and Game Code (Sections 1601-1607); and Section 404 of the federal Clean Water Act, which is jointly administered and enforced by the ACOE and the EPA.

No alternative alignments would completely have avoided impacts to wetlands. The proposed project would impact 0.31 hectare (0.77 acre) of wetlands ((0.02 hectare (0.05 acre) of permanent impact and 0.29 hectare (0.72 acre) of temporary impact). These wetland communities include southern willow scrub and reservoir (southern willow scrub/disturbed wetland). The majority of wetland impacts are temporary (from the temporary construction access road in the lakebed) and impacts were kept to a minimum through avoidance of wetland habitat wherever possible.

The City of San Diego has a "no-net loss" policy regarding wetlands. A mitigation plan for wetland impacts was developed in cooperation with the City of San Diego for this project and two others, and is intended to mitigate wetland impacts through a program of on-site and off-site wetland habitat enhancement and restoration. The wetland restoration plan is contained in the Biology Technical Report (July 2004).

Impacts to the reservoir deserve special consideration because the actual vegetation impacted depends on the amount of water in the reservoir at the time the project is constructed. The project area would be inundated at least temporarily if there was enough rainfall. However, it is expected that the project would be constructed when the reservoir is dry. It is also noted that the San Diego County Water Authority's long-term plan for the reservoir includes yearly inundation and drawdown as part of the planned maintenance of domestic water supplies (beginning in 2008).

**Construction Staging Areas**

Use of Construction Staging Area 1 (approximately 0.10 hectare (0.27 acre); Figure 18) would cause direct impacts to 0.1 hectare (0.27 acre) of Diegan coastal sage scrub and Diegan coastal sage scrub-disturbed, assuming the entire staging area footprint is utilized (Table 8). Construction Staging Area 2 (approximately 0.20 hectare (0.5 acre); Figure 18) occurs completely within disturbed habitat; there would be no impacts to sensitive vegetation communities from its use.

**Wildlife Movement**

The proposed project maintains the North Shore Trail allowing for east-west movement on the north shore of Lake Hodges and provides for easier movement (i.e., a trail rather than rip rap or West Bernardo Drive) along a portion of the south shore. Additionally, the proposed project includes only two bridge piers (each is 19 feet by 24 feet) in the reservoir (for an approximately 990-foot long bridge) with some rip rap at the northern and southern bridge abutments. The lowest vertical clearance under the bridge when the reservoir is dry will be 26 feet. Therefore, the project will have minimal obstruction to movement under the proposed bridge.

The construction and construction staging area limits in upland areas (including Construction Staging Area 1 adjacent to the North Shore Trail) will be clearly delineated to ensure that construction activity

remains within the defined project footprint. For construction in the reservoir, the construction limits will also be delineated with such methods if it is dry, although small gaps in the bottom of the fencing will be created to allow for wildlife movement as determined by a qualified biologist. These delineations are to ensure that construction (including human) activity remains within the defined limits and impacts to the MHPA and Lake Hodges wildlife movement corridor outside the limits are avoided.

All construction related activities will be limited to daylight hours to the maximum extent practicable, and this is the period when movement by many of the mammals listed above is less frequent. If night lighting is required during construction, all lighting will be the minimum necessary for safety and security purposes and will be shielded and directed downward to minimize impacts to the MHPA and Lake Hodges wildlife movement corridor.

Night lighting associated with the finished bridge structure will be provided along the bridge to direct pedestrian and bicycle traffic when it is dark. However, the bridge will be lit with low-level recessed lights sufficient to light the bridge surface only (1200 lumen), and the trails leading to the bridge will not be lit. The bridge lights will be attached to the lower portion of the railing posts covered by aluminum louvers and staggered along the bridge length (every 10 feet on opposite sides of the railing). This lighting design would not adversely impact the wildlife movement corridor.

Since the proposed project will provide east-west habitat connections, and impacts to the Lake Hodges wildlife movement corridor will be avoided or minimized during construction of the proposed project, it is anticipated that there would be no impacts to wildlife movement through the area.

**Sensitive Species**

Construction of the project would directly impact habitat supporting sensitive animal species known to occur in the study area (Figure 18). These habitats are reservoir (southern willow scrub/disturbed wetland vegetation) near where a least Bell's vireo was observed in 2002 and 2003 and Diegan coastal sage scrub-disturbed near one pair of coastal California gnatcatchers.

Any impacts to the orange-throated whiptail, yellow-breasted chat, and yellow warbler would be adverse but these species are not highly sensitive, and the amount of their habitats permanently lost would be minimal. Impacts to the white-faced ibis are not anticipated because no rookery occurs in the study area.

Construction of the project would directly impact raptor foraging habitat (Diegan coastal sage scrub and Diegan coastal sage scrub-disturbed).

Use of Construction Staging Area 1 would cause direct impacts to the coastal California gnatcatcher through loss of Diegan coastal sage scrub and Diegan coastal sage scrub-disturbed, assuming the entire staging area footprint is utilized. No direct impacts to sensitive species are anticipated from the use of the Construction Staging Area 2.

**Indirect Impacts and Minimization Measures**

Potential indirect impacts from construction of the project and use of the construction staging areas include decreased water quality (through sedimentation, contaminants, or fuel release, for example),

fugitive dust, colonization of non-native plant species in previously undisturbed areas, edge effects, animal behavioral changes, roadkill, night lighting, noise, and shading. These potential indirect impacts are discussed below.

**Water Quality**

Water quality in the reservoir could be adversely affected by potential surface runoff and sedimentation during and after construction. Although the connecting trail will be sloped toward the reservoir post-construction, with the small surface area of the trail, along with the drainage improvements (gravel-lined drainage swale) and revegetation that are part of the project, significant erosion and sediments entering the reservoir from these potential sources would be prevented. It is anticipated that the existing erosion/sedimentation problem along West Bernardo Drive would improve with development of the project because the soft eroded sholder would be replaced by a hard-surfaced trail and a drainage swale that would contain and filter surface flows.

Since the bridge, post-construction, would only be used by bicyclists and pedestrians, it is anticipated that there would be no water quality impacts from use of the bridge.

The use of petroleum products during construction (i.e., fuels, oils, lubricants) could potentially contaminate surface water and adversely affect biological resources in the MHPA.

**Fugitive Dust**

Fugitive dust produced by construction could disperse onto sensitive vegetation in the MHPA. Adverse effects to vegetation due to airborne dust could occur adjacent to construction.

