APPENDIX A STAFF RECOMMENDED ALTERNATIVE

1.1 DEVIL'S GATE DAM AREA

1.1.1 New Parking Area and Observation Deck

A new parking lot will be constructed at the intersection of Linda Vista and Oak Grove Drive with an overlook to the Devil's Gate Dam spillway. An existing tunnel under Oak Grove Drive will allow pedestrian access to the western end of the dam. The parking lot will be landscaped, accommodate approximately 12 vehicles and will be located on the upper terrace; ADA -Accessible trail/ramp(s) will take visitors from the parking lot to the lower observation area and access tunnel to the dam. An existing retaining wall along the observation area and landing to the tunnel will need to have the existing chain link fencing replaced with ornamental iron safety fencing, similar to that recommended for the dam's parapet walls. A gate will be installed on the southern opening of the tunnel to allow for securing access at night.

1.1.2 East Access (Entry) to Dam

In order to eliminate maintenance vehicle/equipment traffic in adjacent residential neighborhoods, a new entry slip lane allowing direct access to the dam and basin from Oak Grove Drive will be constructed. This project will also provide for 3 parking spaces as well as dam and basin access roads that will allow maintenance vehicles and equipment better access to the flood management–water conservation pool and dam. The existing road bed at the eastern end of the Devil's Gate Dam area will be raised to accommodate the new slip lane, tapering off to meet the existing east side haul road, which will be uniformly graded and descend to the flood maintenance staging area. This access will allow maintenance vehicles to enter the area via a secured entry gate and to drive onto the one-way (westbound) dam or down into the debris/sediment basin. The entry gate will be configured to allow bicycles access to the dam from Oak Grove Drive.

1.1.3 West Access (Exit) from Dam

The one-way (westbound) flow of maintenance vehicle traffic across the dam requires an exit on the west end of the dam. This exit will be provided at the location previously used as a temporary access road during construction projects on the dam. Vehicles exiting the dam at this location will be required to turn right. The 210 Freeway on-ramps at Berkshire Place provide access to all destinations without driving through a residential neighborhood.

1.1.4 Close La Cañada-Verdugo Road

The existing pipe gate at the end of the cul-de-sac on La Cañada-Verdugo Road will be removed and the curb restored, eliminating vehicle access from this residential street. Vehicular access to the eastside of the dam will be through the proposed Oak Grove Drive Entry and Exit. A landscaped berm will be created along the edge of the cul-de-sac to further buffer the adjacent residential neighborhood from park activities. Storm drains and perimeter fencing will be modified as needed.

1.1.5 Dam Keeper's Quarters and Public Restroom

The existing dam keeper's quarters located on the east side of the dam will be demolished and rebuilt as a public restroom to serve park visitors in the area of the dam and as they enter/exit the Central Arroyo area. The new restroom will have one urinal and one stall for men, two stalls for women, and 100 square feet of storage. New dam keeper's quarters will be built above the public restroom with sleeping quarters, a small kitchenette, and a private restroom. This second story will afford the dam keeper a view of the basin during storm events. On the ground level, connected to the public restroom, will be a storage area (single-car garage) for materials and equipment related to the operation and maintenance of the dam. The former dam keeper's house (the current Arroyo Resource Center) will gravity-feed to a sewage lift station at this facility with a force main to the main sewer in La Cañada and Verdugo Road.

1.1.6 Public Safety at Dam and Observation Deck for Public Safety

The City of Pasadena (City) will work collaboratively with Los Angeles County Department of Public Works (LACDPW) to enhance safety at the deck on the dam, at the observation deck south of the westside tunnel overlooking the spillway, and along the trails (see Section 16.8 Dam Observation Trail) that leads down to an observation point overlooking the dam and the water conservation pool Safety could be enhanced through the installation of ornamental fencing along the dam parapet walls and the spillway observation deck. Fencing will be similar to that installed by the City on the Colorado Street Bridge.

1.2 WESTSIDE PARK ACCESS

1.2.1 Park Entrance at Foothill Boulevard

The main westside park entrance will remain at Oak Grove Drive and Foothill Boulevard. The entry will receive a new park entrance sign, landscaping, and entry area lighting. This entrance will be for egress, ingress, and unobstructed access to the Metropolitan Water District (MWD) lessees, including the U.S. Forest Service, Rose Bowl Riders, and Tom Sawyer Camp. As needed, the use of a traffic control facility/entry kiosk for security and dissemination of information will be assessed.

1.2.2 Oak Grove Drive Improvements

An access lane will make entry to the park safer and more efficient, as well as alleviate Oak Grove Drive peak-hour traffic due to La Cañada High School and Jet Propulsion Laboratories (JPL). A one-way access lane from Oak Grove Drive at the Berkshire intersection is proposed to allow park users to enter the park during peak hours. The access lane will be ingress only and will have a secure gate built into the perimeter fence with appropriate signage.

In response to public safety concerns, a portion of this project was temporarily implemented during the public review period for the draft *Master EIR*. This project as proposed has yet to be completed.

1.2.3 MWD Lease

The City will enter into a lease of the MWD property. No changes to current on-site uses are proposed.

1.3 EASTSIDE PARK ACCESS

1.3.1 New Park Entrance

The new park entrance will be relocated to the intersection of Windsor Avenue and Mountain View Street. The existing parking lot on Windsor Avenue will be demolished and relocated to the north end of the existing Jet Propulsion Laboratory (JPL) parking lot, once and only when the proposed project element described in Section 1.15.1, Convert JPL Parking to Public Parking (below), is ready to occur. The widening of the roadway area at the intersection of Windsor Avenue and Ventura Street with the new park entrance road will require a new retaining wall to the west of the current entrance/intersection. After the new entrance roadway is constructed, the surrounding land will be landscaped with native vegetation, including oak woodland species.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL. During the public comment period, staff was informed that Los Angeles County has, on their own and independent of the Arroyo Seco Master Plan expressed some interest in correcting some of the problems at the intersection in question to bring that intersection to a safe standard. If and when the County work is implemented, then this proposed New Park Entrance project may or my not be necessary.

1.3.2 Realign Park Access Road

The road leading down the slope from the eastside entrance from Windsor Avenue will be realigned to east of the Arroyo Well and follow the easterly edge of the current JPL parking lot. This will allow the spreading basins to be expanded in what was the east JPL parking lot.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.3.3 Widen Johnson Field Road

The existing eastside roadway (Johnson Field access road) from the intersection with the JPL access road south toward Johnson Field will be widened to accommodate two lanes of traffic. A turnaround for buses and emergency vehicles at its terminus next to Johnson Field will also be constructed. The intersection with the access road from the Windsor/Ventura entrance to the JPL eastside parking lots will be reconstructed to improve safety. The interpretive area will have a loop around the Arroyo Well with spaces for 12 cars and one bus. The road will be widened to the east, minimizing any impact to existing habitat.

1.4 WATER CONSERVATION

Increasingly, water in southern California is becoming a valuable commodity. Allowing more water to recharge the Raymond basin for use and not to pass through the dam to the ocean is a major goal of the master plan. In an average rainfall year, Devil's Gate Dam, with a minimum capacity of 1,400 acre-feet below spillway height (current capacity is 1,424 acre-feet), will allow the basin behind the dam to fill with inflowing water 1 to 3 times. In a drought period, with an average rainfall year, the basin could not even fill up once. The watershed, like a sponge, dries out during drought periods. It must reach a saturation point or have a storm of enough intensity before runoff flows to the basin. In the winter of 1997-98 (El Niño year), the basin could have filled 42 times. Therefore, a sophisticated operating procedure needs to be developed to balance the goals of water conservation, flood control, and sediment management.

1.4.1 Seasonal Flood Management Water Conservation Pool

The flood basin behind the dam has been filling with sediment. With an existing capacity of 1,424 acre-feet it is approaching the minimum capacity of 1,400 acre-feet. Since 1970 when the dam was declared unsafe to hold water, vegetation has been allowed to grow in the 92 acres that will be flooded now that the dam has been reconstructed. When water conservation measures are implemented, this vegetation will begin to die as it is frequently inundated. To create new quality habitat above the spillway elevation and increase the capacity to a maximum 1,900 acre feet, to allow for 500 acre feet of inflowing sediment capacity, this project would move 378 acre feet of material on site and remove 243 acre feet of material off site. This would reduce the area frequently inundated to 69 acres and create 28 acres of new recreational and habitat area. It would also create a flood control pool to better manage inflowing sediment and floating debris and a water conservation pool to allow the retention of floodwater for pump back to the spreading basins.

1.4.2 Pump-Back System

This project involves the installation of the infrastructure needed to pump water at selected times from a seasonal flood management/water conservation pool behind the dam, north, to the existing improved spreading basins on the east and the proposed spreading basins on the west side of the park. A new inlet structure with pump located near the dam would be created to pump water from the pool and into a new distribution system. The distribution system, including the size of piping and pump, will be designed to take water from the new inlet north along the eastside of the basin, at the bottom of the slope and adjacent to other water distribution lines. The primary distribution will be for the spreading basins.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.4.3 Overall Storm Drain Improvements

Storm water entering the proposed Flood Management Water Conservation Pool from Flint Wash, from runoff of adjacent lands and from all storm drain out-falls, will need to comply with state mandated water quality standards including monitoring and clean-up of pollution from runoff. Runoff pollutants include horticultural fertilizers and pesticides, pathogens from animal manure (dogs and horses), hazardous substances in municipal waste, including trash, oil, and grease from motorized vehicles. Remediation may occur at the out-fall location in the Park, at pollutant source or at the inlet to the storm drain, depending on the particular type of pollutant. This becomes important due to the planned pump-back of water held behind the dam for percolation in the spreading basins, recharging the Raymond Basin aquifer, a source of drinking water. A fiscally workable solution to some of these pollution problems remains to be found, both technically and scientifically.

1.4.4 Westside Spreading Basins

This project creates three new basins (numbers 13, 14 & 15) totaling approximately 8 surface acres on the west side of the park and brings Pasadena's total spreading operation to 21 surface acres. The City has the right to divert a maximum of 25 cubic feet per second from the Arroyo Seco stream. The City of Pasadena Water and Power Department has concluded the optimum water surface acres for spreading with diversion and pump back is 22 to 25 acres. The master plan estimates there is room for approximately 21 surface acres. The maximum depth of the water in these ponds will be 6 ft. This project also involves extending the distribution system for the new spreading from two sources: a) the diversion of Arroyo Seco and Millard streams as well as from the new pump back system infrastructure, along the east side of the basin. This project is directly related to another project, *"Construction of the northerly Perimeter Trail Bridge Crossing."* The bridge crossing is needed for the successful completion of the new west side spreading basins as it provides the means for a utility crossing including the water diversion and pump back infrastructure crossings to the west side basins.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.4.5 Eastside Spreading Basins

Opportunities for spreading water will be enhanced through the expansion of existing and creation of new basins in the area now occupied by the JPL east parking lot. Testing has shown the rate of percolation of water into the Raymond Basin could be greater in this area than in the existing basins. Existing basins numbers 1, 2, 3 and 4 will be expanded to the east. Two new basins will be created to the north of basin no. 1 and the existing east to west connecting trail. The City of Pasadena's two sludge basins will be relocated and expanded to the north of the new spreading basins.

This expansion will occupy approximately 75 percent of the current JPL east parking lot. The completion of this project will allow for the conversion of spreading basins numbers 11 and 12 into a permanent lake (see East Lake project).

The amount of spreading basin surface area lost by creating the lake equals the same area gained by the expansion of the existing basin and the creation of two new basins, all in the existing parking lot. The City of Pasadena is required by the Raymond Basin Management Board to maintain and operate the existing total of 13.1 surface acres of spreading.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.4.6 Altadena Drain Improvements

The Altadena drain extends into the stream channel north of the existing spreading basins. The extended concrete box structure was used as part of an earthen breakaway dam, which would divert water to the eastside spreading basins. Discontinuing the use of the site as a diversion facility is recommended. To widen the stream corridor, allowing for a more natural stream alignment, (See Habitat Project #1: *Stream Corridor Alignment*) the drain will be shortened and the embankment armored to prevent erosion. This stream corridor will be restored to a riparian habitat, similar to and as a continuation of the same plant community, immediately north of the JPL Bridge.

1.4.7 Altacrest Drain Improvements

The discharge from the 40-inch reinforced concrete pipe (RCP) adjacent to the Gabrielino Trail Road and east of the JPL east parking lot (just south of the equestrian trail), will continue down slope in an extended enlarged single RCP. This underground drain line will run between the enlarged existing ponds and empty directly into the stream corridor. There will be an inlet to receive runoff from the eastside park road and the remaining northerly quarter of the existing parking lot.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.5 FLOOD MANAGEMENT

An important element of the HWP master plan is flood control or management of storm events for the public safety. The 1919 Lease Agreement between LACDPW and the City designates an area for flood control that encompasses approximately 80 percent of the HWP acreage. Under the most extreme conditions, this area could be flooded. This includes all the area behind the dam, below elevation 1,075 feet above mean sea level (msl).

Park elements need to be designed with these flooding considerations: the area that is most frequently inundated is below an elevation of 1,040.5 msl (the floor of the spillway). Park elements between the elevations of 1,040.5 msl and 1,075 msl will need to be reviewed by all parties and designed for the possibility of a short period of inundation (maximum of several days). The capacity below the elevation of 1,040.5 msl should be as great as possible for water conservation, sediment management, and flood management. Currently, the area at this elevation of 1,040.5 msl covers 92 surface acres. Much of this area is covered with only a few feet of water when the water level is at spillway height (1,040.5) msl. The conceptual grading plan proposes to excavate material, creating a deeper debris and sediment basin. This excavated material will be placed so that approximately 30 acres will then be above the elevation of 1,040.5 msl. This raised area will be infrequently inundated, and could be used for park amenities and facilities. The areas that are frequently inundated (at 1,040.5 msl and below) are reduced to 69 acres (from 92 acres), according to the conceptual grading plan. An additional 243 acre-feet will be removed from the site to achieve the maximum capacity of the debris and sediment management basin as shown on the conceptual grading plan. This grading will achieve the following benefits:

- The floodwater and sediment capacity of the management basin will increase because much of the material excavated from below the 1,040.5 msl elevation will be placed above the 1,040.5 elevation.
- The needed capacities for flood management could be met by not having to move graded material off-site for three to five years. By this time, the new willow habitat will be established, existing habitat could be removed, and more sediment will have accumulated, reducing the capacity.
- Approximately 30 acres will be gained for passive and active recreation, as well as for quality habitat.

Most of the existing willow habitat will be inundated if this proposed grading does not occur (see Habitat Project #2, as described in the Hahamongna Watershed Park Master Plan). The habitat will begin to degenerate as more water conservation measures are practiced and water is kept at the 1,040.5 msl elevation for pump-back purposes. Water conservation measures can begin as soon as the City and the County of Los Angeles Department of Public Works (LACDPW) resolve a number of liability issues.

1.5.1 Sediment and Debris Management

The minimum capacity for flood management is the volume below the spillway floor, which is 1,400 acre-feet (2 debris events). This minimum capacity must be maintained. Therefore, as sediment inflow varies from year to year, and as the total volume of inflowing sediment decreases the capacity to the minimum 1,400 acre-feet, sediment must be removed. The grading plan illustrates the proposed maximum capacity, which will be 1,894 acre-feet. This will inundate a 69-acre area at an elevation of 1,040.5 msl. The difference between this maximum capacity and the minimum (1,400 acre-feet) is equal to 5.5 years of the historical annual average inflow of 145,200 cubic yards of sediment.

Debris and sediment removal of approximately 3,000 cubic yards will occur each summer to maintain and/or restore the dam's lowest opening, the sluice gate. This will permit the continuing operation of the flow assisted sediment transport (FAST) program, which has accounted over the years for the removal of approximately 20 percent of the inflowing sediment.

Because drought years transport small amounts of sediment, and large sediment transport events occur unpredictably, sediment should be removed from the park on an as-needed basis. Sediment removal could happen in consecutive years, but in reviewing historical data, it is more likely that this will need to occur every three to seven years. Procedural policies and specifications for processing and removal of sediment need to be drafted by the City and Los Angeles County Department of Public Works.

