

APPENDIX A

DESKTOP GEOTECHNICAL

ANALYSIS

Cluster ID	Site Name	Total Area (ac)	Aggregate Infiltration Rate (in/hr)	Chino Silt Loam		Hanford Fine Sandy Loam		Hanford Gravelly Sandy Loam		Ramona Loam		Ramona Sandy Loam		Tujunga Fine Sandy Loam		Yolo Loam	
				Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total
AL01	Almanson Park	133.6	0.70	0.0	0%	0.0	0%	0.0	0%	27.6	21%	92.8	69%	13.3	10%	0.0	0%
GL01	Fremont Park	9.4	0.30	0.0	0%	9.4	100%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%
LAC01	Roosevelt Park	24.3	0.30	17.3	71%	7.1	29%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%
MP01	Sierra Vista Park	2.5	0.30	0.0	0%	0.0	0%	0.0	0%	0.1	5%	0.0	0%	0.0	0%	2.3	95%
NHP	North Hollywood Park San	22.5	0.80	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	22.5	100%	0.0	0%
SF01	Fernando Regional Park	10.7	0.80	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	10.7	100%	0.0	0%
SM01	Lacy Park	26.7	0.39	0.0	0%	0.0	0%	0.0	0%	21.9	82%	4.8	18%	0.0	0%	0.0	0%
SP01	Lower Arroyo Park	25.5	0.80	0.0	0%	0.0	0%	25.5	100%	0.0	0%	0.0	0%	0.0	0%	0.0	0%

Hydrologic Soil Group	Infiltration Rate (in/hr)	Soil Textures	Corresponding Unified Soil Classification	
			Symbol	Description
A	1.63	gravel	GW	well-graded gravels, sandy gravels
	1.63	sandy gravel	GP	gap-graded or uniform gravels, sandy gravels
	1.63	silty gravels	GM	silty gravels, silty sandy gravels
	1.63		SW	well-graded gravelly sands
	0.8	sandy gravel	SP	gap-graded or uniform sands, gravelly sands
	0.8	loamy sand		
	0.8	sandy loam		
B	0.45		SM	silty sands, silty gravelly sands
	0.3	loam, silt loam	MH	micaceous silts, diatomaceous silts, volcanic ash
C	0.2	sandy clay loam	ML	silts, very fine sands, silty or clayey fine sands
D	0.06	clay loam	GC	clayey gravels, clayey sandy gravels
	0.06	silty clay loam	SC	clayey sands, clayey gravelly sands
	0.06	sandy clay	CL	low plasticity clays, sandy or silty clays
	0.06	silty clay	OL	organic silts and clays of low plasticity
	0.06	clay	CH	highly plastic clays and sandy clays
	0.06		OH	organic silts and clays of high plasticity

Summary Environmental Constraints: Upper Los Angeles River Watershed Regional Projects

SP01 – Arroyo Park

- **AQ:** Construction emissions in excess of thresholds; may increase time for site-specific CEQA compliance.
- **AQ:** Cumulative AQ impacts may increase time for site-specific CEQA compliance.
- **AQ:** Air pollutant concentrations from construction may increase time for site-specific CEQA compliance.
- **BIO:** Tree removal could disturb active nests (violation of Migratory Bird Treaty Act); may increase time for site-specific CEQA compliance.
- **BIO:** Tree removal could destroy protected trees; may increase time for site-specific CEQA compliance.
- **CUL:** Archeological resources may be present; should be addressed during site specific CEQA compliance.
- **CUL:** Paleontological resources may be present; should be addressed during site specific CEQA compliance.
- **REC:** Temporary closure of the recreational uses within Arroyo Park is likely to require close coordination between the City of South Pasadena, City of Los Angeles (a small section of the park west of the Arroyo Seco appears to be located within the City of Los Angeles), local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. Increased site-specific CEQA compliance time.

**Initial Study/
Environmental Constraints Evaluation**

For

**the Eight Recommended Regional Projects
within the Upper Los Angeles River Watershed**

February 2015



City of Los Angeles



**Bureau of Engineering
Watershed Protection
Division**

1.0 INTRODUCTION

National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit (MS4 Permit) Order No. R4-2012-0175 establishes the waste discharge requirements for stormwater and non-stormwater discharges within the watersheds of Los Angeles County. This MS4 Permit was adopted by the California Regional Water Quality Control Board, Los Angeles Region (Regional Board), on November 8, 2012, and became effective on December 28, 2012.