**Non-native Plant Species**

Non-native plants could colonize sites disturbed by construction and could potentially spread into adjacent native habitats, especially following a disturbance such as fire. Many of these non-native plants are highly invasive and can displace native vegetation reducing native species diversity, potentially increase flammability and fire frequency, change ground and surface water levels, and potentially adversely affect native wildlife that is dependent on the native plant species. Colonization by invasive, non-native plant species in non-impact areas and the resulting degradation of the MHPA for use by native species would be considered an impact. Revegetation with native species that is proposed as part of the project would minimize this potential impact with one exception. Disturbed habitat (that was not already disturbed habitat prior to construction) remaining in the project limits following construction (i.e., where coastal sage scrub is impacted by use of Construction Staging Area 1, for example) could allow for the colonization of non-native plant species that could impact the MHPA.

**Human Activity/Edge Effects**

Increases in human activity in the area could result in degradation of sensitive vegetation by fragmenting habitat and forming edges through the creation of unauthorized trails. In addition, predation of native species by domesticated animals (pets) and illegal littering could occur. Table 7 lists the area specific management directives that the JPA conducts to minimize edge effects such as

controlling off-trail activities, using existing dirt roads/trails when feasible, and maintaining River Park trails.

**Animal Behavioral Changes**

Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction activity, which could lead to reduced reproductive success and increased mortality. These indirect impacts could adversely affect federally or state listed species and raptors. Raptors may be susceptible to disturbance from construction (and not just noise), from any such activity within 300 feet of an active Cooper's hawk (*Accipiter cooperii*) nest, 900 feet of an active northern harrier (*Circus cyaneus*) nest, 4,000 feet of an active golden eagle (*Aquila chrysaetos*) nest, and 500 feet of any other raptor nest. Such activity could cause abandonment of a nest, or could cause an adult incubating eggs or nestlings to leave the nest, at least temporarily. The eggs or nestlings could be preyed upon by other animals or could succumb to the elements.

**Roadkill**

Roadkill can occur as construction vehicles travel on roads through habitat areas. However, since construction traffic is expected to be limited in volume and confined to the project footprint and staging areas, roadkill impacts are not anticipated.

**Night Lighting**

Night lighting on native habitats can provide nocturnal predators with an unnatural advantage over their prey. This could cause an increased loss in native wildlife in the MHPA.

Although formal wildlife movement studies were not conducted for the proposed project, large- and medium-sized prey and predators that are often tracked in such studies were observed or detected in the study area, including mule deer, bobcat, raccoon, and striped skunk. It is expected that the coyote (*Canis latrans*) and grey fox (*Urocyon cinereoargenteus*) occur, and the mountain lion (*Felis concolor*) also has been reported in the Hodges Reservoir/San Pasqual Valley core area.

Since all construction related activities will be limited to daylight hours to the maximum extent practicable, and any night-time construction lighting will be the minimum necessary for safety and security and will be shielded and directed downward to minimize impacts to the MHPA and wildlife corridor, such lighting is not expected to impact wildlife.

Night lighting associated with the finished bridge structure will be low-level recessed lights sufficient to light the bridge surface (1200 lumen), and the trails leading to the bridge will not be lit. Therefore, night lighting of the bridge is not expected to adversely impact wildlife.

**Noise**

The least Bell's vireo or coastal California gnatcatcher outside the project limits could be impacted by indirect noise impacts during project construction, including use of the construction staging areas. Construction noise that meets or exceeds 60 dB(A) hourly $L_{eq}$, or the ambient noise level if it already exceeds 60 dB(A) hourly $L_{eq}$, at the edge of occupied vireo or gnatcatcher habitat would potentially

impact these species during the vireo and gnatcatcher breeding seasons (March 15 through September 15, and March 1 through August 15, respectively).

### Shading

The bridge over Lake Hodges will be 14 feet wide (outside dimension, with the exception of the two belvederes where the width would increase to 24 feet) and will trend northsouth across the reservoir. The narrowness of the bridge and its north-south orientation will allow vegetation under the bridge to receive sunlight during the morning hours and the afternoon hours. Therefore, shading impacts from the bridge are not anticipated.

~~Mitigation Measures~~

### San Dieguito River Park Concept Plan Design and Development Standards

The following relevant policies and directives in the *San Dieguito River Park Concept Plan* ~~would be followed~~have been incorporated into the project design to minimize impacts to biological resources:

- Fencing and signage would be installed along the trail as appropriate to direct trail users away from sensitive areas and to encourage them to stay on the trail. In addition, the River Park's existing trail patrols would be expanded to cover this area once the trail is completed. An important purpose of the trail patrol is to educate the public about the importance of protecting the resources along the trail by always staying on the designated trail.

- The bridge alignment and trail design was developed based on the results of the biological surveys conducted for this project. Every effort has been made to avoid impacts to sensitive biological resources. Construction staging areas have been sited in disturbed areas as much as possible in order to avoid impacts to sensitive resources.

- Restoration of temporarily impacted areas with native plant species would also be conducted.

## Mitigation Measures

### Mitigation for Permanent and Temporary Impacts

Mitigation for impacts to sensitive vegetation communities is listed in Table 9. This mitigation is based on the City's Biology Guidelines (2001). The mitigation ratios provided assume that all mitigation would be performed in the MHPA. Finalized mitigation measures will be developed in consultation with the appropriate resource agencies.

1. Permanent impacts to Diegan coastal sage scrub and Diegan coastal sage scrub-disturbed from the bridge abutments and bike path/trail shall be mitigated through payment into the City's Habitat Acquisition Fund due to the small acreage needed for mitigation (0.15 hectare (0.38 acre)). It is estimated that the contribution will be in the amount of $9,500 (Mike VanBuskirk, pers. comm.). This mitigation shall also compensate for the loss of raptor foraging habitat.

2. Permanent impacts to southern willow scrub and reservoir 0.02 hectare (0.05 acre) shall be mitigated through a combination of 1:1 creation and 1:1 enhancement at the ~~JPA's~~ proposed

mitigation site at Cloverdale Creek ~~mitigation site~~, for a total mitigation ratio of 2:1, per a City-approved Cloverdale Creek wetland mitigation plan. Therefore, 0.024 hectare (0.05 acre) of southern willow scrub habitat will be created and another 0.024 hectare (0.05 acre) of riparian habitat will be enhanced at Cloverdale Creek, for a total migitation of 0.048 hectare (0.1 acre). Cloverdale Creek is located in the MHPA west of the Wild Animal Park (City 1997, Subarea Plan Figure 14). The habitat creation and enhancement shall be maintained and monitored for a period of five years, and preserved in perpetuity.