The conceptual grading proposes to shape the basin with sides as steep as can be safe and stable (3:1 slope). This maximizes the capacity and allows the space to be easily maintained. At elevations of 1,030 msl and below, newly deposited sediment, debris, and emerging vegetation will be excavated. One of the goals of the master plan is to establish a permitting process that will allow sediment removal to occur on an as-needed basis. This area below 1,030 msl, the debris and sediment basin (i.e. water conservation pool), will be shaped not only to facilitate the removal of deposited sediment, but also to influence where sediment is deposited. With an incoming storm event, it is ideal to have water at elevations of 1,020 to 1,030 msl. This causes sediment-laden water to slow as it enters the water conservation pool, thereby dropping out the sediment below the established habitat and upstream of the dam, so as to not affect the dam's control features. If water is at 1,040.5 msl (spillway height), then sediment will be deposited in the newly widened stream corridor, and will inundate the streambed riparian plant community. As a storm event passes and water continues to enter the basin, it becomes less sediment laden. When this occurs, water should be allowed to accumulate to the maximum capacity. This will inundate the established willow and riparian habitat with nutrients and water, and accumulate water for the proposed pump-back (see Section1.4.2, Pump-Back System) for water conservation purposes.

Another aspect of this project element is debris removal. For the safe operation of the dam and downstream floodwater structures, debris needs to be prevented from passing through the dam and obstructing openings in the dam or spillway head works. An area on the east side of the debris and sediment management basin (i.e., water conservation pool) will be raised to an elevation of 1,045 msl, and used as a staging area for equipment to remove floating debris.

1.5.2 Sediment Removal Access

A permanent haul road will be constructed at the south end of this unpaved road. It will connect Oak Grove Drive with the bottom of the basin behind the dam. A secure gate built into the perimeter fence will provide sediment removal trucks and maintenance equipment with access to the sediment and debris management basin. The on-ramps to U.S. Interstate 210 (Foothill Freeway) at Berkshire Place provide access to all destinations without driving through a residential neighborhood.

1.6 OAK GROVE AREA

1.6.1 Group Picnic Shade Structures

Group picnic areas will accommodate four to six picnic tables. The shade structures, two south and two north of Oak Grove Field, will be designed to fit the natural character of the park and use indigenous materials. The floor of the group picnic area will be graded level and smooth and surfaced with a permeable material such as decomposed granite blended with native soil and a binder. Electricity will be provided to the structure, and amenities such as barbecues with counters, sinks with running water, and gray water drains will be provided. A trash disposal area will also be provided to store multiple cans with lids.

1.6.2 Westside Picnic Amenities

Both group picnic areas and smaller/individual picnic areas are planned for the westside park area. The Upper Oak Grove will continue to have a distribution of picnic tables within its use area. The Lower Oak Grove will serve as the location for two designated group picnic areas. The first is in the area south of the Oak Grove Field where two picnic shelters will be provided for group picnics. The other is the east end of the overnight camp area, which will also provide two picnic shelters. Both areas will have one picnic shade shelter. A minimum of two picnic areas within the westside park area will be ADA-accessible. There are currently 52 picnic tables within the westside park area. The quantity of picnic tables has steadily decreased over the past several years due to a loss of tables due to age, wear, and misuse. It is estimated that the total number of tables will double to accommodate the use anticipated by the park improvements proposed for the westside park area. Existing picnic tables will be moved to better positions, which will also relieve the compaction on sites where they currently sit. A program to rotate the picnic tables will be implemented, particularly in areas where a table is within the drip line of a tree.

1.6.3 Oak Grove Field Restroom

The abandoned restroom at the southwest corner of the existing Oak Grove Field will be replaced by a new restroom facility that includes storage. The new restroom facility is east of the former location and at the southeast corner of the renovated Oak Grove Field. A sewage lift station will be constructed. The sewage lift station will transport sewage west to the main sewer system on Oak Grove Drive. The new replacement restroom will have one urinal and two stalls for men, and three stalls for women, as well as adequate storage space. The facility will also have security/safety lighting installed.

1.6.4 Foothill Drain Improvements

Increased runoff from the widening of Oak Grove Drive, Foothill Boulevard west of the park entrance and a portion of the La Cañada-Flintridge area has caused severe erosion on the slope above the existing Oak Grove Field. The existing 24-inch concrete drain will be extended down the slope and then turn parallel to the Oak Grove Field. The new pipe will be covered over and the slope restored. The new drain will discharge stormwater into an improved existing swale that flows south at the base of the slope.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL. Please also see the Arroyo Seco Design Guidelines.

1.6.5 Outdoor Amphitheater

The existing amphitheater located just west of Oak Grove Field will be restored. The area accommodates approximately 150 children and will not be expanded. Telephone pole seating will be rehabilitated. The area will be fine-graded and surfaced with the appropriate material to make the area ADA-accessible.

1.6.6 Sycamore Grove Field

A new two-acre multipurpose field will be constructed adjacent to and east of the expanded parking lot described under Section 1.6.10, *Expanded Parking Area*. This area is currently used for temporary overflow parking. The multipurpose play area will also accommodate youth tournament soccer, open play, group picnics, and other group and non-group activities. This field size also allows the area to be converted into two practice fields for youth soccer. Under existing conditions, the southern portion of this field is prone to flooding; therefore, the area will be built up from its current elevation of 1,040 msl to an elevation of 1,050 msl. Fill material for construction of the Sycamore Grove Field and disc golf course improvements will be provided by excavation of 310,000 cubic yards from the conservation pool. During disaster emergencies, the area will continue to be used as a staging area for fire crews and other emergency support groups. A gravity sewer will take the sewage from the restroom in this area to the sewage lift station at the south end of the expanded parking lot and Oak Grove Field.

1.6.8 Upgrade Oak Grove Maintenance Office Sewer [Not on Map]

The Oak Grove Maintenance Office (OGMO) is currently on a septic system. The restroom facilities do not need upgrading. The current septic system will be converted to a gravity flow system that will flow to the proposed sewage lift station near the Berkshire drain, and then get pumped up to the existing sewer main in Oak Grove Drive.

1.6.9 Disc Golf Course Improvements

The disc golf improvements include relocation of the back nine pins in the north Oak Grove area, and pins 5 through 9 of the front nine to southeast of the existing parking lot, an area of approximately 1,120 square feet. The relocation of the disc golf area provides the opportunity for habitat restoration of the north Oak Grove area. The relocated disc golf course will be developed by excavating material from the water conservation pool area (ruderal habitat areas), and placing the material in the area between the existing willow stands to an average elevation of 1,046 which is above the frequently inundated elevation of 1,040.5 msl. Fill material for construction of the Sycamore Grove Field and disc golf course improvements will be provided by excavation of 310,000 cubic yards from the conservation pool. Drainage courses in this area will occur within the existing stands of native habitat. A bench will be provided at every pin and constructed to blend in with the environment using natural arroyo stone and materials.

1.6.10 Expanded Parking Area

This existing 100-space parking lot will be expanded to 220 spaces, immediately east of the Oak Grove Field. The existing parking lot will accommodate 220 cars, including nine ADA-accessible spaces and two buses, and will be accessed via the improved access road to this lot. This lot is intended to replace the dirt overflow lot (which currently accommodates 120 vehicles) that is being converted to Sycamore Grove Field. This element of the proposed project is contemplated in conjunction with another element, the removal of existing asphalt paving in the basin (from past mining operations). The removed asphalt will be used as base fill for the new expanded parking lot. As a part of this project, the existing access road with a small parking area and space for one bus will be extended and improved to allow for a turnaround for park users, buses, and emergency vehicles.

1.6.11 Native Plant Nursery

A plant nursery will be established at the existing OGMO with materials and equipment necessary to produce native plant stock for revegetation of Hahamongna Watershed Park and other areas of the Arroyo Seco. Such materials and equipment will include propagation tables, interpretive signage, storage bins for soil and amendments, and a holding area for larger container stock. An adjacent unused area will be incorporated into the OGMO yard for this purpose, with new fencing to delineate the enhanced area.

1.7 SUPERVISED OVERNIGHT CAMPING AREA

Supervised overnight camping is proposed in the northern portion of the Oak Grove area. The overnight camping area will be available for individual and groups during the day but will only be available to organized groups with proper supervision, such as Boy Scouts, Girl Scouts, or church groups for camping during nighttime. The facilities for group overnight camping to be provided include two shade structures (same as described for the group area south of the Oak Grove Field), six grey water septic outdoor sinks, barbecues, drinking fountains, a renovated restroom, and an area for environmental play and education. Selected campsites and access will be provided for the disabled. Two gathering areas will be created. A fire ring will provide seating for approximately 30 youth. Seating will be provided by wooden poles or elevated planks for easy maintenance. An outdoor amphitheater will also be sited within the area. It will be a much smaller version of the amphitheater west of the Oak Grove Field but built in the same style and of the same materials. It will accommodate 60 youth.

The overnight camping area will be administered by park staff, who will be scheduled around the clock. The existing Los Angeles County Trail maintenance and storage area will be converted to provide accommodations and administrative space for the park staff. Parking for the overnight campers and two buses will be provided. A trash bin enclosure will be provided adjacent to the staff building. A sewage lift station will be located between the existing restroom and the converted County building (with an added bathroom and kitchenette), with gravity lines from each and a force main to the sanitary sewer main at Oak Grove Drive.

Selected areas of the overnight camping area will be restored to oak woodland. These areas will be identified as restoration areas and corded off from human interference. With the exception of the existing trail(s) at the northernmost edge of the overnight camping area, horse trails through the oak woodland will not be allowed. Hitching posts in the central area of the overnight camping will not be allowed. Hitching posts and a watering trough will be provided at the southeast corner of the overnight camping area, near the turnaround and away from tree trunks.

1.7.1 Park Ranger Station Improvements

The existing building used by Los Angeles County Trails maintenance will be converted to a park ranger station to oversee the overnight group camping area, adjacent to the asphalt parking lot. A sewage lift station will be located between the existing overnight area restroom and this converted park building (with an added bathroom and kitchenette), with gravity lines from each and a sewage lift station with force main to the sanitary sewer main at Oak Grove Drive.

1.7.2 Westside Children's Play Area

This project element takes advantage of an existing drainage course in the overnight camping area adjacent to the existing parking area. Installing a small water pump for the dry months of the year will enhance the course. On-site materials such as boulders, tree logs, dirt, and aggregate will be used to re-create a stream environment in which children can play. A liner will be installed with the on-site materials placed over the liner to create a small natural stream. The liner will assist in allowing the low-flowing water to pool at one end. A water source will be provided to run through the shallow stream and recirculate back to its source. Water could be turned on during the warm summer months and turned off during the cooler months. Both children and adults will be encouraged to wade in the course, play in the mud, etc. Portions of the play area will be ADA-accessible.

1.7.3 Restroom Improvements

The two existing restrooms in the Oak Grove area, on the upper terrace and in the overnight camping areas will be upgraded with new fixtures, partitions, and other amenities to meet current ADA accessibility standards.

1.7.4 Improve Parking Areas

The existing dirt parking area adjacent to the ranger station will be developed as a new decomposed granite parking area to serve the overnight camping area. The parking area will provide 20 spaces for overnight campers west of the park road (same side as the ranger station). A new masonry enclosure will be constructed to secure trash dumpsters at the rear of the parking area. The overnight camping area (east of park road) will be improved to accommodate a paved drop-off area with space for three buses to pull through.

1.8 WEST LAKE

This project element establishes a new 4.8-acre lake environment on the west side of the park, east of the overnight camping area. Construction of the new lake is anticipated to require moving 94,200 cubic yards within the lake site, all coming from the Stream Channel Widening project (see Habitat Project #4 as described in the Hahamongna Watershed Park Master Plan). The overall lake environment will be approximately 4.8 acres in size. The actual surface area in water will cover approximately 2.7 acres of aquatic habitat and a small inaccessible island of .3 acre will be provided for protection of wildlife. The lake will create a wetland of 1.8 acres around the aquatic habitat, provide cultural and habitat interpretation, and provide native plant gathering materials for Native American crafts and medicinal needs. Material removed to create the lake will be used to create the raised south and east sides of the lake. Approximately 30 percent of the lake remains to be excavated, since this area was partially excavated during past mining operations.

Access to the lake for passive recreational activities such as bird watching and fishing will only be allowed around 50 percent of this west lake's perimeter (the eastern edge of this lake will be left for wildlife and human access will be discouraged). Access will be controlled with raised walkways and overlooks. The accesses will be constructed to sit just above the water's edge so children could actually touch the water but be protected by a barrier rail around the edge of the walkway or overlook. The lake will be fully lined to minimize percolation and will be of a depth to sustain a natural aquatic ecosystem (estimated to be 30 feet at lake's center). The design shall incorporate a shallow shelf at the lake's edge for wetlands habitat and safety. The lake will be fed from diverted stream water, and/or retained flood water (depending on the time of year) that is pumped back to the spreading basins, working its way to the lake by overflowing each basin until it gets to the lake (this will only happen when there is a lot of water in the spreading basins). Infrastructure for this distribution system will be necessary. Depending on stream flows and the amount of water to be pumped back, it is probable that the West Lake will need domestic water to maintain its surface level due to evaporation; aeration will be used to remove the chlorine.

For safety reasons, the lake will be designed with a shallow shoreline of a 6:1 gradient. A ramp will be provided on one side for maintenance access to the lake. No fishing will be allowed; swimming and boating will not be allowed.

1.9 EQUESTRIAN STAGING AREA

Improvements to the equestrian staging area include the following: improved vehicular access and parking for school bus and horse trailer turnaround, restroom rehabilitation, improved observation area (Sunrise Overlook), trail connections, and picnic amenities for informal gatherings.

1.9.1 Upgrade Restroom

During the initial implementation phases of the Master Plan, this restroom will be renovated to meet ADA-accessibility standards and improve the physical appearance. Later, the restroom will be reconstructed to accommodate one urinal and two stalls for men and three stalls for women. The existing restroom will be upgraded with a sewage lift station and force main; this could be combined with the sewer improvements needed at the existing OGMO by gravity feed from both, to a central location next to the Berkshire drain, where a sewage lift station will be located to pump sewage up to the main sewer line in Oak Grove Drive.

1.9.2 Realign and Widen Access Road

The existing access road will be widened to 24 feet from the upper Oak Grove turnaround and then raised 4 feet to accommodate the new 60-inch drain line. (see Section 1.9.3, Berkshire Drain Improvements, below) A new one-way, 14 feet wide road would allow in-coming traffic to enter the existing parking area on the northern edge. All vehicular traffic will exit via the southeast corner of the parking area, looping back along the old entry road and return to two-way traffic atop the new drain. The softer, wider turns and one-way traffic flow will provide easy access for horse trailers and buses. Ten pull-through parking spaces will be provided. These spaces will be used by no more than two buses, with the remainder of the spaces being designated for horse trailers and cars.

1.9.3 Berkshire Drain Improvements

The increased volume of run-off from the widening of Oak Grove Drive and Berkshire Place has caused severe scouring of the down-stream drainage swale within the park. The park road will be raised 4 feet and a new transition structure built with a new enlarged 60 inch reinforced concrete pipe running under the road and down the slope, exiting into the basin on the east edge of the Westside Perimeter Trail. This will require removal of 300 cubic yards of concrete and asphalt and placement of 6,000 cubic yards of fill material that will be excavated from the conservation pool area. The trail will cross over the Berkshire Drain at this juncture. The erosion on the slope will be filled and the area restored with Oak Woodland habitat. The area where the drain line crosses under the Perimeter Trail will be restored with Southern Willow Scrub habitat stabilized to prevent future erosion. The widening of the park road during this project will allow two lanes of traffic to pass safely from/to the Equestrian Staging Area.

1.10 SUNRISE OVERLOOK

This project is located on the knoll off of Oak Grove Drive, between Flint Wash and the Equestrian Staging Area. The area will be cleared of all existing vegetation (including many nonnative trees, weeds and some existing native vegetation comprised of seeded sage scrub from the 1970s when the first off-ramp from the Foothill Freeway was removed from this location) and a natural appearing hollow will be created that will accommodate a small group gathering area of approximately 60 people. The site provides a promontory overlook of the basin and the San Gabriel Mountain range in the backdrop. The site will allow groups to gather below the rim of the knoll, to create a sight and sound barrier from Oak Grove Drive and the nearby Foothill Freeway. The carved-out hollow will create an intimate gathering area that will be enhanced with planted oak woodland and provide shade for the users of the site. Existing onsite, large boulders will be used to form the edges of the hollow and contribute to the area's character. Boulders and old, preserved, carved, granite curbing (from Old Pasadena) will be used to create seating terraces. The stage or front of Sunrise Overlook will sit at the top of the existing retaining wall; access will be from the existing trail that leads to this area from the Equestrian Staging area. The site will be ADA-accessible from new trail ramps that will be provided both from the north and the south along the top of the existing retaining wall.