The MS4 Permit includes provisions that allow permittees the flexibility to customize their stormwater programs to achieve compliance with certain receiving water limitations and water quality based effluent limits over time. Specifically, permittees may voluntarily choose to develop and implement an Enhanced Watershed Management Program (Program). The Program includes prioritization of water-quality issues, identification of implementation strategies, control measures, and Best Management Practices (BMPs) sufficient to meet pertinent standards, integrated water-quality monitoring, and opportunity for stakeholder input. Through the Program, permittees will implement projects to improve water quality, and also have incentives to evaluate and, where feasible, implement regional projects that retain all non-stormwater runoff and all stormwater runoff from the 85th percentile, 24-hour storm event for the drainage area tributary to those projects.

Municipalities, non-governmental organizations and community stakeholders throughout the County of Los Angeles are working collaboratively to develop Enhanced Watershed Management Plans for each of LA's five watersheds - Ballona Creek, Dominguez Channel, Marina Del Rey, Santa Monica Bay and Upper Los Angeles River. The objectives of the Enhanced Watershed Management Plans (or EWMPs) are to comply with water quality mandates, improve the quality of our rivers, creeks and beaches, and address current and future regional water supply issues.

Each of the five watersheds has a Watershed Management Group that meets on a regular basis. The goal of each Watershed Management Group is to develop an EWMP for their specific watershed. Each EWMP will identify current and future multi-benefit projects that will improve water quality, promote water conservation, enhance recreational opportunities, manage flood risk, improve local aesthetics, and support public education opportunities. Each EWMP will include water quality priorities, watershed control measures, reasonable assurance analysis, the scheduling of projects and the monitoring, assessment and adaptive management of projects. The Upper Los Angeles River Watershed Management Group has developed a list of eight very high priority Regional Projects for implementation, which has been submitted to the Regional Water Quality Control Board for approval.

The Los Angeles County Flood Control District is in the process of preparing a Program EIR (Program EIR) to address the environmental impacts associated with implementing EWMPs within 12 watersheds in the MS4 permit coverage area. One of these watersheds is the Upper Los Angeles River Watershed. The Program EIR will focus on potential effects that could result from implementation of the projects and management actions identified in each EWMP, and would assess the physical changes to the environment that would likely result from the construction and operation of EWMP projects, including direct, indirect, and cumulative impacts.

The purpose of this environmental constraints evaluation is to identify potential site-specific environmental constraints associated with each of the recommended eight structural Regional Projects within the Upper Los Angeles River Watershed, including increased time requirements to address issues, obtain project approvals (including CEQA compliance).

Environmental Constraints of Regional Projects within the Upper Los Angeles River Watershed	1	February, 2015
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2.0 PROJECT DESCRIPTION

2.1 Project Location

2.1.1 Regional Setting

The Upper Los Angeles River Watershed is located on the Los Angeles Coastal Plain south of the San Gabriel Mountains. The watershed encompasses large portions of the San Fernando Valley; east into Pasadena, South Pasadena, San Marino, Alhambra, Monterey Park; south into Los Angeles and south Los Angeles (see Figure 1). The Upper Los Angeles River Watershed is largely urbanized.

2.1.2 Project Setting

Eight structural Regional Projects are recommended for implementation, and the general settings at each location, are as follows:

- SF01 - Recreation Park in the City of San Fernando. The site includes a multi-purpose center, indoor gymnasium, an active recreational field (softball), outdoor basketball courts, playgrounds, fitness area, and picnic areas. The San Fernando Regional Pool facility is located on the northern portion of the site. Mature trees are located along the periphery and some interior areas around the active field. Surrounding land uses include single and multi-family residential units to the west, commercial/industrial uses to the east, the Pacoima Wash to the southeast, and railroad right-of-way to the southwest. The operating hours for the park are sunrise to 9 p.m. daily.
- NHP – North Hollywood Park in the City of Los Angeles. The southern part of North Hollywood Park (located south of Magnolia Boulevard) is a landscaped area that includes mature trees, and walking paths. The trees are interspersed throughout the open space. A September 11, 2001 memorial is located near the west border in approximately the middle of the park. Commercial and multi-family uses are located to the east across Tujunga Avenue, and the Tujunga Wash and Hollywood Freeway to the west.
- GL01 - Fremont Park in the City of Glendale. The site includes tennis courts, a basketball court, playgrounds, horseshoe pits, picnic areas with barbecues, and wading pool. A field is also located along the eastern portion of the park. Mature trees are present at the site and along the periphery. Surrounding land uses include single and multi-family residential units to the west, south and east of the park, and the Verdugo Wash to the north of the park. The operating hours for the park are sunrise to sunset daily.
- SP01 - Arroyo Park in the City of South Pasadena. Arroyo Park is bisected by the Arroyo Seco. The site east of the Arroyo Seco includes multiple lighted athletic fields (baseball, softball and soccer), playground equipment, picnic areas, small amphitheater, and hiking trails. The park located west of the Arroyo Seco includes a baseball field and open space. Both sites include mature trees. Surrounding land uses are primarily single family residences (in the vicinity of the west site). The San Pascual Stables are located to the north of the park and San Pascual Avenue. The park does not have designated operating hours. (South Pasadena, 2015c).
- SM01 – Lacy Park in the City of San Marino. The site includes a central landscaped green space with an inner and outer walkway around the perimeter. The perimeter of the green space has been planted with trees of varying species, and most are mature. Site uses include tennis courts, picnic areas, playground, and small field. Surrounding land uses are primarily single-family homes. The operating hours for the park is Monday - Friday: 6:30 a.m. to Sunset, and Saturday -

Sunday: 8:00 a.m. to 8:00 p.m. (March 13–November 5) or 8:00 a.m. to 6:00 p.m. (November 6–March 12).

- AL01 – Almansor Park in the City of Alhambra. The site includes open space areas, picnic tables with covered shelters, playground equipment, barbecues, restrooms, ball fields, tennis courts, horseshoe pits, exercise par course, meeting room, activity room, gymnasium, outdoor basketball court, a small lake, and a jogging course. Mature trees are located along the periphery. Surrounding land uses include single-family residences to the south and west, Alhambra Golf Course to the immediate east, and the Alhambra Fire Training Facility and Alhambra Wash farther to the east. In addition, the Martha Baldwin Elementary School, Emmaus Lutheran School, and Emmaus Lutheran Church are contiguous to the park. The operating hours for the park are 5:00 a.m. to 10:30 p.m. daily. .
- MP01 - Sierra Vista Park in the City of Monterey Park. The site includes a softball field, outdoor basketball and paddle tennis court, children's play area, picnic area, and community center. Mature trees are located along the periphery. Surrounding land uses include single- and multi-family residences. The operating hours for the park are 6:00a.m. - 10:00 p.m. daily.
- LAC01 – Franklin D. Roosevelt Park in the County of Los Angeles. The site includes basketball courts, children’s play areas, soccer fields, ball fields, a community center, computer center, fitness zone, gymnasium, skate park, picnic areas with barbecue grills, and senior center. In addition, a Head Start preschool operated by the Mexican American Opportunity Foundation is located at the park. The operating hours for the park are sunrise to sunset, daily. Surrounding land uses include single-family residences to the north and east of the park, commercial and residential to the south, and railroad right-of-way to the west.

2.2 Goals and Objectives

The purpose of the Regional Projects is to improve water quality and help the Cities and County comply with the MS4 permit discharge requirements for stormwater and non-stormwater discharges within the Upper Los Angeles River Watershed.

2.3 Description of Proposed Project

The Regional Projects are defined by the MS4 Permit as multi-benefit regional projects that, wherever feasible, retain all non-stormwater runoff and all stormwater runoff from the 85th percentile, 24-hour storm event for the contributing drainage area, while also achieving other benefits such as flood control and/or water supply. The proposed eight Regional Project sites within the Upper Los Angeles River Watershed would include one or more of the following at each site:

- Infiltration Projects, that could include surface infiltration devices (infiltration basins, infiltration trenches, infiltration galleries, and bio-retention approaches.
- Multi-Directional Infiltration Projects that could include devices such as dry wells, and/or hybrid bio-retention and dry wells.
- Detention Basins that promote settling out of larger particles.
- Capture and Use Projects such as underground cisterns, storage facilities to make captured water available for uses such as irrigation.