3. Mitigation for temporary impacts to 0.18 hectare (0.46 acre) of Diegan coastal sage scrub and Diegan coastal sage scrub-disturbed shall be accomplished by seeding the area of temporary impact (e.g., Construction Staging Area 1 and construction area of the abutments) with Diegan coastal sage scrub species that occur in nearby Diegan coastal sage scrub in accordance with a City-approved onsite revegetation plan. The revegetation shall be maintained and monitored for five years.

4. Mitigation for temporary impacts to 0.01 hectare (0.03 acre) of southern willow scrub shall be accomplished by planting cuttings taken from adjacent willow trees in the area of impact. Additionally, a native seed mix shall be spread in the temporary impact area. The revegetation shall be maintained and monitored for five years. Additionally, 0.01 hectare (0.03 acre) of riparian habitat at Cloverdale Creek shall be enhanced through the removal of non-native, invasive plant species such as, but not limited to, giant reed (*Arundo donax*), tamarisk (*Tamarix* spp.), perennial pepperweed (*Lepidium latifolium*), and pampasgrass (*Cortaderia* sp). The enhancement area shall be maintained and monitored for a period of five years and preserved in perpetuity.

5. Mitigation for temporary impacts to 0.28 hectare (0.69 acre) of reservoir shall be mitigated by planting cuttings taken from adjacent willow trees in the area of impact. Additionally, a native seed mix shall be spread in the temporary impact area. The restoration shall be maintained and monitored for five years, unless the reservoir ~~floods~~ becomes inundated due to rainfall or the County Water Authority's Emergency Storage Project. Then no mitigation shall be required.

6. To protect the least Bell's vireo and coastal California gnatcatcher in the MHPA, the proposed project would comply with the City's Mitigation, Monitoring, and Reporting Conditions (City 2002), which state that no clearing, grubbing, grading, or other construction activities shall occur in occupied vireo habitat from March 15 to September 30 and in occupied gnatcatcher habitat from February 15 to August 31 unless certain requirements have been met.

**Mitigation for Indirect Impacts**

Water Quality

7. Potential impacts from degraded surface water quality shall be minimized to the maximum extent practicable by using Best Management Practices (BMPs) for erosion/sedimentation control during construction. These BMPs may include the use of a bonded fiber matrix, straw mulch, or erosion control blankets/mats to prevent erosion, and/or the installation of such items as silt fences or fiber rolls to catch any eroded material before it can reach the reservoir. Additionally, the proposed revegetation should occur as soon as impacts to an area are complete (i.e., the revegetation could be phased) to help further prevent erosion.

8. Potential impacts from the use of petroleum products during construction shall be minimized by only adding or changing such products, if necessary, within the designated construction staging areas. The addition or change of such products shall occur over plastic tarps, which if contaminated, shall be disposed of in a safe and legal manner. Furthermore, BMPs such as those listed above for erosion/sedimentation control will also be used at the staging areas.

Fugitive Dust

9. Potential fugitive dust impacts to sensitive vegetation shall be minimized through dust control measures such as spraying water on dusty staging area/access road surfaces (but not causing runoff). Spraying water shall occur as often as necessary to prevent dust clouds from forming when vehicles are driving in construction areas.

**Table 9**
**MITIGATION FOR IMPACTS TO SENSITIVE VEGETATION COMMUNITIES**

| Vegetation Community | Impact (hectare [acre]) | Mitigation Ratio (all mitigation in MHPA) | Mitigation Area Required (hectare [acre]) | Mitigation Type/Location |
|---|---|---|---|---|
| ***Permanent (bridge piers, abutments, rip rap, trail)*** | | | | |
| Diegan coastal sage scrub (Tier II) | 0.1 (0.25) | 1:1 | 0.1 (0.25) | Contribution to Habitat Acquisition Fund |
| Diegan coastal sage scrub – disturbed (Tier II) | 0.05 (0.13) | 1:1 | 0.05 (0.13) | Contribution to Habitat Acquisition Fund |
| Southern willow scrub | 0.004 (0.01) | 2:1 | 0.01 (0.02) | Habitat creation and enhancement at Cloverdale Creek |
| Reservoir (southern willow scrub/disturbed wetland) | 0.02 (0.04) | 2:1 | 0.04 (0.08) | Habitat creation and enhancement at Cloverdale Creek |

| Table 9 (cont.) | | | | |
|---|---|---|---|---|
| **Vegetation Community** | **Impact (hectare [acre])** | **Mitigation Ratio (all mitigation in MHPA)** | **Mitigation Area Required (hectare [acre])** | **Mitigation Type/Location** |
| ***Temporary (access road)*** | | | | |
| Diegan coastal sage scrub (Tier II) | 0.03 (0.08) | 1:1 | 0.03 (0.08) | Revegetate impacted area |
| Diegan coastal sage scrub – disturbed (Tier II) | 0.05 (0.13) | 1:1 | 0.05 (0.13) | Revegetate impacted area |
| Southern willow scrub | 0.01 (0.03) | 2:1 | 0.02 (0.06) | Revegetate impacted area and enhance habitat at Cloverdale Creek |
| Reservoir (southern willow scrub/disturbed wetland) | 0.28 (0.69) | 1:1 | 0.28 (0.69) | Revegetate impacted area |
| ***Temporary (construction staging area 1)*** | | | | |
| Diegan coastal sage scrub (Tier II) | 0.07 (0.18) | 1:1 | 0.07 (0.18) | Revegetate impacted area |
| Diegan coastal sage scrub – disturbed (Tier II) | 0.03 (0.09) | 1:1 | 0.03 (0.09) | Revegetate impacted area |

Human Activity/Edge Effects

10. The construction and construction staging area limits shall be clearly delineated with orange construction fencing and silt fencing or fiber rolls to ensure that construction activity remains within the defined construction limits. A qualified biologist shall inspect the delineated areas and shall monitor construction activities to avoid unauthorized impacts.

Animal Behavioral Changes

11. For raptors, if construction activities are proposed during the raptor breeding season (generally February through July), a pre-construction survey (one survey) shall be conducted within 900 feet of the project limits to look for active raptor nests. If no active nest is found, no further mitigation shall be required. If an active nest is found, monitoring shall be conducted by a qualified biologist to ensure all construction activity remains at least 300 feet from an active Cooper's hawk nest, 900 feet from an active northern harrier's nest and 500 feet from all other raptor nests. The biologist shall also determine when the nest becomes inactive and construction activity can move closer to the nest site.