1.11 EASTSIDE PARK AREA

1.11.1 Renovate Johnson Field

Currently, Johnson Field is designated for private use only. This project element will allow for public access and an upgrade of the field to accommodate both soccer and softball. The field will accommodate a youth-size soccer field, open play, picnic area, and other group/non-group activities. The size of the field will also allow it to be converted into two practice fields for youth soccer. During disaster emergencies, this area can be used as a staging area for fire crews and other emergency support groups. The field floor of Johnson Field will be raised 6 to12 inches to ensure a uniform grade as well as a good growing medium for the establishment of the athletic field turf. The fill required for this project element will be imported.

1.11.2 Convert Basin 13 to Play Field

This project element is located immediately north of Johnson Field on the site of former settling basin no. 13. The field will accommodate a youth-size soccer field, open play, picnic area, and other group/non-group activities. The size of the field will also allow it to be converted into two practice fields for youth soccer. Development of the field will include the provision of 12 picnic tables. During disaster emergencies, this area can be used as a staging area for fire crews and other emergency support groups. This field is currently an overflow basin that has not functioned as a spreading basin in recent history. The bottom of this basin is currently at 1040 msl; the master plan proposes raising the floor of this basin by 10 feet (to an elevation of 1050 msl) by using the material excavated from the new East Lake as the fill material for this project element. This results in moving the needed fill material the shortest distance from a needed excavation area.

1.11.3 Replace Restroom

A new restroom facility will replace the existing restroom in close proximity to the existing and include a storage area for park maintenance and field user group materials and equipment, will be constructed. The new restroom will have one urinal and two stalls for men and three stalls for women and meet current ADA-accessibility standards. The restroom will have a sewage lift station located at the south end of the new parking (see Section 1.11.5, Parking Improvements, below) and force main to the main sewer on Lehigh Street through 600 feet of new pipeline. In addition, a new trash enclosure in this area will be included. A new emergency public phone will also be installed.

1.11.4 Children's Play Area

A play area similar to the westside play area will be created in the vicinity of the eastside multipurpose fields. An assemblage of boulders will in essence serve as a climbing structure and the addition of water to the structure could be turned on during the warm summer months and turned off during the cooler months. Some boulders will be carved out to create small pools of water. The boulders will be in the lake overflow drainage course, which will be lined so the water could be recirculated as in the project element described above for the west side.

1.11.5 Parking Improvements

The dirt shoulders adjacent to the Johnson Field access road are currently used for informal parking. This same area will be paved with asphalt to create parking bays along the access road to accommodate 200 vehicles and two buses. This parking area is planned to service all of the passive and active recreational uses within this area of the park. There will be a turnaround for buses and emergency vehicles at the south end of this parking area next to Johnson Field. This project will replace and improve the existing unimproved parking area, which currently accommodates approximately 140 vehicles.

1.11.6 Interpretive Area and Parking

This project element will create a 2.5-acre area for an interpretive area and picnic area with parking and drainage improvements located at the intersection of Arroyo Well and Johnson Field Road. Enough parking for 2 buses and 10 cars will be provided. This location serves as an ideal destination for viewing four of the basin's plant communities in very close proximity to each other. Interpretive signage and ADA-accessible trails will all be provided. Picnic tables (4) for approximately 32 people will be provided at this location when it is determined that there is a need for such; in the short term informal seating will occur on boulders and tree logs. Interpretive signage on the geology and hydrology of the area will be provided here as well.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.12 EAST LAKE

This project establishes a new lake on the east side of the park, north of Johnson Field and the new eastside multipurpose field. The overall lake environment will be approximately 3.6 acres in size. The actual surface area in water will cover approximately 2.3 acres of aquatic habitat and a small, inaccessible .3-acre island will be provided for protection of wildlife. The lake will create 1 acre of wetland, provide cultural and habitat interpretation, and provide native plant gathering materials for Native American crafts and medicinal needs.

Access to the lake for passive recreational activities such as bird watching and fishing will be controlled with raised walkways and overlooks at various points around the entire lake perimeter. The accesses will be constructed to sit just above the water's edge so children could actually touch the water but be protected by a barrier rail around the edge of the walkway or overlook. The lake will be fully lined to minimize percolation and will be of a depth to sustain a natural aquatic ecosystem (estimated to be 30 feet at the lake's center). The design shall incorporate a shallow shelf at the lake's edge for wetlands habitat and safety. The lake will be fed from diverted stream water, and/or retained flood water that is pumped back to the spreading basins, working its way to the lake by overflowing each basin until it gets to the lake. Infrastructure for this distribution system will be necessary. When necessary, due to evaporation, treated water will be pumped directly into the east lake to maintain its surface level.

For safety reasons, the lake will be designed with a shallow shoreline of a 6:1 gradient. A ramp will be provided on one side for maintenance access to the lake. Fishing will be allowed; swimming and boating will be prohibited.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.13 SUNSET OVERLOOK

This project element is on the east side of the park, immediately north of the Windsor/Ventura intersection. This area, covering approximately 0.5 acre, is at a great west facing promontory outlook, providing an overview of the basin from this side of the park. The project element is largely a clean-up and restoration project. The area will be cleared of all weeds, brush and dead trees. The area will be planted as specified in the habitat restoration plan. Picnic tables (4), seating

and interpretive signage will be provided at this site for visitors to learn of the area and to understand what they are viewing from this location. The overlook is located at the main eastside park entrance. The project element will most greatly serve as an inspirational and educational opportunity. The site will overlook water conservation elements of the park, habitat restoration areas of the park as well as stream corridor restoration in the park. The site will provide parking for one bus or four cars.

1.14 GABRIELIÑO TRAIL AREA

1.14.1 Convert JPL Parking to Public Parking

This project proposes a new trailhead at the north end of the existing eastside JPL parking lot to bring park users into this area of the park, up the Gabrielino Trail and into the upper Arroyo Seco watershed area. This location will provide a new restroom, an informal rest area, public parking and interpretive signage for area recreational users. The realization of this project can only occur when two other projects are implemented first. These projects are Project 3.1 *New Eastside Park Entrance* and Project 11.1 *Construct Parking Structure*, as described in the Hahamongna Watershed Park Master Plan. Once these two projects are built, the north end of the parking lot (25 percent of the existing parking lot) can become public surface parking for approximately 200 vehicles.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.14.2 New Public Restroom

A new restroom will be constructed adjacent to the proposed park visitor parking lot at the north end of the new public parking lot and serve park visitors using Hahamongna Watershed Park as well as those visitors headed into the Angeles National Forest. It will have one urinal and one stall for men and two stalls for women and meet current ADA-accessibility standards. It will have a small storage area. A public telephone will be located at the structure. This restroom may need a sewage lift station with force main to the JPL gravity lines across the JPL Bridge.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.15 TRAIL DEVELOPMENT

1.15.1 Perimeter Trail

Development of the Perimeter Trail will provide a complete circuit of HWP for equestrians and hikers. The perimeter trail will have a width of 12 to 16 feet. Development of this trail incorporates existing trails and will be completed through the addition of new trail on the west side of HWP and finish grading in association with the new Sycamore Field and the Disc Golf Course on the west side. This trail will also be available for security, emergency responses and maintenance vehicles.

The trail will have a minimum elevation of not less than 1045 msl (4.5 feet above the 1040.5 msl spillway elevation), so that it can be accessed during most storm events. Storm drains will be installed under the perimeter trail at critical cross-drainage points to eliminate trail washouts and to avoid disturbing existing drainage patterns entering the basin.

The perimeter trail will serve as a habitat protection delineator; above and outside the perimeter trail, various improvements will be for human benefit. Below and inside the perimeter trail, plant and animal habitat will be restored to quality habitat and allowed to thrive by minimizing human interference.

The construction of the proposed perimeter trail requires a number of project elements to connect various junctures and crossings as well as segments of new trail. The trail begins at the west end of the dam and follows the proposed alignment in a clockwise pattern.

1.15.2 Flint Wash Bridge Crossing

The bridge will provide for the missing link in the park perimeter trail system by providing a critical, unifying link between the east and west sides of the park. The west end of the dam will be connected to the westside park via a bridge crossing over Flint Wash. This crossing plans to use a prefabricated metal bridge with wood flooring to span approximately 150 feet across the wash and 12 feet wide. The crossing will utilize an existing abutment from a previous bridge in this same location. This crossing will be used by all visitors including bicyclists, equestrians, and hikers. Bicyclists will come onto the dam via the proposed access off of Oak Grove Drive, cross the dam, cross Flint Wash Bridge and then ride into the Oak Grove area of the park via the paved park road. Equestrians and hikers will come onto the dam via the eastside perimeter trail, the east rim trail or from the south via the Arroyo Seco Trail (part of the Santa Monica Mountains Conservancy's Rim of the Valley trail network), cross the dam, cross Flint Wash Bridge and then travel west up Flint Wash Trail (part of the Rim of the Valley Trail network) or north on the westside perimeter trail. So, the dam and Flint Wash Bridge are "shared" crossings for these various user groups along with emergency and maintenance vehicles.

The portion of the trail on the west side, in the vicinity of Berkshire drain will be raised from its current 1030 to 1038 msl elevation to an elevation of 1045 msl to ensure it is out of the frequent flood zone.

The portion of the trail at the south and east edge of the relocated disc golf area will need to be raised from its current 1030 msl to an elevation of 1045 msl to ensure it is out of the flood zone.

The portion of the perimeter trail east of the relocated disc golf area and the new "Sycamore Grove Field" will go north to the edge of the west lake, around the lake on the western edge and north along the western edge of the new west side spreading basins to the west side JPL parking lot.

The perimeter trail from the southern end of the JPL westside parking lot all the way north to the northern bridge crossing, will parallel the proposed bike trail.

1.15.3 North Bridge Crossing

The Northerly Perimeter Trail Bridge Crossing will be made of a style and material similar to the Flint Wash Bridge crossing and will serve as the northerly connection between the westside and eastside parks. Hikers, equestrians, bicycle riders and maintenance/emergency vehicles will share the crossing. The bridge will span 150 feet and be 12 feet wide. The bridge will also serve as a utility crossing for water and power lines needed for eastside uses in which maintenance and emergency vehicles will share the crossing. Appropriate signage will be posted. This bridge will provide the missing link in the park perimeter trail system of all-weather, all-year access from the west side of the park to the east side for park users, emergency and maintenance vehicles.

The eastside segment of the perimeter trail is on the western edge of spreading basins 3 through 12 (new spreading basin numbers), the east lake, the new multi-purpose field and Johnson Field. This alignment will be shared as a flood maintenance access road as it extends south, to the dam.

1.15.4 East Rim Trail

Development of the East Rim Trail for pedestrians and equestrians consists of enhancing the existing trail that currently extends from the VOC WTP to the Arroyo Well and from the Arroyo Well to the Altacrest Trail, with construction of new trail. This will be graded four feet wide to accommodate pedestrians and equestrians. Construction of the East Rim Trail will require cut and fill to be balanced onsite. This project will extend the existing trail that roughly follows the upper rim of the eastside slope. The trail will be constructed to the bottom of the mid-slope parallel to the road leading to Johnson Field. It will cross the entry access road close to the proposed Interpretive Area and skirt the backside of the existing parking lot, joining up to the Arroyo Well as well as the reconstruction of an old trail from the Arroyo Well to the northern east/west connecting trail.

1.15.5 Trail Connections from East Rim Trail to Basin Perimeter Trail

This project will create 4 trail connections along the east side linking the upper rim trail to the lower perimeter trail. Each of the trail connections will be four feet wide to accommodate pedestrians and equestrians. It is anticipated that cut and fill can be balanced within the segments. Construction of the four trail connections requires cut and fill to be balanced onsite. These connections will allow pedestrians and equestrians to access eastside park features from the upper East Rim Trail and park users to avoid or bypass sediment/debris removal operations as necessary.

1.15.6 West Rim Trail and Connectors

The West Rim Trail starts at the west end of the Flint Wash Bridge, past the Equestrian Staging Area, then heads north through the upper Oak Grove area on the westerly edge of the park, continues north through the MWD property where it then converges with the basin perimeter trail. Portions of the West Rim Trail run parallel with but are separated from the bike route; this occurs in two locations on the West Rim Trail: 1) in the stretch from the Equestrian Staging Area to the Flint Wash Bridge and 2) through the MWD property. Pedestrians and equestrians traveling south from the equestrian tunnel currently cross the main entry access road entering HWP from Foothill Blvd. This component will reroute approximately 400 feet to a lower elevation to avoid conflicts with vehicle traffic at the Foothill Entrance. The new trail will connect to the existing trail just south of the big bend at the entrance.

1.15.7 Trail Connections from West Rim Trail to Basin Perimeter Trail

This component replaces the existing stairs connecting the upper level to the lower level, which is eroded and unsafe. This project element will grade a new trail linking the upper terrace restroom to the south end of the Oak Grove Field and back up to the West Rim Trail via the reconstructed old trail to the Foothill Boulevard park entrance.

1.15.8 Dam Observation Trail

The Dam Observation Trail establishes a trail loop from the eastern end of the reconstructed Flint Wash Bridge along the top of an existing retaining wall down to an elevation of 1045, and west to an observation point and back up to the western end of the Devil's Gate Dam. This trail connection will be accessed by pedestrians only. This will require cut and fill to be balanced onsite. From the top of the old bridge abutment, park users have a clear view of the interior face of the dam and the water conservation pool area.

1.16 BICYCLE ROUTE

Bicycles will be allowed to travel on any existing or proposed paved surface within the park, per the existing City municipal code. Bicycles will not be allowed on any designated trail or unpaved surface within the park, also per the code. The bicycle routes are planned to allow bicyclists to utilize the perimeter of the park and to access bikeways outside of the basin, including the routes within the Angeles National Forest. The planned route also allows riders to access the nearby existing Class III Kenneth Newell Bikeway and the Central Arroyo Seco and the southern reaches of the Arroyo Seco in Pasadena and beyond. Access across Devil's Gate Dam and Flint Wash Bridge by bicycles will be allowed. The segment of the bicycle route on the west side of the park from the southern end of the JPL west side parking lot all the way north to the northern bridge crossing, will parallel the perimeter trail. The northern bridge crossing will also be shared by bicyclists, equestrians and hikers. From the bridge, to the east, a separate paved bike route will be provided along the edge of this segment of the trail, until the bike route intersects with the east side park road. At this point, riders could continue north to the Gabrielino Trail or south on park roads toward the eastside park entrance.

1.17 HABITAT RESTORATION

Habitat establishment and restoration is proposed throughout the Hahamongna Watershed Park area. Habitat establishment is the creation of new quality habitat in an area where a particular plant community is not present (in existing ruderal areas) or involves adding area to an existing plant community. Habitat restoration is the improvement of quality and diversity in an area where a plant community already exists. In general, all plant communities that are not impacted by proposed projects with grading, removal of exotic species, or destroyed by inundation, will be restored. The information within this section is presented in two parts. Section 1.17.1 contains a listing of major Habitat Projects proposed by the plan. These projects are proposed for specific locations within the park. Some of these Habitat Projects involve the restoration of more than one plant community within the same project and have been organized due to Park Project phasing. Their listing is intended to merely help convey the location, intent, and magnitude of the proposed habitat establishment and restoration projects. Section 1.17.2 encompasses the goal of habitat establishment and restoration throughout the park and describes projects by Plant Community, linking the various projects previously described in this Staff Recommended Alternative to their proposed habitat establishment and/or restoration goals including an indication of the acreage affected. The projects in Section 1.17.1 are broken apart and listed in their appropriate plant community listing in Section 1.17.2.

Habitat includes various components from physical conditions to vegetation. Habitat is considered to be an area supporting wildlife by providing for basic needs such as food, water, shelter, and reproduction. Habitat is therefore different for each species given the unique needs and requirements of the species, and may be highly specific for some animals, while very broad and generalized for others. Habitat for some species may occur in urban settings, whereas other species require large tracts of undisturbed land to fulfill their needs. Other species (such as slender salamanders) require relatively small habitat patches (microhabitats). Quality habitat generally refers to undisturbed areas with no or few nonnative plants and composed of sustainable biodiversity (vegetation and wildlife). Quality habitat is a subjective term, and varies widely depending on physical conditions, degree of biodiversity and on the species addressed.

Habitats within the Hahamongna Watershed Park Master Plan area have been divided into five broad categories. These include woodland, upland shrub, alluvial, riparian and aquatic habitats. These habitats are comprised of various related plant communities. For example, woodland habitat is composed of areas of coast live oak woodland and southern sycamore woodland. Upland shrub habitat is made up of areas of sage scrub, while alluvial habitat is composed of riversidian alluvial fan sage scrub. Riparian includes southern willow scrub, mulefat scrub, streambed riparian, and wetland areas. Wetland areas are the interfaces between aquatic habitat and riparian habitat. Figure 1.17-1, *Staff Recommended Alternative: Habitats and Their Associated Plant Communities*, depicts the proposed habitats in the Hahamongna Watershed Park area. The habitat types have been color-coded in order to illustrate their contiguity within a complex arrangement of proposed vegetation types.

Both Section 1.17.1 and Section 1.17.2 contain references to projects described in the Hahamongna Watershed Park Master Plan. The numbers contained in these references relate to the project numbering scheme used in the Hahamongna Watershed Park Master Plan. For the purposes of this Staff Recommended Alternative, each reference will be followed by a statement reminding the reader that the project number refers to the Hahamongna Watershed Park Master Plan. Master Plan.

In addition, projects and/or areas described in Sections 1.17.1 and 1.17.2 that are wholly or partially located within areas being considered by the U.S. Fish and Wildlife Service for designation as critical habitat for the federally-listed southwestern arroyo toad¹ are identified with **.

1.17.1 Proposed Habitat Establishment and Restoration Projects

1.17.1.1 Stream Corridor Alignment

This restoration project includes the area from just south of the Altadena Drain, north to the JPL Bridge where the stream has been channelized. The Altadena drain extends into the Arroyo Seco stream corridor where at one time it was utilized as part of an earthen breakaway dam to contain water that was then diverted to the eastside spreading basins. It is recommended to discontinue use of the site as a diversion facility. This project proposes to shorten the Altadena drain and widen the stream corridor to allow for a more natural stream alignment. This stream corridor will be restored to a riparian habitat, similar to and as a continuation of the same plant community immediately north of the JPL Bridge.

1.17.1.2 Riversidean Alluvial Fan Sage Scrub

This restoration project involves a number of smaller projects within a larger area. The larger area includes two plant communities: riversidian alluvial fan sage scrub and sage scrub, as shown on the plant community maps. The areas on either side of the stream corridor to the eastside spreading basins and to the westside JPL perimeter fencing and new westside spreading basins will be restored to these plant communities.

¹ Subsequent to the approval of the Hahamongna Watershed Park Master Plan, the U.S. Fish and Wildlife Service designated critical habitat for the federally-listed southwestern arroyo toad. Subsequent to that decision, on October 30, 2002, the U.S. District Court invalidated the Arroyo Toad Critical Habitat ruling on the basis of insufficient economic analysis. The U.S. Fish and Wildlife Service is scheduled to issue a new proposal of critical habitat by July 30, 2004, which may or may not include areas within the Arroyo Seco. Because areas within the Arroyo Seco have the potential for designation as critical habitat, projects contemplated within those areas are identified in this Staff Recommended Alternative with **.

The current equestrian trail on the westside of the existing spreading basins traverses some of the best old alluvial fan sage scrub in the area, designated as sage scrub on the plant community maps. The proposal is to abandon the equestrian trail, relocate the trail on the spreading basins maintenance road (asphalt to be removed) and restore the existing trail with sage scrub.

Habitat restoration will also occur at the various drain outfalls along the JPL border, where exotic species need to be removed, debris and trash collected and disposed the riversidian alluvial fan sage scrub, sage scrub and southern willow scrub habitat restored.

Similarly, the old stream crossings (from both the east and west) have been covered over in asphalt by past mining operators. Most of this asphalt has been removed. The remaining asphalt needs to be removed and disposed, the stream allowed to take its course, riversidian alluvial fan sage scrub, and sage scrub habitat restored.

Additionally, this project establishes riversidian alluvial fan sage scrub at the southern end of this area where it transitions to a streambed riparian plant community. With the Stream Channel Widening Project (see Project #4 as described in the Hahamongna Watershed Park Master Plan) both the streambed riparian and the alluvial fan sage scrub plant community areas are enlarged.

1.17.1.3 Habitat Establishment at Spreading Basins

The park master plan calls for the expansion and relocation of the existing spreading basins. There are three sites for this restoration project. Project 3a comprises nine surface acres of new spreading basins to be numbered 13, 14, and 15 on the west side and will involve the removal of ruderal weedy species. The embankment of the new ponds will be planted with sage scrub species. Over-story tree species need to be considered because of the water they naturally draw for their establishment and growth, which could be contrary to the water conservation goal. If acceptable, sycamore woodland around the perimeter of the spreading basins is recommended. Project 3b involves two new basins north of basin 1 and the expansion of spreading basins 1 through 4 on the eastside. Project 3c involves spreading basins 5 through 10 on the eastside. Both 3b and 3c would have habitat establishment as described with 3a, above.

*This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.17.1.4 Stream Channel Widening

In this project, the stream channel will be widened on its western edge for a total stream channel width of approximately 200 feet. This project is located in the existing narrow riparian corridor (approximately 100 feet wide) that exists between the existing riversidian alluvial fan sage scrub area and the area that will be graded for the water conservation and sediment management pool. The existing established vegetation and drainage course configuration will

be preserved with the new stream corridor area adjacent and to the west. Embankments of the stream could be stabilized to help control erosion where further study indicates that it is necessary.

1.17.1.5 East Entrance Habitat Establishment

This project involves the reconfiguration of the existing Windsor/Ventura intersection as well as the enhancement of Sunset Overlook, situated north of this intersection. Landscaping adjacent to the new park entrance will total 0.3 acre and the Sunset Overlook will total 0.5 acre, consisting of native plants from the sage scrub and coast live oak woodland plant communities to enhance the appearance of the area and to benefit certain wildlife species. The importance of this area as a park entrance and the great absence of landscaping provided the opportunity for both a park project and a habitat establishment project to occur.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.17.1.6 Interpretive Area

This project is found on the east side of the basin, adjacent to the central spreading basins and on the west-facing slope at the base of the east park entry road. It includes a new handicapaccessible trail for viewing the interpretive area and restoration project. The existence of several terrestrial natural plant communities located immediately adjacent to each other in a relatively small geographic area provides an excellent opportunity for the creation of this interpretive area. The project includes the following plant communities: coast live oak woodland, sage scrub, riparian alluvial fan sage scrub, and elements of southern sycamore riparian woodland. In addition to the educational opportunity to study the diverse flora that exists throughout the park at this one location, this site will also have interpretive information about water conservation.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.17.1.7 Westside Perimeter Trail

This project proposes to raise the elevation of the perimeter trail to an elevation of 1045 and create a graded slope of habitat from the westside perimeter trail down to the conservation pool rim elevation of 1030 msl for the re-establishment of southern willow scrub that will be infrequently inundated up to elevation 1040.5 msl. Material for the proposed fill will be excavated from the ruderal areas within the proposed conservation pool below elevation 1030 msl. The existing vegetation in the area will be hand cleared to leave willow trees that are taller than the depth of fill. After the fill is placed, these existing willows will root at the higher elevation with the help of water conservation management practices. Additional revegetation will create a larger area of southern willow scrub of higher quality than that which currently exists.

1.17.1.8 Sycamore Field and Relocated Disc Golf

This project proposes to raise the elevation of the area that has small pockets of existing willows will be linked and receive less fill to create drainage courses with raised terraces of mule fat (disc golf fairways) between. The drainage courses will be extensions of existing drainage from elevation 1050 msl down to elevation 1030 msl, the edge of the water conservation pool. The perimeter trail at elevation 1045 msl will be on the eastern edge of this area. The relocated disc golf and the new Sycamore Grove field within this area slopes from elevation 1052 down to the perimeter trail and then down to the conservation pool rim elevation of 1030 msl. Material for the proposed fill will be excavated from the ruderal areas within the proposed conservation pool, below elevation 1030 msl. The existing vegetation in the area to be raised will be hand cleared leaving willows trees that are taller than the depth of fill. After the fill is placed, these existing willows will root at the higher elevation with the help of water conservation management practices. Additional revegetation will create a larger area of high quality southern willow scrub than what currently exists.

1.17.1.9 Sunrise Overlook

This project is located at the southwestern corner of the park, along Oak Grove Drive and immediately northwest of Flint Wash. Coast live oak woodland borders the site to the north and is proposed to expand south into the overlook area. Sage scrub revegetation is also recommended.

1.17.1.10 Oak Woodland Restoration (partial)

This project will floristically diversify the Oak Grove areas on the west side of the park by using native species prescribed for coast live oak woodland restoration. It will establish young oaks in the existing ruderal open areas to enhance the survival of this mature oak woodland community. Protection of oak and other restoration plantings at the camping area and group activity areas in the park will be necessary.

1.17.1.11 East and West Lakes

The construction of two new lakes is proposed for the park. Both of these projects are within the designated critical habitat boundary for the endangered Southwestern Arroyo toad. The West Lake site is mostly ruderal and highly disturbed habitat due to past mining operations. With the implementation of water conservation measures, these sites will be flooded until this project is completed. As water is pumped back or allowed to pass through the dam, some water will remain pooled low spots.

The East Lake combines existing spreading basins nos.11 & 12. These basins are inefficient due to an underlying layer of fine clay material, which causes percolating water to migrate westerly back into the stream corridor. This project can proceed when the northern spreading basins are expanded into the East JPL parking lot.

These projects will provide cultural, interpretive and recreational opportunities as well as increase biodiversity in the park. A small inaccessible island of southern willow scrub in each lake will provide protected habitat for wildlife.

This project could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.17.1.12. Sycamore Woodland (partial)

Several sites fall within this project. One area that will encompass the creation of sycamore woodland is at elevation 1030 msl to 1040 msl and immediately south of Johnson field. This mule fat habitat will be periodically inundated every winter season. To improve habitat quality it is recommended to raise the grade in the area to elevation 1045 msl and create sycamore riparian woodland. The establishment of native tree species such as sycamores and cottonwoods is desirable for this area; to the east and north of this area are western sycamore, black cottonwoods and Mexican elderberry, all of which have naturalized. Sycamore Woodland is also suggested around the perimeter of the east and west spreading basins as well as around the edges of the multipurpose play areas and lakes (Figure 1.17-1).

The portions of this project that are related to the east and westside spreading basins could impact NASA/JPL perchlorate clean-up and cannot proceed without coordination with NASA/JPL.

1.17.1.13 Flood Management and Water Conservation Pool

The existing riparian southern willow scrub habitat below 1040 msl will degenerate and begin to die as soon as water conservation practices are implemented; these areas are periodically inundated during the winter season. The habitat below 1030 msl will be completely submerged for varying lengths of time. The 1030 to 1040 msl elevation zone around the water conservation pool will be quality habitat that could be subject to several inundations a year. Emerging vegetation, debris, and sediment will need to be periodically removed from the newly established Flood Management Water Conservation Pool per the sediment management guidelines that will be established by LACDPW. This project proposes a phased operation that will permit the area elevated above the floodplain (elevation 1040 msl) and the perimeter of the water conservation pool (elevation 1030 to 1040 msl) to become established with southern willow scrub habitat. Once these areas are established and considered quality habitat, the existing riparian southern willow scrub areas (below elevation 1030 msl) will be removed in a coordinated sediment and debris removal operation.

1.17.2 Habitat Establishment and Restoration Projects listed by Plant Community

The following table (Table 1.17.2-1, *Staff Recommended Alternative: Existing and Proposed Natural Plant Communities and Landscaped/Developed Areas within Hahamongna Watershed Park*) summarizes the acreages of natural plant communities and landscaped/developed areas within Hahamongna Watershed Park, both existing and proposed.

TABLE 1.17.2-1 STAFF RECOMMENDED ALTERNATIVE: EXISTING AND PROPOSED NATURAL PLANT COMMUNITIES AND LANDSCAPED/DEVELOPED AREAS WITHIN HAHAMONGNA WATERSHED PARK

Area		Existing	Proposed
Descripti	on	Acres	Acres
OW	Coast Live Oak Woodland	37.8	42.4
W	Southern Willow Scrub	25.5	21.0
SS	Sage Scrub	39.9	42.6
RAFSS	Riversidean Alluvial Fan Sage Scrub	17.2	18.8
MF	Mule Fat Scrub	19.5	11.0
SSRW	Southern Sycamore Riparian Woodland	2.6	20.4
R	Ruderal	75.4	2.4
SBR	Streambed Riparian	8.1	8.3
А	Aquatic	0.0	5.0
WT	Wetland	0.0	2.8
WA	Water Conservation Pool	0.0	54.4
L	Landscaped	5.8	9.6
D	Developed	76.4	71.6
D&L	Developed and Landscaped areas not shown within a plant	10.6	8.5
	community polygon (such as a trail, dirt road, picnic &		
	camping site, disc golf fairways and pole climbing area)		
TOTAL ST	rudy acreage ²	318.8	318.8

Within the Hahamongna Watershed Park (HWP) there are Landscaped and Developed areas, which have been designated on the plant community maps. The Landscaped areas within the HWP include predominantly non-native landscaping for playing fields and native landscaping for ornamental purposes. The Developed areas within HWP include predominantly roads, parking and buildings, with native landscaping for ornamental purposes.

² Does not include the areas of Flint Wash and below the north side of the 210 freeway (included in CAMP). Both are within the Park property boundary but outside the study area. These areas total 10.7 acres. Does include the MWD property, 28 acres added + 2.4 acres already included = 30.4

1.17.2.1 Coast Live Oak Woodland

There are currently 37.8 acres of coast live oak woodland within Hahamongna Watershed Park Master Plan (HWPMP) study area. The 26.2 acres within the park will receive habitat restoration. Table 1.17.2.1-1, *Staff Recommended Alternative: Habitat Establishment and Restoration of Coast Live Oak Woodland*, lists projects proposed for habitat establishment and restoration of coast live oak woodland:

TABLE 1.17.2.1-1 STAFF RECOMMENDED ALTERNATIVE: HABITAT ESTABLISHMENT AND RESTORATION OF COAST LIVE OAK WOODLAND

	EXISTING	ACRES ADDED	PROPOSED	
PROJECT	ACRES	OR SUBTRACTED	ACRES	
West Side of Park	20.2	3.6	23.8	
MWD property	11.6		11.6	
East Side of Park	6.0	1.0	7.0	
TOTAL	37.8	4.6	42.4	

West Side of Park: The following three project areas total 3.6 acres of habitat establishment:

- Oak Woodland Restoration (Habitat Project #10 as described in the Hahamongna Watershed Park Master Plan): This element, which includes the upper Oak Grove Picnic area and Equestrian staging area, has been undergoing habitat restoration for five years. This area and the slopes down to the Lower Oak Grove area including the Oak Grove Field and the west half of the overnight area is proposed to have an increase of 1.9 acres of oak woodland.
- Oak Woodland Restoration (Habitat Project #10** as described in the Hahamongna Watershed Park Master Plan): The east half of the overnight area is within the critical habitat of the Arroyo Toad. This area is proposed to have an increase of 0.8 acre of oak woodland.
- Sunrise Overlook (Habitat Project #9 as described in the Hahamongna Watershed Park Master Plan): The Sunrise Overlook area, adjacent to the south perimeter of the Equestrian Staging Area, is proposed to have an increase of 0.9 acre of oak woodland.

Eastside of the Park: The following three project areas total 1.0 acre of oak woodland habitat establishment:

- East Spreading Basins (Habitat Project #3b** as described in the Hahamongna Watershed Park Master Plan): Adjacent to and west of the new eastside spreading basin No. 2, it is proposed to increase the existing 0.1 acre of oak woodland by 0.2 acre for a total of 0.3 acre.
- Interpretive Area (Habitat Project #6** as described in the Hahamongna Watershed Park Master Plan): The interpretive area is proposed to have the existing 0.4-acre oak woodland increased by 0.3 acre for a total of 0.7 acre.
- East of the Eastside Lake and Playfield areas **: This area is proposed to have the existing 1.1 acres of oak woodland increased by 0.5 acre for a total of 1.6 acres. This enhances the habitat adjacent to the East Rim Trail where it overlooks the proposed new parking area for the Eastside Lake and playing fields. It will convert 0.5 acre of sage scrub to oak woodland.