Night Lighting

12. All construction-related activities shall be limited to daylight hours to the maximum extent practicable. If night lighting is required during construction, all lighting shall be the minimum necessary for safety and security purposes and shall be shielded and directed downward to minimize impacts to the MHPA and Lake Hodges wildlife corridor.

Noise

13. Potential noise impacts to the least Bell's vireo and coastal California gnatcatcher shall be mitigated in accordance with the City's Mitigation, Monitoring and Reporting Conditions for Potential Impacts to Habitats Occupied by Sensitive Avian Species. Detailed mitigation conditions are included in the Biology Technical Report (July 2004).

The mitigation measures listed above would mitigate all biological resources impacts to a level less than significant.

**CULTURAL RESOURCES**

Cultural resources impacts from the implementation of the San Dieguito River Park Concept Plan were addressed in Section IV. C of the Final Program EIR for the Concept Plan (San Dieguito River Park Joint Powers Authority 1993). The Final Program EIR concluded that direct and indirect effects to historic and prehistoric cultural resources would constitute a significant environmental impact. The proposed project is identified as a component of the Concept Plan. Mitigation for impacts to cultural resources is contained in the Final Program EIR (pages 161 through 164) and consist of general measures which specify management policies, survey methods, testing and mitigation, such as capping, data recovery, monitoring, Native American consultation, report preparation and qualifications for lead investigators. The following is the project-specific analysis for cultural resources.

The following is a project-specific analysis for cultural resources based on the *Cultural Resources Survey Report for the Lake Hodges Pedestrian/Bicycle Bridge* (Gallegos & Associates, November 2001) and a *Historic Property Survey Report – Negative Findings* (The Department 2003) and supplement (June 2004). These reports were prepared in conformance with Section 106 of the National Historic Preservation Act, the City of San Diego Archaeology Guidelines, and the *San Dieguito River Park Concept Plan*.

**Existing Conditions**

Archaeological and historical research for the project included an updated record search, literature review, examination of historic maps, and an archaeological field inventory. The inventory and analysis were conducted in accordance with cultural resources management policies outlined in the *San Dieguito River Park Concept Plan*. The inventory identified three cultural resources within or adjacent to the area of potential effect for the proposed project. As part of the background research, a Native American contact program was conducted.

Forty-two cultural resources were previously recorded within a one-mile radius of the proposed project site. These resources range from a late period village complex, temporary encampments, milling

stations, lithic scatters, pictographs, prehistoric rock features and historic structures. In addition, old Highway 395, which opened as a State Highway in 1950, is within the project area. A field survey was also conducted over the project footprint, detour trail area, and construction areas. The field survey identified two previously recorded sites (CA-SDI-809 and CA-SDI-14333H) along the north shore of Lake Hodges; no sites were found along the southern portion of the study area. Site CA-SDI-809 is described as a camp area or small village site featuring bedrock milling features. Site CA-SDI-14333H is an abandoned section of old Highway 395 supported by a stone retaining wall. The stone retaining wall (i.e., rip rap structure) is not eligible for the National Register of Historic Places (Pierson 2000). Specific details about these sites are presented in the *Cultural Resources Survey Report for the Lake Hodges Pedestrian/Bicycle Bridge*, available for review at the San Dieguito River Park offices.

**Impacts**

The *Cultural Resources Survey Report for the Lake Hodges Pedestrian/Bicycle Bridge* evaluated four project design alternatives, specifically bridge alignments described in this document. The preferred project alignment was selected by the JPA because it avoids direct impacts to cultural resources as discussed below. The proposed project is a modified version of Alternative B with the northern abutment moved to the east to avoid cultural impacts.

The proposed bridge would avoid all impacts to CA-SDI-809. The northern abutment of the Bridge is within the area identified as CA-SDI-14333H. The north footing is proposed in a disturbed cut slope for a road bed, with a rip rap area adjacent to the lake. The rip rap was believed to have been used to protect the north shore line and the south edge of the road bed. The rip rap was identified as not significant and not eligible for listing in the National Register of Historic Places (Pierson 2000). It was determined that the project may contribute indirect impacts to site CA-SDI-809 due to a potential increase in trail usage in the vicinity of the site.

**Mitigation Measures**

1. The final project design shall avoid potential impacts to CA-SDI-809 near the northern trail realignment and abutment. The portion of the site adjacent to the existing North Shore Trail shall be fenced using ranch-style fencing and/or shallow rooted plants to restrict access to the southern portion of the archaeology site. The existing North Shore Trail shall be capped with soil or road material to protect the portion of the site that extends beneath the trail in accordance with the standards contained in the *San Dieguito River Park Concept Plan* Design and Development Standards.

2. The JPA shall retain a qualified historic/archaeological monitor prior to commencement of trail construction. This monitor will be responsible for overseeing all subsurface disturbance associated with trail construction in proximity to archaeological sites as documented in the *Cultural Resources Survey Report for Lake Hodges Pedestrian/Bicycle Bridge*. The monitor shall ensure that (1) the proposed trail alignment or site disturbance avoids cultural resources as designed; (2) construction provides fill and fencing for midden areas; and (3) unanticipated finds are handled properly. If a subsurface deposit is encountered then it shall be capped in accordance with the mitigation measure described below.

3. Where the trail surface will be covered with an impervious surface, fabric and 6" of culturally sterile soil will be installed between the native soil and the hardened surface as necessary to cap

affected sites. If it is necessary to cap a site along a hardened surface, the procedures described in the Concept Plan for the San Dieguito River Park will be followed.

The above mitigation measures would mitigate cultural resources impacts to a level less than significant.

## GEOLOGY AND SOILS

Geology/soils impacts from the implementation of the San Dieguito River Park Concept Plan were addressed in Section IV. E of the Final Program EIR for the Concept Plan (San Dieguito River Park Joint Powers Authority 1993). The Final Program EIR concluded that impacts from seismic activity, geologic hazards, such as rock outcrops and landslides, and seismic-induced flooding would be less than significant. Soil erosion impacts resulting from the construction of trails and other park amenities were considered potentially significant. The proposed project is identified as a component of the Concept Plan. Mitigation for erosion impacts is contained in the Final Program EIR (page 195) and is incorporated into the Design and Development Standards contained in the Concept Plan.

The following is a project-specific analysis based on site-specific soils and geotechnical studies of the project area (Law Crandall 2002 and MACTEC 2004).

### Existing Conditions

The information contained in this evaluation is based on field reconnaissance, review of readily available geologic and geotechnical reference material and reports, photographs and maps, and subsurface exploration (geotechnical borings) conducted along the southern and northern lakeshores.