1.17.2.2 Southern Willow Scrub

There are currently 25.5 acres of southern willow scrub in the park, of which only 7.7 acres will receive habitat restoration. When water conservation measures are implemented, the remaining 17.8 acres of existing habitat will begin to die as the area is frequently inundated. An additional 13.3 acres of habitat will be established along with the 7.7 acres of habitat to be restored. The following table (Table 1.17.2.2-1, *Staff Recommended Alternative: Habitat Establishment and Restoration of Southern Willow Scrub*) lists the projects proposed for habitat establishment and restoration of southern willow scrub:

TABLE 1.17.2.2-1 STAFF RECOMMENDED ALTERNATIVE: HABITAT ESTABLISHMENT AND RESTORATION OF SOUTHERN WILLOW SCRUB

	EXISTING	ACRES	PROPOSE
PROJECT	ACRES	ADDED OR	D
		SUBTRACTED	ACRES
STREAM CORRIDOR ALIGNMENT (PROJECT 1**)	0.8		0.8
WEST SPREADING BASINS (PROJECT 3A**)	0.0	1.2	1.2
STREAM CHANNEL WIDENING (PROJECT 4**)	0.6	3.0	3.6
WEST SIDE PERIMETER TRAIL (PROJECT 7)	0.6	1.3	1.9
RELOCATE DISC GOLF (PROJECT 8)	4.5	0.7	5.2
EAST & WEST LAKE ISLANDS (PROJECT 11**)	0.0	0.6	0.6
WATER CONSERVATION POOL (PROJECT 13)	1.2	4.5	5.7
STORM DRAIN IMPROVEMENTS ~ JPL**	0.0	2.0	2.0
TOTAL	7.7	13.3	21.0
HABITAT LOST DUE TO INUNDATION (WATER	17.8		
CONSERVATION)			
TOTAL	25.5		

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- Stream Corridor Alignment (Habitat Project #1** as described in the Hahamongna Watershed Park Master Plan): This project will keep the size of the habitat area unchanged, but will restore habitat found at the southern end of the project area.
- West Spreading Basins (Habitat Project #3a** as described in the Hahamongna Watershed Park Master Plan): There is currently no southern willow scrub habitat adjacent to the proposed West Spreading Basins. This habitat project proposes to establish 1.2 new acres of this plant community east of the spreading basins. The creation of the westside spreading basins will utilize "Landform Grading" principles to improve habitat for this and other plant communities.
- Stream Channel Widening (Habitat Project #4** as described in the Hahamongna Watershed Park Master Plan): The stream channel is proposed to have the existing 0.6 acre of southern willow scrub increased by 3.0 acres for a total of 3.6 acres. This restoration project will widen the stream on its western edge for a new total stream channel width of approximately 200 feet. Both the east and west sides of the stream channel will be restored with this plant community. Southern willow scrub will be used on the embankments of the stream to naturalize this habitat for native fauna and to help stabilize and control erosion of the stream banks.
- Westside Perimeter Trail (Habitat Project #7 as described in the Hahamongna Watershed Park Master Plan): The westside perimeter trail is proposed to have the existing 0.6 acre of southern willow scrub increased by 1.3 acres to a total of 1.9 acres. The restoration project proposes to raise the grade on this trail with fill excavated from ruderal areas below the 1030 elevation within the proposed conservation pool. Those willows that are taller than the depth of fill will remain to root at the higher elevation with the help of water conservation management practices. This and additional habitat restoration will create a larger area of southern willow scrub of higher quality than that which currently exists.

- Relocate Disc Golf (Habitat Project #8 as described in the Hahamongna Watershed Park Master Plan): The Disc Golf Relocation component is proposed to have the existing 4.5 acres of southern willow scrub increased by 0.7 acre to a total of 5.2 acres. This component proposes to raise the elevation of the area that has small pockets of existing willow scrub habitat. The areas of existing willows will be linked to create drainage courses that will receive less fill than the terraced areas of this project. The drainage courses will be extensions of the existing drainage patterns from elevation 1050 msl down to elevation 1030 msl, the edge of the water conservation pool. The existing vegetation in the area will be hand cleared to leave willow trees taller than the depth of fill. After the fill is placed, these existing willows will root at the higher elevation with the help of water conservation management practices. This and additional habitat restoration will create a larger area of southern willow scrub of higher quality than that which currently exists.
- East and West Lake Islands (Habitat Project #11** as described in the Hahamongna Watershed Park Master Plan): There is currently no southern willow scrub habitat in the area proposed for the lakes or their islands. A small inaccessible island of 0.3 acre of southern willow scrub in each lake will provide protected habitat for wildlife.
- Water Conservation Pool (Habitat Project #13 as described in the Hahamongna Watershed Park Master Plan): This project proposes a phased operation that will permit the areas elevated above the floodplain (elevation 1040 msl) and the perimeter of the water conservation pool (elevation 1040 to 1030 msl) to become established with southern willow scrub habitat. The Water Conservation Pool project will add 4.5 acres of southern willow scrub in this zone for a new total of 5.7 acres of southern willow scrub. These 5.7 acres represent a wide band around the perimeter of the pool that, once established, will be quality habitat. The existing southern willow scrub habitat below the 1040 elevation and in particular below the 1030 msl elevation will degenerate and begin to die as soon as water conservation practices are implemented and this zone is periodically inundated during the winter season. The next phase of the project will remove the 17.8 acres of existing southern willow scrub areas (below elevation 1030 msl) in a coordinated sediment and debris removal operation once the new willow habitat has become established.
- Storm Drain Improvements-JPL**: This project will establish 2.0 acres of southern willow scrub at the drainage outfalls along the JPL border just north of the westside parking lot where exotic species need to be removed, and debris needs to be collected and disposed of. These particular drainage outfalls drain through existing sage scrub and some willows. Due to wet conditions caused by urban runoff, this project proposes to transition this 2-acre area from a sage scrub plant community to a higher quality southern willow scrub plant community.

1.17.2.3 Sage Scrub

There are currently 39.9 acres of sage scrub in the park of which 35.8 acres of habitat will be restored. An additional 6.8 acres of habitat will be established for new total of 42.6 acres of sage scrub habitat. The following table (Table 1.17.2.3-1, *Staff Recommended Alternative: Habitat Establishment and Restoration of Sage Scrub*) lists the projects proposed for habitat establishment and restoration of sage scrub:

TABLE 1.17.2.3-1 STAFF RECOMMENDED ALTERNATIVE: HABITAT ESTABLISHMENT AND RESTORATION OF SAGE SCRUB

	EXISTING	ACRES ADDED	PROPOSED
PROJECT	ACRES	OR	ACRES
		SUBTRACTED	
Stream Corridor Alignment (Project 1**)	1.7		1.7
West Spreading Basins (Project 2&3a**)	0.0	3.0	3.0
East Spreading Basins (Project 2&3c**)	4.9	1.1	6.0
Stream Channel Widening (Project 4**)	0.0	2.5	2.5
Sunrise Overlook (Project 9)	1.9	-0.9	1.0
Dam Area ~ Spillway Observation -0.2 and			
Adjacent to the Spillway +0.2	13.2		13.2
East Side Park ~ (Oak Woodland** -0.5)			
(Realign Parking Access Road** -0.3)			
(East Rim Trail Extension** -0.2)	11.2	-1.0	10.2
Storm Drain Improvements ~ JPL**	7.0	-2.0	5.0
TOTAL	39.9	2.7	42.6

- Stream Corridor Alignment (Habitat Project #1** as described in the Hahamongna Watershed Park Master Plan): This project will keep the size of the habitat area unchanged and will restore habitat within the project area.
- West Spreading Basins (Habitat Project #3a** as described in the Hahamongna Watershed Park Master Plan): There is currently no sage scrub habitat in the area of the proposed West Spreading Basins. This existing area is mostly a ruderal plant community. This habitat project proposes to establish 3.0 new acres of sage scrub plant community along the slope east of the spreading basins. The creation of the westside spreading basins will utilize "Landform Grading" principles to improve habitat for this and other plant communities.

- East Spreading Basins (Habitat Project #2** and #3c** as described in the Hahamongna Watershed Park Master Plan): The East Spreading Basins project is proposed to have the existing 4.9 acres of sage scrub increased by 1.1 acres to a total of 6.0 acres. The equestrian trail on the west side of the existing spreading basins traverses some of the best old alluvial fan sage scrub in the area, designated as sage scrub on the plant community maps. Project 3c involves spreading basins 5 through 10 on the eastside. The proposal is to abandon the equestrian trail, relocate the trail on the spreading basins maintenance road (asphalt to be removed) and restore the area occupied by the existing trail with sage scrub. The embankment of the new ponds will be planted with sage scrub species.
- Stream Channel Widening (Habitat Project #4** as described in the Hahamongna Watershed Park Master Plan): There is currently no sage scrub habitat at this location of the stream channel. On the western slope of the stream channel project, 2.5 acres of sage scrub habitat will be established. This project will widen the stream on its western edge for a new total stream channel width of approximately 200 feet. Both the east and west sides of the stream channel will be restored with sage scrub habitat.
- Sunrise Overlook (Habitat Project #9 as described in the Hahamongna Watershed Park Master Plan): There are currently 1.9 acres of sage scrub habitat in this project area, much of which was established by hydro-seeding when the freeway access ramp was eliminated from this location. A total of 0.9 acre of this habitat will be converted to oak woodland habitat leaving 1 acre of sage scrub.
- Dam Area: This project area currently has 13.2 acres of sage scrub. Although the acreage of habitat will remain the same, 0.2 acre of this habitat will be removed as a result of the spillway observation overlook project, but 0.2 acre will also be added as a result of habitat establishment on the slope adjacent to the dam spillway. The existing 12.8 acres remaining will receive habitat restoration.
- Eastside Park: A total of 11.2 acres of sage scrub make up the eastside park area. A total of 1 acre of sage scrub will be eliminated due to the following projects: a) 0.5 acre** will be converted to oak woodland east of the eastside lake and playfield; b) 0.3** acre will be lost due to the realignment of the eastside parking/access road project; and c) 0.2 acre** will be lost to the east rim trail extension project. The total remaining area in sage scrub within the Eastside Park will be 10.2 acres of restored habitat.

• Storm Drain Improvements-JPL**: A total of 7.0 acres of sage scrub exist adjacent to JPL in the vicinity of the westside storm drains. This project will convert 2.0 acres of sage scrub to southern willow scrub at the drainage outfalls just north of the westside parking lot (Habitat Project #2**) along the JPL border where exotic species need to be removed, debris collected and disposed. These particular drainage outfalls drain through existing sage scrub and some willows. Due to wet conditions caused by urban runoff, this 2.0 acre area will be established with southern willow scrub. A total of 5.0 acres will remain in this area in sage scrub.

1.17.2.4 Riversidean Alluvial Fan Sage Scrub

There are currently 17.2 acres of riversidian alluvial fan sage scrub in the park. An additional 1.6 acres of habitat will be established for a new total of 18.8 acres of riversidian alluvial fan sage scrub habitat. Habitat establishment and restoration for this plant community is defined under Habitat Project #2**(as described in the Hahamongna Watershed Park Master Plan). A number of smaller habitat restoration projects within a larger area will occur: a) the Stream Channel Widening Project (Habitat Project #4** as described in the Hahamongna Watershed Park Master Plan) will add 1 acre of habitat; b) the Westside Spreading Basins Project (Habitat Project #3a** as described in the Hahamongna Watershed Park Master Plan) will eliminate ruderal weedy species and add 0.2 acre of habitat to the embankments of the spreading basins; c) the old east to west stream crossing has been abandoned and the asphalt roadway will be removed and disposed of, adding 0.2 acre of habitat; and d) the various drain outfalls along the JPL border, where exotic species need to be removed and debris needs to be collected and disposed, will add another 0.2 acre of riversidian alluvial fan sage scrub.

1.17.2.5 Mule Fat Scrub

There are currently 19.5 acres of mule fat scrub in the park, of which only 10.3 acres will receive habitat restoration. When water conservation measures are implemented, the remaining 9.2 acres of existing habitat will begin to die as the area is frequently inundated. An additional 3.9 acres of habitat will be established along with the 10.3 acres of habitat to be restored. The following table (Table 1.17.2.5-1, *Staff Recommended Alternative: Habitat Establishment and Restoration of Mule Fat Scrub*) lists the projects proposed for habitat establishment and restoration of mule fat scrub:

TABLE 1.17.2.5-1STAFF RECOMMENDED ALTERNATIVE: HABITAT ESTABLISHMENTAND RESTORATION OF MULE FAT SCRUB

PROJECT	EXISTING ACRES	ACRES ADDED OR SUBTRACTED	PROPOSED ACRES
Stream Corridor Alignment (Project 1**)	0.9	0.2	1.1

West Spreading Basins (Project 3a**) and			
Stream Channel Widening (Project 4**)	6.7	-1.7	5.0
Relocated Disc Golf (Project 8)	0.0	3.7	3.7
West Lake (Project 11**)	1.5	-1.5	0.0
Water Conservation Pool (Project 13)	1.2		1.2
TOTAL	10.3	0.7	11.0
Habitat Lost Due to Inundation (Water Conservation)	9.2		
TOTAL	19.5		

- Stream Corridor Alignment (Habitat Project #1** as described in the Hahamongna Watershed Park Master Plan): This restoration project will increase the existing 0.9 acre of mule fat scrub habitat by 0.2 acre for a total of 1.1 acres in mule fat scrub. The project will shorten the Altadena drain and realign the stream corridor to allow for a more natural stream flow.
- West Spreading Basins (Habitat Project #3a** as described in the Hahamongna Watershed Park Master Plan) and Stream Channel Widening (Habitat Project #4**): There are currently 6.7 acres of mule fat scrub habitat within these two project areas. These habitat projects propose to eliminate 1.7 acres of this plant community along the upper banks of the stream and in the vicinity of the new spreading basins. The creation of the westside spreading basins will utilize "Landform Grading" principles to improve habitat for this and other plant communities. This project will widen the stream on its western edge for a new total stream channel width of approximately 200 feet.
- Relocate Disc Golf (Habitat Project #8 as described in the Hahamongna Watershed Park Master Plan): There is currently no mule fat scrub habitat at this location. The Disc Golf Relocation project is proposed to establish 3.7 new acres of mule fat scrub to this area of the park. This restoration project proposes to raise the elevation of the area that has small pockets of existing willow scrub habitat to create drainage courses. Raised terraces of mule fat scrub habitat, a very resilient plant community, will serve to border the fairways. The areas of existing willows will be linked to create drainage courses that will receive less fill than the terraced areas of this project.
- West Lake (Habitat Project No.11** as described in the Hahamongna Watershed Park Master Plan): This project will eliminate the 1.5 acres of low quality mule fat present on the site to excavate the lake. The site is a predominantly ruderal and highly disturbed habitat due to past mining operations. There will be some debris removal of broken concrete that was dumped from previous construction projects. Until this project is implemented the site will be flooded and when water is pumped back or allowed to pass through the dam, the flooded mule fat will die and a pool of water will remain for some time.

• Water Conservation Pool (Habitat Project #13 as described in the Hahamongna Watershed Park Master Plan): When water conservation measures are implemented, an existing 4.2 acres of mule fat scrub will die as the area is frequently inundated. This project proposes a phased operation that will permit the areas elevated above the floodplain (elevation 1040 msl) and the perimeter of the water conservation pool (elevation 1040 to 1030 msl) to become established with mule fat scrub that will remain and southern willow scrub habitat. the Water Conservation Pool project will not alter the existing 1.2 acres of mule fat scrub in this zone. The next phase of the project will remove the dying 9.2 acres of existing mule fat scrub areas (below elevation 1030 msl) in a coordinated sediment and debris removal operation.