#### Geologic Setting

The site is located in eastern San Diego County within the Peninsular Ranges geomorphic province of California. This province is characterized by northwest-trending mountain ranges separated by straight sided, sediment-floored valleys. The northwest trend is also reflected in the direction of the dominant geologic structural features consisting of northwest trending faults and fault zones.

The project area is located within geologic hazard zones 32 and 53 as shown on the City's Seismic Safety Study Geologic Hazards Map. Zone 32 is characterized by low potential for liquefaction, fluctuating groundwater, and minor drainages. Zone 53 is characterized by level or sloping terrain, unfavorable geologic structure, and low to moderate risk. Two major northwest-trending fault zones traverse the San Diegan metropolitan and the inland county areas: The Rose Canyon fault zone and the Elsinore fault zone located 12 miles southwest and 22 miles northeast of the site, respectively.

The site is located at an elevation of about 340 feet MSL on the natural and artificial embankments of Lake Hodges, west of Interstate 15. The southern embankment consists of artificial fill, derived from the local granitic bedrock, which was used for the construction of West Bernardo Drive. The northern embankment is composed of granitic bedrock and local artificial fill. There are no known landslides near the site, nor is the site in the path of any known landslides. However, the approach embankment fill underlying West Bernardo Drive is significantly eroded and undercut by the wave action of Lake Hodges and erosion due to the runoff from the road. The embankment is near vertical and there are signs of sloughing and slump failures and significant erosion. (MACTEC 2004). Tension cracks were

also observed along the shoulder of West Bernardo Drive. Near surface slope failures were not observed on the river channel slopes near the northern abutment.

**Geologic Materials**

The site stratigraphy consists of Cretaceous-age granitic bedrock overlain by alluvium, talus, slope wash and artificial fill.

**Faults**

The numerous faults in southern California include active, potentially active, and inactive faults. The definitions of faulth terms used in this report are based on those developed for the Alquist-Priolo Special Studies Zones Act of 1972, by the California Division of Mines ad Geology (Hart 1977). Active faults are defined as those that have had surface displacement within Holocene time (approximately the last 11,000 years) and/or have been included within an Alquist-Priolo Special Studies Zone. Faults are considered potentially active if they show evidence of surface displacement since the beginning of Quarternary time (about two million years ago) but not since the beginning of Holocene time. Inactive faults are those that have not had surface movement since the beginning of Quaternary time. Figure 19 shows the locations of major faults and earthquake epicenters in southern California.

Active Faults

The closest active fault to the site is the Rose Canyon, located about 12 miles southwest. Other nearby active faults are the Spanish Bight, the Silver Strand and the Coronado, located approximately 22 miles south-southwest, 23 miles south, and 24 miles south-southwest of the site, respectively. Several of the more highly active faults in southern California are included in the Elsinore and San Jacinto fault zones. These fault zones are located approximately 22 and 42 miles northeast of the site, respectively. The San Andreas fault zone, which is considered the most significant fault zone in California, is located about 60 miles northeast of the site

Potentially Active Faults

The closest potentially active fault is the La Nacion, located about 19 miles south of the site. Other nearby potentially active faults include the Florida Canyon and the Texas Street, both located approximately 20 miles south of the site.

Fault Rupture

The site is not within a currently established Alqust-Priolo Earthquake Fault Zone for surface fault rupture hazards. The closest Alquist-Priolo Earthquake Fault Zone, established for the Rose Canyon fault, is located approximately 12 miles to the southwest. No faults, or fault-related features were observed at or near the site based on review of aerial photographs or field reconnaissance.

## Impacts

### Geologic Hazards

Faults

Based on the available geologic data, active or potentially active faults with the potential for surface fault rupture are not known to be located directly beneath or project toward the site. Therefore, the potential for surface rupture due to fault displacement propagating to the surface at the site during the design life of the proposed bridge is considered low.

The site could be subject to strong ground motion in the event of an earthquake. However, this hazard is common in southern California and the adverse effects of ground shaking would be reduced because the project would be constructed in conformance with current codes and engineering practices.

Liquefaction and Seismically-induced Settlement

The results of the liquefaction analyses indicate that localized layers of sand, silty sand and sandy silt alluvial soils below the ground-water level could be subject to liquefaction and seismically induced settlement in the event of a moderate to large maginitude earthquake on a nearby fault.

Subsidence

The site is not located in an area of known ground subsidence due to the withdrawal of subsurface fluids. Accordingly, the potential for subsidence occurring at the site due to withdrawal of oil, gas or water is considered remote.

Landsliding and Slope Stability

Based on recent soil borings and tests performed by JPA project geotechnical consultants, the southern lakeshore slope adjacent to West Bernardo Drive is currently unstable and does not meet minimum stability factors for steep slopes supporting infrastructure. The slope along the southern lakeshore is composed of fill place in the California Department of Transportation and City of San Diego rights-of-way during the construction of West Bernardo Drive (MACTEC 2004). Because the slope is currently unstable and does not meet current City of San Diego stability requirements for a steep slope, the slope would need to be repaired prior to constructing the proposed cantilever bike path. The cantilevered bike path would not be constructed until the slope is repaired. The unstable slope would not affect construction of the southern bridge abutment because the abutment would be anchored into bedrock below the slope. Rip-rap would also be placed around the bridge abutment to protect it from the wave action.

### Short-term Erosion/Sedimentation

Proposed construction activities would involve grading, excavation and placement of fill in steep areas such as the slopes adjacent to the bridge abutments and West Bernardo Drive, as well as excavation within the existing lake/river bed. While the project site would be ultimately stabilized (e.g., through habitat restoration), erosion potential in construction areas would be higher in the short-term than for

pre-construction conditions. Areas disturbed by project construction would be especially susceptible to erosion between the commencement of grading/excavation and the completion of project construction and revegetation. Measures to minimize these impacts are presented below.

**Long-term Erosion/Sedimentation**

Long-term erosion and sedimentation potential would be generally low in most developed portions of the project site, due to the stabilizing effects of proposed paving, habitat restoration and landscaping. No long-term erosion and sedimentation impacts are anticipated. The project design includes the use of riprap armoring around exposed portions of the abutments. These measures would minimize associated potential long-term erosion impacts.

**Mitigation Measures**

All design recommendations contained in the *Bridge Foundation Report* shall be incorporated into the bridge design to minimize impacts to geology and soils. The design measures address the abutment foundations, bent foundations, tie-back anchors, and the bike path foundation.