1.17.2.6 Southern Sycamore Riparian Woodland

There are currently 2.6 acres of southern sycamore riparian woodland habitat in the park. An additional 17.8 acres will be established for a new total of 20.4 acres of southern sycamore riparian woodland habitat. Habitat Project No.12 as described in Section 3.3 of the HWPMP reflects the restoration planned for this plant community, the largest area proposed for restoration of all the plant communities. The following table (Table 1.17.2.6-1, *Staff Recommended Alternative: Habitat Establishment and Restoration of Southern Sycamore Riparian Woodland*) lists projects proposed for habitat establishment and restoration of southern sycamore riparian woodland:

TABLE 1.17.2.6-1

STAFF RECOMMENDED ALTERNATIVE: HABITAT ESTABLISHMENT AND RESTORATION OF SOUTHERN SYCAMORE RIPARIAN WOODLAND

Projects	Acres
West Side	
Around proposed Sycamore Field (Project 8)	2.1
Adjacent to proposed West Side Lake (Project 11**)	1.4
Adjacent to proposed Spreading Basins 13,14 & 15 (Project 3a**)	1.4
Eliminate portion within the MWD property	
Stream Corridor Alignment (Project 1**)	1.4
East Side	
South of and around Johnson Field (Project 12)	3.8
Around proposed sport & play field	2.1
Around East Side Lake (Project 11**)	1.5
Around Spreading Basins 7 - 12 (exist. No. 5 - 10 Project 3c**)	1.1
Around new Spreading Basins 1 & 2 and expanded	
Spreading Basins 3 - 6 (exist. No. 1 - 4 Project 3b**)	3.0
TOTAL ACRES TO BE ESTABLISHED	17.8

1.17.2.7 Ruderal

It is proposed to replace the total existing 75.4 acres, except the 2.4 acres within the MWD property, in ruderal species with other plant communities as shown in the proposed plant communities map or as area within the proposed water conservation pool, which will be cleared of all vegetation below elevation 1030 excavated and graded. The ruderal areas within the designated critical habitat for the federally listed endangered Southwestern Arroyo Toad are proposed to be graded using Land-form Grading principles and restored to eliminate the highly disturbed and unnatural topography and the poor quality habitat and instead create quality habitat for the Arroyo Toad and other native flora and fauna.

1.17.2.8 Streambed Riparian

There are currently 8.1 acres of streambed riparian habitat in the park. 4.9 acres will be destroyed and 5.1 acres of habitat will be established for a new total of 8.3 acres of streambed riparian habitat. The following table (Table 1.17.2.8-1, *Staff Recommended Alternative: Establishment and Restoration of Streambed Riparian Habitat*) lists the projects proposed for habitat establishment and restoration of streambed riparian:

TABLE 1.17.2.8-1STAFF RECOMMENDED ALTERNATIVE: ESTABLISHMENTAND RESTORATION OF STREAMBED RIPARIAN HABITAT

PROJECT	EXISTING ACRES	ACRES ADDED OR	PROPOSED ACRES
		SUBTRACTED	
Two areas inundated (Project 13)	4.9	-4.9	0
Stream Channel Widening (Project 4**)	2.4	5.0	7.4
Stream Corridor Alignment (Project 1**)	0.8	0.1	0.9
TOTAL	8.1	0.2	8.3

• Two Areas Inundated (Habitat Project #13 as described in the Hahamongna Watershed Park Master Plan): There are two areas below the existing 1030 msl elevation that will be frequently inundated when water conservation procedures are implemented. This practice will cause the existing 4.9 acres of streambed riparian habitat in these areas to die. These two areas are therefore proposed to be cleared, excavated and graded for the Water Conservation Pool.

- Stream Channel Widening (Habitat Project #4** as described in the Hahamongna Watershed Park Master Plan): The stream channel widening project will establish 5.0 additional acres of streambed riparian habitat to an existing 2.4 acres of this habitat for a total of 7.4 acres of streambed riparian habitat. This restoration project will widen the stream on its western edge for a new total stream channel width of approximately 200 feet. Landform grading principles will be utilized here to improve the habitat for several native plant communities and to create quality habitat for the federally listed endangered Southwestern Arroyo Toad and as other native fauna.
- Stream Corridor Alignment (Habitat Project #1** as described in the Hahamongna Watershed Park Master Plan) This restoration project will increase the existing 0.8 acre of streambed riparian habitat by 0.1 acre for a total of 0.9 acre in streambed riparian, similar to and as a continuation of the same habitat, immediately north of the JPL Bridge. The project will shorten the Altadena drain and widen the stream corridor to allow for a more natural stream alignment.

1.17.2.9 Aquatic and Wetland

The construction of two new lakes is proposed for the park. Both projects are defined under Habitat Project #11** as described in the Hahamongna Watershed Park Master Plan. There will be a 0.3-acre inaccessible island of southern willow scrub in each lake for protection of wildlife. The creation of aquatic habitat with wetland habitat on the perimeter of the new lakes is recommended using established methods and planting palettes. The following table (Table 1.17.2.9-1, *Staff Recommended Alternative: Proposed Aquatic and Wetland Communities*) summarizes the Aquatic and Wetland communities in the proposed plan:

TABLE 1.17.2.9-1 STAFF RECOMMENDED ALTERNATIVE: PROPOSED AQUATIC AND WETLAND COMMUNITIES

	WEST SIDE LAKE	EAST SIDE LAKE	TOTAL
Aquatic**	2.7	2.3	5.0
Wetland**	1.8	1.0	2.8
Island (included in willow acres)	0.3	0.3	0.6
TOTAL	4.8	3.6	

1.17.2.10 Water Conservation Pool

The flood basin behind the dam has been filling with sediment. With an existing capacity of 1,424 acre-feet, it is more than the minimum capacity of 1,400 acre-feet. Since 1970, when the dam was declared unsafe to hold water, vegetation has been allowed to grow in the 92 acres that will be flooded now that the dam has been reconstructed. When water conservation measures are implemented and this area is inundated, as desired by the proposed plan, this vegetation will begin to die. A major goal of the proposed project is to create quality habitat wherever possible within this highly disturbed Hahamongna basin. To create new quality habitat above the spillway elevation and increase the capacity of the basin to a maximum of 1,900 acre-feet and to allow for 500 acre-feet of inflowing sediment capacity, this project will move 378 acre-feet of material on site and remove 243 acre-feet of material off site. This will reduce the area frequently inundated to 69 acres and create 28 acres of new recreational and habitat area. This will also create a flood management pool to better control inflowing sediment and floating debris as well as a water conservation pool to allow the retention of floodwater for pumping back to the spreading basins. Table 1.17.2.10-1, *Staff Recommended Alternative: Water* Conservation Pool, lists the acres of habitat lost due to infrequent inundation and the water conservation pool site areas that contain no habitat.

TABLE 1.17.2.10-1 STAFF RECOMMENDED ALTERNATIVE: WATER CONSERVATION POOL

	ACRES
Area of Flood Management Pool	
after increasing capacity (at elevation 1040)	69.0
Habitat lost due to infrequent inundation:	
Willow habitat (elevation 1030 to 1040)	5.7
Streambed Riparian (elevation 1025 to 1040)**	7.4
Riversidian Alluvial Fan Sage Scrub (area below 1040 elevation)**	1.0
Southern Sycamore Riparian Woodland (inundated Flint Wash)	0.5
TOTAL ACRES TO BE INFREQUENTLY INUNDATED	14.6
AREA OF WATER CONSERVATION POOL (no habitat)	54.4

1.18 UTILITIES

1.18.1 Eastside Overhead Power and Communication Lines

This project element will underground existing Pasadena overhead power and communication lines that run north and south on the east side of the park. The project will occur in two phases; the first phase will be to underground these overhead distribution lines from the VOC WTP to the Arroyo Well. The second will be to underground overhead distribution lines from the VOC WTP to Johnson Field.

1.18.2 Southern California Edison Power Line in the Hahamongna Basin

This project element will relocate the approximately overhead transmission line that runs diagonally across the basin to an alignment that runs south to Ventura Street along the existing Gabrieliño trail from the existing SCE power distribution line along Altadena Drive.

1.18.3 Pasadena Power and Communication Line in the Hahamongna Basin

This project component will relocate the existing Pasadena power and communication line that traverses the basin from the VOC WTP to the MWD property and northern portions of the west side of the park. Due to the undesirable aesthetics of these poles, the erosion of the pole bases and the inaccessibility for maintenance in the newly designated critical habitat area, the communication portion of this line will be relocated to a new line that will run to JPL from the Windsor-Ventura intersection north along the Gabrielino trail.

The power portion of this line will be relocated from the Pasadena grid that crosses the Devil's Gate Dam to feed facilities in the west side portion of the park. This alignment will go from the dam to Foothill Boulevard (preferably underground) and provide a new feed to OGMO, the Equestrian Staging Area restroom, the new restroom near the Oak Grove Field, the group picnic shelters south of the Oak Grove Field, the park ranger station, the existing restroom in the overnight area, the group picnic shelters in the overnight camping area, and the new restroom at the Sycamore Grove Field.

1.18.4 SCE North/South Transmission and South Distribution Line

These lines currently follow the toe of the western slope of the park, run the length of the basin from south to north and feed into and from JPL's main substation. Eleven of 21 power poles are frequently inundated during heavy storm events, making it impossible to access these poles. The poles will either be relocated to an alignment in Oak Grove Drive or be raised to an appropriate height in their current location after the westside perimeter trail, relocated disc golf and improved parking lot areas are constructed with fill to raise the area above the seasonally inundated elevation of 1040.5 msl (spillway elevation). Relocation of the poles to Oak Grove drive is the preferred solution. A mutual agreement between SCE and the City of Pasadena (and potentially other entities such as JPL, MWD, and the city of La Cañada-Flintridge) will be required.

1.19 ACCESSIBILITY AND SAFETY-PERIMETER PARK FENCING AND GATES

Two types of security fencing will be used. Decorative fencing consisting of some type of iron fencing with or without the use of Arroyo stone (as pillars or as a low wall atop which an iron fence could be placed) will be used where appropriate. Chain-link fencing will be used in areas where security fencing is needed but aesthetics are not an issue. Decorative security fencing is recommended at the following locations:

- At the south end of the park, from the west side of Flint Wash, north to the Gould Canyon Trail at Foothill Blvd.
- At the Windsor-Ventura entrance between Mountain View and Ventura, along the west side of Windsor.
- At the end of Altadena Drive

Gates will be needed at the westside tunnel entrance under Oak Grove Drive, to prevent entry onto the dam from the new parking lot at Oak Grove Drive and Linda Vista during park closure.

Chain-link security fencing will be used at the end of La Cañada-Verdugo Road and Oak Grove Drive from the Woodbury on-ramp to Flint Wash.

The Central Arroyo has traditionally been the premier regional recreation area for the City of Pasadena, attracting visitors from all over the Los Angeles basin, and tourists from around the world. At the same time, the Central Arroyo functions as a neighborhood park with homes lining the edges. Given the existing level of development within the Central Arroyo Seco, the Central Arroyo Master Plan would, in part, provide guidelines for the coordination of operations and maintenance activities to maximize accessibility of resources for City residents and visitors. The Central Arroyo Master Plan provides for improvements to existing facilities and provides for the addition of new facilities for passive and active recreation (Figure 2.3.2-1, *Central Arroyo Seco Master Plan*).

2.1 CREATE A CEREMONIAL MAIN ENTRY

A ceremonial entry and front plaza that reflects the prestige of the Rose Bowl would provide a pleasurable and informative experience for visitors and tourists. The design integrates the operational requirements of buses and passenger vehicles as well as the aesthetic and informational needs of spectators. It would start at Seco Street and lead to the main Rose Bowl entrance.

2.2 PARKING

This component addresses landscaping improvements to eight existing asphalt-paved and one turf-covered parking areas.

2.2.1 Landscape Asphalt Lots B, D, F, G, I, K, L, and M

The existing landscaping in asphalt-paved parking areas B, D, F, G, I, J, K, L, and M would be improved to provide shade and enhance the aesthetic experience of visitors.

2.2.2 Turf Improvements to Lots H, G, and K

The multipurpose turf areas in lots H, G, and K would be improved and increased as proven turf technology becomes available.

2.2.3 Unreserved Picnic Area

This component is intended to enhance opportunities for passive recreation use within the community.

2.3.1 Develop Children's Play Area

A new, visible, and inviting children's play area would be constructed adjacent to the unreserved picnic area. The new play area would be 3,000 square feet and comply with all Americans with Disabilities Act (ADA) standards, including the provision for ADA access to the play area and equipment that would employ a permeable surface such as fiber shavings, decomposed granite, or wooden planks. A joint City/Community-based process for design and construction of the play area would be considered. Reserved parking for the proposed unreserved picnic area on the southern edge of Lot I would be available on a continuous basis except during Rose Bowl displacement events.

2.3.2 Replace Picnic Shelters and Provide Improved Picnic Amenities

An unreserved picnic area would be designated at the existing southern picnic area located at the end of Parking Lot I. Large-group picnic shelters would be replaced with four or five smallgroup picnic shelters, maintaining the existing capacity of the picnic area. Additional amenities include new barbecues and picnic tables.

2.3.3 Resurface Existing Pathways from Holly Street Bridge to Lot I

The existing social pedestrian path that connects Lot I to the Holly Street Bride would be resurfaced. The existing pedestrian pathway is approximately 1,125 feet in length. The pedestrian pathway would be improved to a minimum width of 4 feet. The effort would consist of as many as 85 cubic yards of grading, requiring as many as 5 truck loads.

2.4 HILLSIDE IMPROVEMENTS

This component is intended to enhance passive and active recreations in the hillside area immediately adjacent to Brookside Park. Many of the historic features on the slopes of Brookside Park that give the Central Arroyo its distinct character have fallen in disrepair. This unique, wooded environment offers a cool retreat from the summer sun and the recreational activities on the turf areas.

2.4.1 Restore Central Pathway System

The pathways and arroyo stonewalls on the hillsides would be restored. This effort would consist of approximately 100 cubic yards of repair, necessitating approximately 7 truckloads. The trails and main pathway would be maintained in their natural surface and existing grades. Pedestrian access from the southeast would be improved by reopening the closed entries leading from Arroyo Terrace. All restorations would adhere to the *Secretary of Interior Guidelines*³, as well as Arroyo Seco Design Guidelines.

2.4.2 Widen Central Path for Easier Patrol Access

The existing, unimproved pedestrian pathway, which connects Arroyo Terrace and the Aquatic Center would be improved and widened to facilitate safety patrols and pedestrian access. This system of pedestrian pathways is approximately 2,875 feet in length. The proposed improvements would require a maximum of 215 cubic yards of grading, necessitating as many as 13 truckloads.

2.4.3 Restore Amphitheater

The amphitheater area would be restored by removing overgrown vegetation and by repairing existing damage. The restoration would be accomplished consistent with the *Secretary of Interior Guidelines*⁴. This effort would require less than 40 cubic yards of repair, using four to five truckloads.

2.5 GROUP PICNIC / ACTIVE RECREATION AREA

This component is intended to restore and rehabilitate existing recreation facilities of potential historic significance and allow for management of these facilities. The group picnic areas, the restored amphitheater, the band shell behind the Aquatic Center, and the Brookside Sports Fields would be available on a reservation basis. The Arbor, the Stone Barbecue Area, and the Rockery would be restored according to the *Guidelines of the Secretary of Interior*⁵, and would maintain current capacity. Handrails and/or ramps would be installed in the first level of the Rockery to provide ADA-compliant accessibility. The total volume of grading anticipated to be required in support of the restoration and rehabilitation of these facilities would comprise approximately 83 cubic yards, using six truckloads.

2.5.1 Restore Rockery, Arbor, Bandstand and Stone Barbecues

³ Kay D. Weeks and Anne E. Grimmer, 1995. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with guidelines for Rehabilitating and Reconstructing Historic Buildings*. Washington, D.C.: U.S. Department of the Interior, National Park Service. Cultural Resource Stewardship and Partnerships. Heritage Preservation Series.

⁴ Ibid.

⁵ Ibid.

Overgrown vegetation would be removed from the band shell and the seating would be repaired. The trails to the band shell would be made ADA - Accessible by providing handrails and/or ramps. Material for 2,500-square-foot band area would be brought in for repairs and improvements to the band shell and stage. The materials for improvement of the band area include decomposed granite and trees to be planted to create shade in the seating area. The materials to repair the stage area would include lumber, electrical devices and an entire band shell made from iron trellis. The existing asphalt would be removed and the surface would be replaced with a permeable material to give it a more rustic appearance. Three large stone group barbeques would be restored and plumbing repaired to drain per City code.