The project applicant would be required to obtain authorization under the National Pollutant Discharge Elimination System (NPDES) General Construction Activity Storm Water Permit prior to project development. Construction Permit authorizations are issued by the State Water Resources Control Board (SWRCB) under an operating agreement with the EPA. Specific conformance requirements include implementing an approved Storm Water Pollution Prevention Plan (SWPPP) and monitoring program, with these plans identifying detailed measures to prevent and control the off-site discharge of contaminants (including sediment) in storm water runoff. Specific pollution control measures typically involve the use of best available technology (BAT), best conventional pollutant control technology (BCT) and/or best management practices (BMPs), pursuant to direction by the SWRCB and the applicable RWQCB office. While site-specific measures vary somewhat with conditions such as proposed grading parameters and slope and soil characteristics, detailed guidance for construction-related BMPs is provided in sources including the *San Dieguito River Park Concept Plan* Design and Development Standards, City of San Diego Municipal Code *Land Development Manual-Storm Water Standards* (City of San Diego 2002), the *California Storm Water Best Management Practices Handbooks* (Stormwater Quality Task Force 1993), and the California Department of Transportation *Storm Water Quality Handbooks* (Caltrans 2000). Specific erosion and sedimentation control measures identified in these handbooks that are applicable to project construction include the following:

- Preservation of existing vegetation wherever feasible
- Landscaping/restoration of applicable disturbed areas as soon as feasible, and minimizing irrigation (e.g., by use of native and/or drought-tolerant species)
- Use of erosion prevention devices such as mulches, mats, fiber rolls, bonded fiber matrix and/or geotextiles to stabilize graded areas (particularly slopes)
- Dust control through regular watering

- Stabilization of construction ingress/egress points (e.g., through temporary paving or gravelling), washing of vehicles leaving the site, and sweeping/vacuuming of paved areas

- Use of temporary berms, swales, check dams, slope/terrace drains and/or brow ditches to direct run-on and runoff

- Use of temporary sediment catchment devices such as sand/gravel bags, straw/hay bales, silt fences, fiber rolls or temporary sediment basins

- Regular monitoring and maintenance of project erosion control and drainage facilities to ensure proper working order, as well as water quality testing (if applicable) pursuant to Construction Permit requirements

Implementation of the above-described types of measures as part of the project design and an approved SWPPP would ensure conformance with applicable NPDES requirements, and would avoid or reduce all impacts from construction-related erosion and sedimentation. No additional project-specific mitigation is required.

## HYDROLOGY AND WATER QUALITY

Hydrology and water quality impacts from the implementation of the San Dieguito River Park Concept Plan were addressed in Section IV. D of the Final Program EIR for the Concept Plan (San Dieguito River Park Joint Powers Authority 1993). The Final Program EIR concluded that the development of future park amenities could result in significant cumulative impacts to existing water quality, including effects on the water quality of Lake Hodges. The proposed project is identified as a component of the Concept Plan. Mitigation for impacts to water quality is contained in the Final Program EIR (pages 171 and 172) and is incorporated into the Design and Development Standards contained in the Concept Plan. The following is a summary of the project-specific analysis for hydrology/water quality.

### Existing Conditions

#### Hydrology

The proposed bridge would span the Hodges Reservoir and would be located in the 100-year floodplain. Lake Hodges lies within the San Dieguito Hydrologic Unit, as defined by the Comprehensive Water Quality Control Plan for the San Diego Region (RWQCB 1994) (Figure 20). The San Dieguito Hydrologic Unit covers approximately 350 square miles and includes the San Dieguito River and its tributaries, as well as Santa Ysabel and Santa Maria creeks. Average annual precipitation within the San Dieguito Hydrologic Unit ranges from 13 inches at Oceanside to 17 inches at Escondido, to almost 40 inches in Cuyamaca. The Unit is further divided into five areas and then again into subareas. Lake Hodges is within the Del Dios Hydrologic Subarea of the Hodges Hydrologic Area.

The water level within Lake Hodges varies substantially because it is dependant upon seasonal rainfall. Currently, the lake is 29 percent full and at an elevation of 285 feet MSL. The spillway elevation (i.e., when the lake is full) is 315 feet MSL. Because the lake is low, willows and other vegetation have

grown in the lakebed. The willow trees are 20 to 30 feet high at the eastern end of the lake where the project is proposed.

### Water Quality

Lake Hodges is owned and operated by the City of San Diego Water Department and in addition to its recreational use, is operated as a potable water supply reservoir. The reservoir is currently filled by seasonal precipitation and runoff, although there are approved plans to connect the lake to the larger aqueduct system operated by the San Diego County Water Authority as part of the Emergency Water Storage project by approximately 2008. The lake level currently varies seasonally and fluctuates widely, depending on precipitation rates. Currently, the lake level is below normal due to drought conditions over the past several rainfall seasons. In March 2003, the lake level was recorded at 270 feet Mean Sea Level (MSL) (San Diego County Water Authority). Currently, the lake is only 13 percent full (Lake Hodges website). The lake level at full capacity (i.e., called the high water elevation when the lake is spilling over the dam) is 315 feet MSL at the lake's eastern end (i.e., the project site). Once the Emergency Water Storage project is implemented and the lake receives regular water transfers, lake levels will become stabilized at about 311 feet MSL in the summer months and a minimum of 296 feet MSL during the winter months (the level would rise as rainfall is received).

Lake Hodges is proposed to be added to the 2002 Clean Water Act Section 303(d) list of impaired waters, and would be assigned a low total maximum daily load (TMDL) priority for pollutants including color, nitrogen, phosphorus and total dissolved solids (TDS). The Section 303(d) and TMDL assessments involve prioritizing waters on the basis of water quality status and the necessity for assigning quantitative contaminant load restrictions (i.e., TMDL), with these data submitted to the EPA for review and approval. The Draft 2002 303(d) and TMDL assessment is currently being evaluated, and is scheduled for consideration by the SWRCB Board in 2004.

## Hydrological Impacts

### Impacts on Natural and Beneficial Floodplain Values

Runoff from the project site and adjacent areas flows directly into Lake Hodges. Project implementation would include construction of the proposed pedestrian/bicycle bridge, generally at- or below-grade bridge abutments and trails/bicycle paths, and installation of landscaping and interpretive features (i.e., signs). None of these facilities would substantially affect existing drainage patterns, with no associated impacts expected.

Project implementation would increase the rate and amount of local surface runoff through the construction of additional impervious (i.e., paved) surfaces, including proposed trails/bike paths and bridge abutments. No associated substantial impacts related to runoff volumes, velocities or flooding hazards are anticipated from these facilities, however, due to the minimal incremental increase in both paved area (i.e., approximately 0.67 acre) and associated runoff generation (i.e., less than 2 cfs).