2.5.2 Remove Obsolete Elements and Play Equipment

The developed recreation areas on the east side of the Central Arroyo between Seco Street and West Holly Street contain appurtenant facilities such as barbecues, swings and trash receptacles that do not meet current industry standards. These obsolete facilities would be removed and/or replaced as necessary to attain current standards for recreation, safety, and accessibility.

2.5.3 Replace and Construct New Children's Play Areas

A 15,000-sqare-foot children's play area would be resurrected and renovated behind and to the east of the Rose Bowl Aquatic Center (RBAC). The new children's play area would replace the abandoned play area in this area of the park. The site would take advantage of the existing topography to add interest to the site and selected play equipment. The new children's play area would incorporate ADA compliant accessible play equipment. The improvement would include an ADA access to the equipment, consisting of a path composed of fiber shavings, wooden plank, or decomposed granite. The ADA access path to the play area from the adjacent areas of the park would be constructed. As recommended by the Arroyo Seco Design Guidelines, the pathway would be at least 5 feet wide and have rest areas every 200 to 300 feet. A joint City/Community-based process for design and construction of the play area would be considered. This component of the project would require the removal of approximately 200 cubic yards of earth material, currently serving as earthen berms with lawn, are remnants of fill material from the construction of the RBAC that were never exported and that currently pose a security problem for the park by creating blind spots.

A new, 8,000-square-foot children's play area would be constructed near the park entrance from lot I. The new children's play area would replace the children's swing set being removed just south of the main entrance of Brookside Park. The new children's play area would incorporate ADA compliant accessible play equipment. The improvement would include an ADA access to the equipment, consisting of a path composed of fiber shavings, wooden plank, or decomposed granite. The ADA access path to the play area from the Fannie Morrison Building would be constructed. As recommended by the Arroyo Seco Design Guidelines, the pathway would be at least 5 feet wide and have rest areas every 200 to 300 feet. A joint City/Community-based process for design and construction of the play area would be considered.

2.5.4 Improve Restrooms and Picnic Amenities

Broken pedestal barbeques located throughout the park would be replaced. All picnic tables and barbecues in the existing developed recreation areas on the east side of the Central Arroyo between Seco Street and West Holly Street would be upgraded to meet current standards for accessibility pursuant to ADA. ADA-accessible pathways would be constructed in each area containing picnic tables and barbecues. The appurtenant restrooms would be renovated to meet current standards for accessibility pursuant to ADA.

2.5.5 Provide Soccer Overlay by Relocating Field Lights

Existing Baseball Diamond No. 2, located within the developed recreation area on the east side of the Central Arroyo between Seco Street and West Holly Street, would be reoriented to accommodate a soccer overlay field. Diamond No. 2 would be rotated approximately 180° so that the outfield is parallel to the outfield in the baseball diamond located adjacent and to the south. This would allow the existing sports field area to accommodate two baseball fields and a soccer field. Light poles/fixtures would be relocated. All fields would be adult regulation fields. The circular stone structure and play structure near the existing park entrance would be removed to maximize the size of the fields and open space. The existing play structure would be replaced with a new play structure near the park entrance from Lot I (described in Section 2.3.2.5.3).

2.5.6 Replace Colonnade Patio at Aquatics Center with Usable Open Space

The area between the tennis courts and the Aquatic Center would be improved to provide better access and usable open space by removing the colonnade and replacing it with 4,500 square feet of turf.

2.5.7 Restore Brookside Maintenance Office and Yard

The Restoration of the Brookside Maintenance Office and Yard consists of the demolition of the existing building and reconstruction of a smaller park maintenance office, employee locker room, tool and equipment storage room and an outdoor maintenance yard with a covered equipment storage area.

This project will also renovate the existing materials storage yard at the rear of Brookside Park. The existing yard will be enlarged to allow for the storage of the smaller waste bins as well as improved circulation for waste disposal vehicles. A new rolling gate with a key card will be installed at the entrance to the materials storage yard.

2.6 THREE-MILE RECREATION LOOP

From early morning to evening, the four streets that bound the Brookside Golf Course and the Rose Bowl operate as a three-mile recreation loop for bicyclists, strollers, walkers, joggers, and roller bladers, as well as the main vehicular circulation pattern around the Central Arroyo. Conflicts have been known to arise between the recreational users and traffic, and among walkers, in-line skaters, and bicyclists traveling at different speeds. Additionally, local vehicular traffic passes through the park as a shortcut, causing speeding concerns. Entrances and circulation through the stadium parking areas are confusing and poorly marked.

2.6.1 Pedestrian Lane with Buffer

The three-mile recreation loop would be enhanced by providing a safe, separate, dedicated pedestrian lane. Measurements will be as follows: a 14-foot wide pedestrian lane, a 4-foot wide textured stone buffer, a 14 to 22-foot-wide lane-shared by cyclists and vehicles, and a 14-foot wide opposing vehicular traffic lane. The measurements on Washington Boulevard would be proportionally smaller. The dedicated pedestrian lane would be widened to 14 feet. The added width would provide ample distances for walkers, runners, in-line skaters, strollers and children on bikes (included in the right-of-way widening above). The pedestrian lane would be separated from vehicular traffic with a 4-foot-wide stone buffer comprised of Arroyo Stone, textured concrete, or stones. The total area of the buffer would be 65,000 square feet. The buffer would act as a warning strip for bicycles and automobiles. Two-way vehicular traffic would be maintained on Seco Street, West Drive, Washington Boulevard, and Rosemont Avenue. This configuration would maintain necessary lanes for vehicular traffic during major events.

2.6.2 Loop around the Stadium

A Rose Bowl Stadium Loop Pedestrian Pathway would provide a view of the facility for visitors and tourists, and a pathway for daily park users. The exercise loop around the stadium would provide a shorter alternative to the three-mile recreation loop. This pathway would need to meet the safety and operational concerns of the Rose Bowl and golf course, and be ADAaccessible.

2.6.3 Reduce Traffic Speed

Three traffic-calming methods would be integrated in to the roadways adjacent to the threemile recreation loop to enhance recreation safety within Central Arroyo. First, a stop sign would be installed at Salvia Canyon Road that would stop traffic in both directions. Second, steps would be taken to reduce the speed limit within the Central Arroyo from 40 mph to 25 mph. Last, pedestrian safety would be enhanced by establishing crosswalks at the intersection of Rosemont Avenue and Seco Street.

2.7 MULTI-USE RECREATION TRAILS

The multi-use recreation trail is a pedestrian and equestrian trail, requiring a 10-foot vertical clearance and a 5-foot width to meet the standards of equestrian trails in accordance with the Arroyo Seco Design Guidelines. Its composition would be either granular stone or dirt surface depending on equestrian preference and horse health. The following adjustments to the trails would improve the safety and enhance the experience for the equestrian riders and pedestrians.

2.7.1 Restore Rim Trail North of Washington on Slope above n Rosemont Avenue

The multi-use recreational trail would be restored along the east side slope above Rosemont Avenue (across from the golf course) and north of Washington Avenue. This portion of the trail is approximately 100 feet in length, and its restoration would not affect any trees, structures, or public rights of way. A retention system will be required on the downslope side to rebuild the trail; this will involve not more than 100 cubic yards of material (combination of on-site material an imported material). A railing in keeping with the Arroyo Seco design guidelines will be required for future safe use of the trail. The uphill portion of this length of trail will require bank stabilization over approximately 1000 sq. feet using native plantings.

2.7.2 Provide Safer Eastside Equestrian Crossing

The existing eastside multi-use recreational trail crossing on Rosemont Avenue north of Washington Avenue would be improved to allow for a safer crossing. An improved flashing signal with sensors in the trail approaches at the roads edge would be installed to warn motorists that someone is crossing the trail. It would not affect any trees, structures, public rights of way, but would involve trenching in the right of way during construction for the installation of the sensors.

2.7.3 Provide Directional and Safety Signs

Signs would be placed along the multi-use recreational trail for directional and safety usage. All signs would adhere to Arroyo Seco Design Guidelines.

2.7.4 Provide a Defined Path of Travel for Equestrians through the Rose Bowl Parking Areas

Additional signs would be added to the horse trail that crosses the flood control channel on the north end of the Rose Bowl and continues across the main entry of the Rose Bowl to the staging area near the Brookside Clubhouse. All signs would adhere to *Arroyo Seco Design Guidelines*.

2.8 PEDESTRIAN PATHWAYS

Pedestrian access to the Central Arroyo would be improved by providing pathways. Pedestrian pathways are recommended to be 5 feet wide with a 7-foot vertical clearance in accordance with the recommendations of the Arroyo Seco Design Guidelines. Pedestrian enhancements have been recommended along the following roads.

2.8.1 Salvia Canyon Road

A pedestrian pathway would be located on Salvia Canyon Road between Linda Vista Avenue and West Drive. The trail would be 3,000 feet in length. The proposed enhancements would require a maximum of 277 cubic yards of grading, necessitating up to 17 truckloads.

2.8.2 Rosemont Avenue

A pedestrian pathway would be located on Rosemont Avenue (western edge) to the eastside hiking and equestrian trail. The trail would be 100 feet in length. The proposed improvements would require a maximum of nine cubic yards of grading, necessitating up to one truckload.

2.8.3 Seco Street from Linda Vista Avenue to West Drive

A pedestrian pathway would be located on Seco Street from Linda Vista Avenue to West Drive. The trail would be 2,000 feet in length. The proposed improvements would require a maximum of 185 cubic yards of grading, necessitating up to 12 truckloads.

2.8.4 Park View Avenue

A pedestrian pathway would be located on Park View Avenue to Washington Boulevard. The trail would be 800 feet in length. The proposed improvements would require a maximum of 74 cubic yards of grading, necessitating up to five truckloads.

2.8.5 Seco Street from Lincoln Boulevard to Rosemont Avenue

A pedestrian pathway would be located on Seco Street from Lincoln Boulevard to Rosemont Avenue. The pathway would be 1,100 feet in length. The proposed improvements would require a maximum of 102 cubic yards of grading, necessitating up to six truckloads.

Pedestrian access from the south would be improved by resurfacing the existing pathway from the Holly Street Bridge to Lot I.

2.9 LANDSCAPE AND AESTHETICS IMPROVEMENTS

The Central Arroyo is defined by canyon walls located west and east of the historic flood plain of the Arroyo Seco. These canyon walls are characterized by native vegetation interspersed with ornamental plants. The experience of city residents and visitors would be enhanced through landscape and aesthetic improvements.

2.9.1 Identify Native Plant Restoration Areas

This component identifies approximately 85 acres of slopes with native vegetation located along the eastern and western boundaries of the Central Arroyo and access routes to the Central Arroyo that would be treated with native plant restoration. The existing vegetation is dominated by coast live oak woodland and sage scrub. Restoration would be accomplished through removal of existing non-native vegetation outside the breeding season for most local native bird species (August 15 to February 15). Plants suitable for restoration would be selected from native plants that are currently known to occur within the Arroyo Seco.

2.9.2 Tree Planting

As many as 100 trees would be planted in association with the Native Plant Restoration Areas. Three plantings would emphasize the use of coastal live oak and three other species native to the Arroyo Seco, where appropriate.

2.9.3 Improve and Minimize Signage

Signs in this area would be improved to facilitate visitor safety and visitor orientation. It would be made as unobtrusive as possible. In addition, all signs would comply with the *Arroyo Seco Design Guidelines*.

2.10 ACCESSIBILITY AND SECURITY

All new facilities would meet ADA standards. Existing Central Arroyo facilities would be reviewed for compliance with ADA standards. Existing drinking fountains would be replaced with ADA-accessible drinking fountains. ADA-accessible viewing would be provided behind home base at Jackie Robinson Stadium. Additional ADA-accessible passenger car and van parking spaces would be provided in Lot I insuring no net loss in non-ADA-accessible spaces by restriping the parking lot.

2.11 ARROYO SECO STREAM RESTORATION

2.11.1 Restore Streamcourse, Where Feasible

It is currently feasible to restore the soft bottom reaches of the Arroyo Seco stream in the Central Arroyo which encompass approximately 3000 lineal feet of stream corridor at the northern (between the gold Course and Devil's Gate Dam) and approximately 2800 lineal feet at the southern end (from the concrete channel, under the Colorado Street Bridge and the 134 freeway, to the slime slide) of the central Arroyo Seco area. The work to be completed is considered maintenance and includes the removal of massive spans of concrete that were left in the streambed after the collapse of a freeway bridge, sediment removal, bank stabilization, improvement to water quality where debris is entering the streamcourse from storm drains, removal of exotic/invasive and non-native plant species and habitat restoration and lastly trail repair.

3.1 IMPROVE THE GROUNDS OF LA CASITA DEL ARROYO

3.1.1 Restore Arroyo Stone Walls and Stairs

Restoration of the arroyo stonewalls on the project site will be undertaken in accordance with the Secretary of the Interior's guidelines for restoring historic structures. Restoration of the garden steps at the southern rear corner of the site will be undertaken in accordance with the Secretary of the Interior's guidelines for restoring historic structures.

3.1.2 Maintain Trail Connections

Trail connections to La Casita and its immediate area will be maintained.

3.1.3 Provide Interpretative Information

Interpretive information on the Arroyo Seco, it history and its resources will be installed at La Casita in coordination with the Arroyo Seco Design Guidelines and the La Casita Foundation.

3.1.4 Stabilize Slope Around Facility, Where Necessary

The slope around the rear of La Casita and the Arroyo Stone walls north of the building are subject to continuous erosion which if left alone, could result in the failure of existing wall sections along the edge of the slope and eventually threaten the clubhouse itself. Los Angeles County Department of Public Works recently completed a Geotechnical Investigation of the site. A short term solution to the problem has been agreed to by various parties including the City, but a long term solution needs to be assessed including the possible construction of a crib wall at the base of the slope to create a landscaped terrace between the existing top of the slope and the top of a new, lower crib wall. The parameters of such a project are not really known at this time, but would be the subject of further study.

3.2 ENHANCE MAIN PARK ENTRANCE

This project element will upgrade the existing entrance located near the intersection of Arroyo Boulevard and Norwood.

3.2.1 Provide New Gate

The entry driveway will have a new entry gate much like what will be designed for the new southern entrance to the Lower Arroyo; a gate design similar to what exists at La Casita has been mentioned but needs further evaluation.

3.2.2 Enhance Entry Landscaping with Native Plants

New landscaping with native plantings and boulders will be included in this project element.

3.2.3 Improve Access Road for Safety

This project element will include various repairs to the 1,400-linear-foot access road and improvements to the unsafe, "pinched" sections where currently only one vehicle can pass at a time. The road will be improved to a width of no greater than 20feet. Improvement to the built-up bench/terrace on the downhill side of the existing road will allow for the road widening. This project will require 0.4 acre of on-site grading along the built up terrace on the downhill side of the road. The uphill portion of the access road will not be impacted by this project. 800 linear feet of barrier rails will also be replaced with Arroyo stone boulders along the first 50 feet at the top of the road and at the last 120 feet at the bottom of the road; the remaining length will be replaced with an arroyo stone barrier wall, of which 85 feet will be retaining. All wall design will be in conformance with the Arroyo Seco Design Guidelines. 20,000 square feet of adjacent slope will undergo brush removal and stabilization in addition to native landscaping.

3.3 SOUTH ENTRANCE

The southern entrance will continue to provide entry to the Arroyo Seco from the southern city limits via the existing informal entrance through the San Pasqual Stables in southern Pasadena.

3.3.1 Equestrian Amenities

A designated equestrian path/use area with hitching posts for horses as well as a watering trough will be provided at least 500 feet upwind of all other public activity facilities,.

3.3.2 Interpretive Area

The area will serve as a southern gateway to Pasadena's Arroyo Seco and an interpretive area will be provided. Interpretive material, maps of the area and regional trails, and general information will be provided.

3.3.3 Restore Native Plant Communities

The open area between San Pasqual stables and the first, existing bridge crossing north of the stables, will be restored to the native plant communities of the area. Coordination with the stables for the relocation of the current dressage ring and the horse trailers will occur.

3.3.4 Maintain Trail Connections

A formal trail will loop through this area to connect to the eastside multi-use trail and keep riders/hikers off of restored planting areas.

3.4 IMPROVE CASTING POND AREA

3.4.1 Repair Pond and Resurface Deck

The 20,000-square-foot cracked and leaking surface of the Casting Pond will be resurfaced. Eight benches adjacent to the pond will be replaced and the drinking fountain will be modified to allow for a dog trough. The 6,000-square-foot asphalt deck surrounding the pond will be replaced with concrete or a material like soil cement that looks natural but will hold up to weather conditions.

3.4.2 Repair Drainage System

Repair and modification of the drainage system will need to be accomplished.

3.4.3 Provide ADA-accessible Trail

The entire area around the pond will be made ADA-accessible including the allocation of 2 ADA fishing stations requiring at least 25 square feet each. This project element will also provide an 830-linear-foot ADA-accessible portion of the Eastside Multi-use Loop Trail between the Casting Pond and La Casita del Arroyo. Three rest stops will be created along this stretch of trail in accordance with ADA standards.

3.5 ENHANCE BIRD SANCTUARY

This project element will improve the existing bird sanctuary site.

3.5.1 Restore Stonework and Fountain

The existing drinking fountain will be rebuilt to allow for dog use, separate from human usage. Stonework in the seating area, surrounding walls, steps and the fountain will be restored in accordance with the Secretary of the Interior's guidelines for restoring historic structures.

3.5.2 **Provide Trail Connection to Memorial Grove**

A new 400-linear-foot trail connection will be created from the Bird Sanctuary to the lower Arroyo at the Memorial Grove.

3.5.3 Provide Lighting for Increased Security

Better lighting will occur, especially in the area of the stairs and lower terrace to provide a safe area to minimize problems with vandals.

3.5.4 Provide Curb Cut to Encourage Use as Rest Area

A curb cut will be created along Arroyo Boulevard for small maintenance vehicles to access the site and also allow cyclists using Arroyo Boulevard to use it as a rest stop.

3.5.5 Provide Interpretative Signage

Interpretive signage will be placed at this site as part of a larger interpretive signage system in the Arroyo Seco.

3.5.6 Enhance Landscaping

Increased native plantings will occur, especially in the area of the stairs and lower terrace, to increase usage, restore native plant communities, and to mitigate problems with vandals.

3.5.7 Repair Storm Drain

Approximately 800 square feet of slope, where an existing storm drain is exposed and major erosion has occurred, will be repaired; the city engineering division is proposing a new alignment for this storm drain. (P&NR needs to confer with PW Engineering staff; P&NR prefers keeping the existing location)

3.6 NORTHERN ARCHERY RANGE

3.6.1 Improve Paths and Trails

Approximately 1,000 linear feet of the range will be improved to a width of no more than10 feet and in compliance with the Arroyo Seco Design Guidelines to be ADA-accessible, where feasible. Vegetation on the range will be inspected with regularity so as to not create any blind spots for archers or other recreational users on the trail.

3.6.2 Rebuild Targets and Target Access

The layout of the northern archery range will remain the same. A design standard for target construction as well as access to the 14 targets will be developed as part of the Arroyo Seco Design Guidelines and implemented to provide a safe and well maintained course.

3.6.3 Improved Signage for Safety

Archery trails will be defined with improved signage to alert non-archers that the range is in use a safety program will be implemented by the Roving Archers Club as a condition of their lease.

3.7 SOUTHERN ARCHERY RANGE

3.7.1 Maintain Paths, Trails and Amenities

Approximately 2,000 linear feet of archery paths will be improved to a width of 4 feet (not consistent with width under northern range....prefer 4 ft if acceptable) for ADA accessibility, where feasible. Two existing drinking fountains in the area will be upgraded and relocated for better accessibility to a greater number of users and to meet ADA standards.

3.7.2 Rebuild Targets and Target Access

The southern range (south of the Archer's Clubhouse) will consist of all the same elements as the northern range.

3.7.3 Improved Signage for Safety

The southern range (south of the Archer's Clubhouse) will consist of all the same elements as the northern range.

3.8 ROVING ARCHER'S CLUBHOUSE

3.8.1 Rebuild Clubhouse with Restroom and Storage Area

The clubhouse was recently burnt in a fire and shall be replaced to the standards of the Design Guidelines. The building will be the same size as the previous clubhouse ADA-accessible restroom facilities taking up a maximum of 400 square feet and the storage room taking up a maximum of 600 square feet. The new storage room and 2 restrooms (1 male with urinal/1 female) will replace the storage facilities currently located at the Memorial Grove. Since there is no public sewer service on the west side of the flood control channel, the restroom will be fitted with a small pump that will take sewage across the flood control channel to the Casting Clubhouse sewage lift station in accordance with the Army Corps of Engineers guidelines for building restroom facilities in flood plains. The location of the previous clubhouse is preferred for the rebuilt building, but the City will coordinate the new location with LACDPW and the Army Corps of Engineers.

3.8.2 Provide Interpretative Information and Map of Range Area

The building will also serve as an information site for park users, for interpretive signage and a map of the area as part of the larger interpretive trail system for the Arroyo Seco.

3.8.3 Landscaping with Native Plants

Approximately 6,000 square feet of land immediately surrounding the clubhouse will be landscaped in native vegetation.

3.9 BRIDGE CROSSING AT ARCHER'S CLUBHOUSE

3.9.1 New Gate with Passage for Non-Motorized Users

The existing 15-foot bridge that crosses over to the Archer's Clubhouse will be improved with the installation of a new 10-foot swinging gate. The remaining 5-foot gap will allow for hikers, walkers, and equestrians to cross the bridge.

3.10 IMPROVE WESTSIDE MULTI-USE TRAIL ACCESS AT PARKER-MAYBERRY BRIDGE

This project element will improve the northern end of the existing Westside trail and allow equestrian and pedestrian access onto the west side of the existing Parker Mayberry Maintenance Bridge (located beneath the Colorado Street Bridge). Directed use of the maintenance bridge will allow users to cross the arroyo and exit on Arroyo Boulevard (current eastern exit point for bridge).

3.10.1 Install Bollards at Arroyo Boulevard Entry/Exit to Prevent Non-Motorized Use

A system of bollards or a modified swing gate will be installed to prevent vehicles from entering while allowing recreational users to pass through this entry with ease; the bollards could be removed or the swing gate opened when official vehicles needed to enter. No grading will be required. The existing iron gate on the east side of the bridge would remain open at all times.

3.11 WESTSIDE MULTI-USE TRAIL FOR HIKERS AND EQUESTRIANS

3. 11.1 Maintain Trail from Southern City Limits to Parker-Mayberry Trail Bridge

- **Parker-Mayberry Bridge to Southern City Limits** This project element will maintain the pedestrian and equestrian along the west side of the flood control channel from the Parker-Mayberry Bridge to the Southern Entry at the southern City limits.
- **Parker-Mayberry Bridge to the Archer's Range** This project element will keep 1,920 linear feet of the Westside Multi–Use Trail between the Parker-Mayberry Bridge and the Archer's Range maintained.

- La Loma Bridge to the San Rafael Bridge at Laguna The existing trail will be kept maintained and its alignment adjusted create a more desirable landscape. This area traverses some wonderful, wide expanses with as much as 1.5 acres with great potential for habitat restoration.
- San Rafael Bridge at Laguna to the south city limits This project element will do much of the same as the project element described above. It will keep 805 linear feet of trail maintained to a minimum width of 4feet (multiple-use exclusive of bicycles).

3.12 EASTSIDE MULTI-USE TRAIL FOR HIKERS AND EQUESTRIANS

3.12.1 Maintain Trail from South City Limits to Parker-Mayberry Bridge

This project element will maintain 2,300 linear feet of trail, repairing erosion problems in steep areas, resurfacing the trail with decomposed granite (DG) and making it ADA-accessible where feasible. The trail will be improved to a maximum standard width of 14 feet to accommodate maintenance vehicles and still allow the passage of recreational users (pedestrians and equestrians Minimal material will be needed to fill ruts in the trail.

Approximately 1,100 linear feet of an existing above-ground irrigation system will be salvaged or replaced and flushed with the ground to provide individual bubblers to trees along the trail.

3.13 CAMEL'S HUMP LOOP TRAIL

3.13.1 Expand Trail System at Camel's Hump

This project element will enhance the habitat, circulation for trail users, circulation for maintenance access and the general appearance of the area. The project element will build on the existing trail system by adding 800 linear feet of new trail to areas recreational users will be able to enjoy and also provide maintenance access to these areas that are currently difficult to reach. Also, a 3-year-old planting project in this area will require renovation.

3.13.2 Study Geological Stability

The project element will involve a study of the stability of the Camel's Hump, in particular the western face. Extensive erosion and rockslides have occurred over time at this location. As a key passage route in the Arroyo Seco, a geologic investigation will be needed to determine the safety of continuing to allow a trail under the western face of this formation. The study will make recommendations to address any further deterioration of the slope and assess the existing trail along the western face.

3.13.3 Retrofit and Repair Irrigation System

Remnants of the existing irrigation system that covers 65,000 square feet will be salvaged, and buried to provide a system of individual bubblers to trees in the area as well as retrofitted for new plantings.

3.13.4 Habitat Restoration

An additional 65,000 square feet of terrain will undergo habitat restoration.

3.14 WESTSIDE PEDESTRIAN TRAIL

3.14.1 Separate Southern Archery Range Trail from Westside Multi-Use Trail

The existing 1,600-linear-foot trail on the edge of the Southern Archery Range area will be separated from the Westside Multi-use Trail and will hug the westerly slope. The trail will be improved to a width of 4 feet, repaired with compacted Class II base material. Native materials such as plantings, arroyo stones and boulders will be used to help define this separation.

3.14.2 Improve Signage for Safety

This trail will keep the archery activity separated from the other park uses and provide improved safety through signage. Archers will be prohibited from using the Westside Multi-use Trail through signage.

3.14.3 Restore Native Plant Community

At the trail edge, the area will be restored with plantings native to the area's plant communities.

3.15 RESTORE ARROYO BOULEVARD RIM TRAIL

3.15.1 Pedestrians Only

Area residents heavily use this 7,400-linear-foot trail that runs along Arroyo Boulevard from the Parker-Mayberry Trail to Westover. This project element will make repairs to the trail so that access is safe and barrier-free; approximately 3,000 linear feet of the trail will be made ADA-accessible, where feasible and 10 curb cuts will be made at various points along the trail, to improve accessibility.

Prohibiting the use of equestrians and cyclists will be part of the signage and trail-definition program. No substantial grading will be required

3.15.2 Restore Arroyo Stone Walls

Areas where sections of arroyo stonewall are damaged along the trail will be repaired in accordance with Arroyo Seco Design Guidelines and the Secretary of the Interior's guidelines for restoring historic structures.

3.15.3 Restore Native Plant Communities

Approximately 60,000 square feet of brush clearing and poison oak removal will occur to make the area passable and restore native plant communities in areas that can accommodate new plantings.

3.15.4 Repair Irrigation

Approximately 5,000 linear feet of exposed irrigation systems create hazardous situations and will therefore be repaired to eliminate the hazards. Exotic vegetation will also be removed. Areas where washouts have occurred will be repaired.

3.16 **RESTORE NEIGHBORHOOD TRAIL ACCESS**

3.16.1 Restore Historic Trails

This project element will restore the major access points leading into the Lower Arroyo Seco from the various surrounding neighborhoods. This project element will be a combination of trail restoration work, rubble wall restoration work, trailhead improvements and planting restoration. All structural restoration will be undertaken according to the Secretary of the Interior's guidelines for restoring historic structures. The following are 12 access points that will be restored:

Westminster La Casita Trail (through butterfly garden) Bird Sanctuary California Boulevard La Loma Bradford Street Busch Garden Court Rockwood Place Parker-Mayberry Bridge to Westside Trail Westbridge Place South of Westbridge Place San Pascual (north of San Rafael Avenue)

The trail restoration work will include repair of washed out trails, repair of ruts, and removal of sediment that has washed down over the trails. Grading will be balanced on-site.

3.16.2 Restore Arroyo Stone Walls

This project element includes Arroyo stone wall restoration work. All structural restoration will be undertaken according to the Secretary of the Interior's guidelines for restoring historic structures.

3.16.3 Restore Plantings

The planting restoration part of this project element will clear the trail of all exotic weeds and grasses and any overgrown or dead brush. New planting will occur as needed for slope stabilization or to replace dead trees or for general habitat enhancement or aesthetic purposes.

3.16.4 Improve Trailheads

The trailheads are where the trails begin in the neighborhoods. Trailheads will be tastefully identified and appropriate signage and mapping located as part of a larger signage program.

3.17 MEMORIAL GROVE RESTORATION

This project element proposes restoring native vegetation, and renaming of the AIDS Memorial Grove to the Memorial Grove. The field has become the location for trees to be planted in memorial of someone. The Parks and Natural Resources Division of the city will specify tree species that can be planted and will supply interested parties with standards for planting, a list of vendors where trees can be purchased, and information about tree care responsibilities.

3.17.1 Maintain Open Natural Area

Approximately 60,000 square feet of brush clearance and slope stabilization will occur, and the area will be replanted with a more open canopy to accommodate the memorial theme and to minimize the dependency on regular maintenance.

3.17.2 Habitat Restoration

Habitat restoration will be a significant component of this project element. A planting project in the area that was implemented approximately 3 years ago is in need of modification. Remnants of the existing irrigation system that covers 65,000 square feet will be salvaged, and buried to provide a system of individual bubblers to trees in the area as well as retrofitted for new plantings.

3.17.3 Remove Restroom

The city has approved the removal of an existing bathroom and storage room that has been closed for many years due to poor safety, vandalism and illegal activities. The storage area of the bathroom is still in use by the Roving Archers who need the space to store their bales of hay and their equipment. This storage space will be replaced by the new storage room at the Archer's Clubhouse.

3.18 MAINTAIN REGIONAL TRAIL CONNECTION

3.18.1 Stabilize Slope of Trail Under Bridges

This project element will improve 60 feet of sloped trail beneath the Parker-Mayberry Maintenance Bridge and the Colorado Street Bridge. The area serves as a transition between the Lower Arroyo and the pathway along the unchannelized reach of the Arroyo upstream of the Colorado Street Bridge. The relatively steep slope and unimproved conditions will be modified with grade breaks of large timbers, stone, concrete or other suitable material and surfaced with pathway treatment to create a stepped pathway. The trail (multi-use exclusive of cyclists) will be at least 4 feet wide and have 10 feet in vertical clearance. This project element will improve the existing Eastside Multi-use Loop Trail.

3.19 **RESTORE THE BANKS OF THE LOWER ARROYO**

- 3.19.1 Provide for Wildlife Corridor
- 3.19.2 Promote Measures to Stabilize Banks and Control Erosion
- 3.19.3 Protect, Restore and Conserve Native Plant Communities

3.20 ANNANDALE CREEK/LAGUNA CANYON RESTORATION

3.20.1 Work Cooperatively with Neighboring Jurisdictions to Remove Concrete Channel and Restore Creek

3.20.2 Restore Habitat

3.20.3 Improve Water Quality Entering Arroyo Seco Channel/Stream

SECTION 4.0 ARROYO SECO MASTER PLAN: ROSE BOWL USE PLAN

The Arroyo Seco Master Plan includes a Rose Bowl Use Plan which seeks to increase the number of displacement events. Displacement events are defined as those events with a minimum of 20,000 attendees. The Draft MEIR contemplates increasing the number of displacement events held at the Rose Bowl from 12 to 25. The proposed increase in major events is attributable to an expected increase in the number of special events held at the Rose Bowl including, but not limited to, concerts, motor cross competitions, religious and/or faith assemblies and soccer matches.

Staff review of the public comments on the impacts of the Rose Bowl Use Plan has led staff to conclude that there is not yet sufficient information reasonably available to support a full description of a project that would encompass a "NFL football use" of the Rose Bowl or its possible impacts. Furthermore, the NFL is currently evaluating a number of possible sites, and the decision to locate a team at the Rose Bowl is not within the control of the City of Pasadena. The potential location of an NFL franchise at the Rose Bowl is therefore a subsequent project that is not within the scope of the MERIR and the location of an NFL franchise at the Rose Bowl and any potential modifications of the Rose Bowl related to such use are not being approved as part of the MEIR. Additionally, the MEIR does not clear midweek non-holiday displacement events at the Rose Bowl. At such time as such a project is anticipated, and the potential impacts are more clearly specified, the City of Pasadena intends to undertake a full environmental review consisting of a complete EIR to study the impacts related to the NFL use of the Rose Bowl and any potential modifications to the Rose Bowl.

APPENDIX B NOTICE OF EXEMPTION