The proposed bridge design includes portions of two support piers located within the lakebed. The abutments, piers and related facilities (i.e., pier footings and riprap armor) would produce some effects related to the displacement of water and an associated increase in lake/river flood elevations, as well as the redirection/deflection of flows at the abutment and pier structures. These effects are not expected to result in any notable changes to surface water/floodplain elevations or flow directions/velocities,

however, due to the nature of both the existing hydrologic environment and the proposed structures. Specifically, the abutments would measure approximately 26 by 31 feet (southern shore) and 31 by 36 feet (north shore), while the two piers would be approximately 19 by 24 feet and spaced approximately 330 feet apart. The lakeshore is approximately 1,000 feet wide in the project area, and increases in width immediately downstream in the main body of the lake. The associated flow volumes passing through this broad channel are considerable, especially during larger (e.g., 100-year) storm events. The bridge design is in compliance with standard design practice and design criteria in California Department of Transportation's *Local Assistance Procedures Manual*. The low cord of the bridge (i.e., the lowest point, located at the midpoint of the northernmost span) provides approximately 1.5 feet of freeboard over the 50-year flood elevation and is approximately at the 100-year flood elevation at 325.8 feet. Based on these conditions, potential effects to flow movements, directions, velocities and related floodplain elevations from the proposed placement of small-scale and widely spaced abutment and pier structures (as described) would be negligible (URS 2002 and 2003).

**Risks**

Inundation by Seiche, Tsunami or Mudflow

The project study area is not subject to impacts associated with tsunamis (commonly referred to as tidal waves), due to its location approximately eight miles inland from the Pacific Ocean. Mudflows are also not considered a substantial hazard due to the lack of known landslide (or other slope failure) deposits, the competent nature of local granitic bedrock and the relatively minor depths of topsoil and other surficial slope deposits in which mudslides could potentially originate. Seiches are wave-like oscillatory movements in enclosed bodies of water such as lakes or reservoirs, most typically associated with seismic energy from an earthquake event. Due to the proximity of the project site to Lake Hodges, the proposed bridge and related structures could potentially be subject to seiche-related impacts. While the possibility that the proposed bridge structure could be damaged by seiche effects cannot be totally discounted, the potential impact is considered unlikely for the following reasons: (1) the probability of seismically-induced seiche effects occurring in Lake Hodges in conjunction with the maximum lake level (i.e., when the bridge would be most likely to be affected by such a phenomenon) is considered slight; (2) a minimum vertical clearance (i.e., the distance between the bridge structure and the water surface) of 10.5 feet would be maintained during the maximum lake level, providing a buffer for potential seiche effects (with the difference in clearance varying by location on the bridge); and (3) the proposed bridge piers would incorporate applicable seismic loading parameters as described in the project geotechnical analysis (MACTEC 2002).

Potential Downstream Impacts

The project would represent a new structure placed in the lakebed. Two piers are proposed in the lake at 330 feet apart. The footing and piles for each pier would be placed below grade and would not interfere with water flow. The pier columns themselves measure 12 feet by 6 feet at the base and taper to 8 feet by 4 feet and then gradually widen again towards the bridge platform. The bridge abutments would be located at the north and south lakeshores and not in the lakebed. As discussed above, potential effects to flow movements, directions and velocities would be negligible because the two piers are spaced apart and are small in scale. Thus, the structures would not be large enough to cause a risk to downstream flows.

If the willows presently in the lakebed are not removed by the City (the lake operator) or CWA, then it is possible that a large flood could dislodge vegetation upstream from the proposed bridge. This vegetation could become caught against one or both of the bridge piers. This event is considered unlikely and would not cause a significant impact to the bridge structure itself or flows. The piers are far apart and small enough that only small amounts of debris would get caught.

**Water Quality Impacts**

Hydrology and water quality impacts from the implementation of the *San Dieguito River Park Concept Plan* were addressed in Section IV. D of the Final Program EIR for the Concept Plan (San Dieguito River Park Joint Powers Authority 1993). The proposed project is identified as a component of the Concept Plan. Mitigation for impacts to water quality is contained in the Final Program EIR (pages 171 and 172) and is incorporated into the Design and Development Standards contained in the Concept Plan. The following is a summary of the project-specific analysis for hydrology/water quality.

Potential water quality impacts associated with the proposed project include erosion/sedimentation, accidental discharge of construction-related hazardous materials (e.g., fuels, lubricants and concrete waste), disposal of extracted groundwater (if necessary), and long-term facility operation and maintenance activities. Potential erosion impacts are discussed under Geology and Soils, with the remaining issues evaluated below.

**Construction-related Hazardous Materials**

Project construction would involve the on-site use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint and portable septic system wastes. The accidental discharge of such materials during project construction could potentially result in substantial adverse impacts to surface water quality, particularly for materials such as petroleum compounds that are potentially toxic to aquatic species in low concentrations. The project site is adjacent to Lake Hodges, with any associated storm/irrigation runoff or uncontrolled contaminant discharge assumed to enter the lake.

**Construction-related Disposal of Extracted Groundwater**

Groundwater was observed at depths of between 48 and 50 feet below grade of the southern bridge abutment during exploratory borings conducted as part of the preliminary bridge foundation investigation (MACTEC 2002). The referenced investigation also noted that local groundwater levels are anticipated to fluctuate seasonally with precipitation and water levels in Lake Hodges. Based on these conditions and the proximity of both the lake and the San Dieguito River, shallow groundwater tables and/or seasonally perched groundwater may be encountered during project grading/excavation. Disposal of groundwater extracted during construction activities (if required) could potentially impact surface water quality through erosion/sedimentation (i.e., during discharge) or the possible occurrence of contaminants in local groundwater aquifers. Under such conditions, the disposal of extracted groundwater could impact downstream surface water quality and associated biological habitats through increased turbidity and the introduction of other contaminants.

**Long-term Project Operation**

The completed project does not have features or activities that are expected to impact water quality. The project design involves a number of elements to minimize potential long-term contaminant

generation, including: (1) use of pedestrian- and bicycle-only facilities that would preclude motorized vehicles; (2) limiting increases in both impervious surfaces (0.67 acre) and associated runoff volumes (i.e., less than 2 cubic feet per second [cfs]) to incremental levels; and (3) use of native habitat restoration and native species to minimize or eliminate irrigation and chemical application requirements (e.g., pesticides).

The proposed alignment of the south trail is located on the southbound shoulder of West Bernardo Drive. Currently, the southbound shoulder is unpaved, steep (slopes exceeding 9 percent), and is severely eroded. Sheet flow from the southbound lane of West Bernardo Drive has concentrated in many locations and has caused numerous rills and gullies to form; some of the gullies have reached depths of more than three feet and are compromising the integrity of the road's structural section and the brow ditch that captures runoff from an adjacent natural slope. Furthermore, the unpaved shoulder is extremely compacted and provides limited infiltration. Consequently, the predominant water quality concern generated from West Bernardo Drive runoff is erosion of the shoulder and the associated discharge of sediment into Lake Hodges. The proposed south trail improvements will minimize the erosive condition of the shoulder by 1) resurfacing the shoulder and placing a decomposed granite, polymer-bound surface; 2) constructing a rock-lined channel to capture and convey runoff from the road and trail; and 3) planting on the west side of the trail. These improvements provide the following water quality benefits:

- The polymer-bound trail surface will provide a more erosive-resistant surface than the un-vegetated shoulder.
- The rock-lined channel will provide a more scour-resistant surface than the natural gullies that have formed.
- The rock-lined channel will reduce the flow velocity and provide energy dissipation, thereby allowing sedimentation to occur within the BMP (i.e., the lined channel) before it reaches the lake.
- The rock-lined channel will allow infiltration.
- The planting on the west side of the trail will function as a biofilter, which removes sediment and other pollutants through filtration and infiltration.

Implementation of the proposed improvements will reduce existing water quality impacts to Lake Hodges. In particular, Lake Hodges is a 303 (d)-listed water body. Pollutants causing the impairment include color, nitrogen, phosphorus, and total dissolved solids. Reducing the amount of erosion on the existing shoulder will reduce the concentration of color and total dissolved solids from entering the lake. Additionally, fertilizers will not be used, thereby eliminating a potential source of nitrogen and phosphorus.

Litter from trail users could enter the reservoir, therefore, trash receptacles and pet waste bag dispensers will be incorporated into the project to prevent litter and dog manure from entering the reservoir. Pollutants such as oils, metals, and coliform will be prevented from entering the reservoir by restricting use to pedestrians and bicycles.

For the above reasons, no adverse impacts related to the potential generation of water quality contaminants during long-term project operation are anticipated.

**Mitigation Measures**

Prior to disposal of extracted groundwater, the project applicant (or contractor) would be required to obtain authorization from the RWQCB (pursuant to Order No. 2001-96) under the appropriate General NPDES Groundwater Extraction Waste Discharges Permit (i.e., NPDES No. CAG919002, Discharge To Surface Water in the San Diego Region Except For San Diego Bay). This requirement is applicable to discharge activities which either: (1) involve more than 100,000 gallons per day (gpd) of discharge; or (2) include contaminants, which would exceed applicable discharge requirements. Specifically, these requirements are intended to ensure compliance with applicable Basin Plan water quality and beneficial use objectives. Authorization under the described permit typically involves demonstrating that appropriate BMPs would be implemented to protect downstream water quality, pursuant to site-specific conditions and regulatory requirements. While detailed measures would be determined by the applicant and RWQCB as part of the authorization process (if required), the previously referenced storm water BMP sources (as well as the California Department of Transportation's *Field Guide to Construction Site Dewatering* California Department of Transportation [2001]) identify the following types of measures to address water quality concerns associated with disposal of extracted groundwater:

- Use of erosion prevention and sediment control/catchment devices similar to those described in Geology and Soils of this Initial Study for erosion and sedimentation
- Filtering of groundwater prior to discharge (e.g., with gravel and filter fabric media)
- Testing of extracted groundwater for contaminants prior to discharge
- Treatment of extracted groundwater if required (e.g., by conveyance to a municipal wastewater treatment plant)

As described above, the project will require implementation of an approved NPDES construction activity permit (including a SWPPP). These existing requirements address measures to avoid or mitigate effects related to the use and potential discharge of hazardous materials during construction. While detailed measures would be determined by the City, project engineer and contractor(s) as part of final design and SWPPP preparation, the following items from sources including the *City of San Diego Storm Water Standards* (City of San Diego 2002), *California Department of Transportation Storm Water Quality Handbooks* (California Department of Transportation 2000) and *California Storm Water BMP Handbooks* (Stormwater Quality Task Force 1993) would likely be applicable to proposed construction activities:

- Restriction of paving operations during wet weather
- Use of erosion prevention and sediment control/catchment devices downstream of paving activities (similar to those described in Geology and Soils of this Initial Study for erosion and sedimentation)
- Proper containment and disposal of paving and drilling wastes or slurry (including concrete truck washout water)
- Storage of hazardous materials at least 50 feet from storm drains and surface waters

- Use of covered and/or enclosed storage facilities for hazardous materials

- Designation of specified areas for construction vehicle/equipment staging and maintenance, and use of portable drip pans (or equivalent devices) for temporarily inactive equipment not in designated staging/maintenance areas

- Use of berms, ditches and/or impervious liners (or other applicable methods) in hazardous material storage and vehicle/equipment maintenance areas to prevent the discharge of hazardous materials (i.e., during a spill) and potential contaminants (e.g., vehicle wash water)

- Use of locking couplings, automatic shut-off valves and vapor recovery nozzles for vehicle/equipment fueling operations

- Storage of absorbent and clean-up materials where they are readily accessible

- Posting of regulatory agency telephone numbers and a summary guide of clean-up procedures in a conspicuous location at or near the job site trailer

- Regular inspection and maintenance of all BMP facilities and operations

Implementation measures required in an approved NPDES Dewatering Waste Discharge Permit authorization and NPDES Construction Activity permit (including the types of measures listed above) would effectively avoid or mitigate water quality impacts associated with construction-related hazardous materials. No additional project-specific mitigation is required.

**RECOMMENDATION:**

On the basis of this initial evaluation:

- ○ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

- ● I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

- ○ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

- ○ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

- ○ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

3/4/05
Date

**PREPARED BY:**

Shawna C. Anderson, AICP, Principal Environmental Planner
San Dieguito River Park Joint Powers Authority

Kim Baranek, Senior Project Manager
HELIX Environmental Planning, Inc.

Dennis Marcin, Environmental Specialist
HELIX Environmental Planning, Inc.

Deborah Leonard, Biologist
HELIX Environmental Planning, Inc.

Dennis Gallegos, Archaeologist
Gallegos and Associates

Stephen J. Bouscaren, Ph.D., Archaeologist
Gallegos and Associates