The Regional Projects would install and operate infiltrations structures, detention basins, and/or capture and use structures at eight locations (eight parks) within the Upper Los Angeles River Watershed, as described above. The infiltrations structures, detention basins, and/or capture and use structures would likely be located underground at each of the park sites, with possible bio-retention approaches in select areas.

Environmental Constraints of Regional Projects within the Upper Los Angeles River Watershed	3	February , 2015
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The water quality improvements proposed at each of the Regional Project sites within the Upper Los Angeles River Watershed are as follows:

- SF01-Recreation Park: Buried Infiltration structure, capture and use facility, or detention basin.
- NHP-North Hollywood Park: Buried Infiltration structure, capture and use facility, or detention basin.
- GL01-Fremont Park: Buried Infiltration structure, capture and use facility, or detention basin.
- SP01-Arroyo Park: Buried Infiltration structure, capture and use facility, or detention basin, with possible bio-retention in suitable areas.
- SM01-Lacy Park: Buried Infiltration structure, capture and use facility, or detention basin.
- AL01 – Almansor Park: Buried Infiltration structure, capture and use facility, or detention basin.
- MP01 – Sierra Vista Park: Buried Infiltration structure, capture and use facility, or detention basin.
- LAC01-Franklin D. Roosevelt Park: Buried Infiltration structure, capture and use facility, or detention basin.

In addition, accessory improvements would be required at each Regional Project site to make connections with nearby storm drains, as well as other improvement such as wells, pump stations, and electrical connections and controls.

2.4 Regional Project Construction

Construction of each of the Regional Projects is expected to take between 12-18 months, and would involve mobilization (of materials and equipment), excavation and shoring, haul away of soils, construction of the infiltration, detention, or capture and use structure (likely to be cast-in-place concrete), accessory improvements such as storm drain connections, equipment installation, backfilling, and surface restoration. Because the project sites are all park areas, the construction areas would have to be physically separated from the remaining park areas and screened. Due to the large quantities of runoff that would be infiltrated, detained, or captured, the subsurface structures would likely occupy substantial subsurface portions of the identified sites. Following construction of the facilities, surface features at each location would be restored to existing conditions or better.

2.5 Regional Project Operations

Once the Regional Projects are completed and commissioned, they would operate automatically, although their operation would be monitored and adjustments made on an as-needed basis, including during wet weather. The majority of the Regional Project would have subsurface components and their operation would not be detectible or apparent at the site surface. Small above-ground structures that house control equipment may be required.

Regional Projects that utilize approaches at the site surfaces (such as bio-retention) could periodically fill with retained runoff, and preclude other uses of those areas until percolation has been completed and the areas dry enough to support other uses.

2.6 Anticipated Permits and Approvals

Approvals or permits from the following agencies are expected to be required:

- City of Alhambra
- City of Glendale
- City of Los Angeles
- City of Monterey Park
- City of San Marino

- City of South Pasadena
- City of San Fernando
- County of Los Angeles
- State and Regional Water Quality Control Boards
- Others?

3.0 Initial Study Checklist

Potential environmental constraints associated with the Regional Projects are addressed in the Initial Study Checklist and detailed discussions are provided below.

Environmental Checklist Form

1. Project Title:	Upper Los Angeles River Regional Projects
2. Lead Agency Name and Address:	Varies depending on jurisdiction of each Regional Project (City of Alhambra, City of Glendale, City of Los Angeles, City of Monterey Park, City of San Marino, City of South Pasadena, City of San Fernando, and County of Los Angeles)
3. Contact Person and Phone Number:	Jim Rasmus, Black and Veatch (858) 945-8675
4. Project Location:	City of Alhambra, City of Glendale, City of Los Angeles, City of Monterey Park, City of San Marino, City of South Pasadena, City of San Fernando, and County of Los Angeles
5. Project Sponsor's Name and Address:	Bureau of Sanitation Watershed Protection Division 1149 S. Broadway, 10th Floor Los Angeles, CA 90015
6. General Plan Designations:	Varies (Open Space)
7. Zoning:	Varies (includes OS, OS-1XL, SR – special recreation)
8. Description of Project:	The proposed Project consists of installation and operation of runoff infiltration and/or capture and use facilities at eight (8) locations within the Upper Los Angeles River Watershed. Facility options include underground stormwater and runoff detention facilities, underground infiltration facilities, and surface treatment features. Ancillary improvements, including connector pipelines to nearby storm drains, and/or pump stations or wet wells would be included.

Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by the Regional Projects (i.e., the proposed Project would involve environmental constraints, as indicated by the checklist on the following pages).

	Aesthetics		Agriculture and Forest Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources		Geology/Soils
	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials	X	Hydrology/Water Quality
	Land Use/Planning		Mineral Resources	X	Noise
	Population/Housing		Public Services	X	Recreation
	Transportation/Traffic		Utilities/Service Systems	X	Mandatory Findings of Significance

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS.	Would the project:				
a.	Have a substantial adverse effect on a scenic vista?			X	
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?			X	
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?			X	

Discussion:

a. Would the project have a substantial adverse effect on a scenic vista?

A scenic vista generally provides focal views of objects, settings, or features of visual interest; or panoramic views of large geographic areas of scenic quality, primarily from a given vantage point. Substantial constraints occur if the Regional Projects introduce incompatible visual elements within a field of view containing a scenic vista or substantially alters a view of a scenic vista.

No Environmental Constraints.

- SF01 - Recreation Park. Recreation Park is located in an urbanized portion of the City of San Fernando and is not located within a Scenic Vista. Further, the improvements at this site would likely be buried features with the park surface restored to the same or better condition than currently exists.
- NHP – North Hollywood Park. North Hollywood Park is located in the City of Los Angeles’ North Hollywood Community in an urbanized area, and is not located within a Scenic Vista. The improvements at this site would occur underground, and the park surface restored to the same or better condition than currently exists.
- GL01 – Fremont Park. Fremont Park, located in the City of Glendale just north of SR134 and south of the Verdugo Wash, is not located within a Scenic Vista. The improvements would place subsurface structures at this site, with the park surface restored to the same or better condition than currently exists.

- SP01 – Arroyo Park. Arroyo Park is located in South Pasadena along the Arroyo Seco north of the Pasadena Freeway. Although a ridgeline is present along the east side of Arroyo Park, the future improvements at this site would likely be buried and surface features restored to the same or better condition than currently exists. A small area of surface bio-treatment features could be added between the wash and San Ramon Drive. None of the proposed improvements would block views of the surrounding hillside, and no scenic vistas would be adversely affected.
- SM01 – Lacy Park. Lacy Park is located within a residential neighborhood in the City of San Marino. There are no designated scenic vistas in Lacy Park. The improvements would place subsurface structures at this site, with the park surface restored to the same or better condition than currently exists.
- AL01 – Almansor Park. Almansor Park is located adjacent to a single-family residential area and the Alhambra Golf Course in the City of Alhambra. This park is not located within a Scenic Vista. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists.
- MP01 – Sierra Vista Park. Sierra Vista Park is located in a mixed residential area in the City of Monterey Park. This park is not located within a Scenic Vista. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists.
- LAC01 – Franklin D. Roosevelt Park. Franklin D. Roosevelt Park is located in a mixed residential and urbanized area in the southern portion of the County of Los Angeles. This park is not located within a Scenic Vista. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists.

b./c. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

No Environmental Constraints. The Regional Project improvements would not have the potential to damage scenic resources within a state scenic highway because none of the activities would be located near an eligible or designated state scenic highway. The California Department of Transportation (Caltrans) is responsible for the official nomination and designation of eligible scenic highways. The nearest officially designated state scenic highway (State Highway 2, from approximately three miles north of Interstate [I]-210 in La Cañada to the San Bernardino County Line) (California Department of Transportation, 2013) is located approximately 6 miles northeast of the nearest Regional Project (GL01 – Fremont Park).

The nearest eligible state scenic highway (State Highway 1, from State Highway 19 near Long Beach to I-5 south of San Juan Capistrano) (California Department of Transportation, 2013) is approximately 14 miles southeast of the nearest Regional Project (LAC01 – Franklin D. Roosevelt Park). None of the Regional Projects are visible from either of these State Scenic Highways; therefore, the Regional Projects would not adversely affect the quality of the scenic views from these locations.

In addition, the following summarizes specific details regarding scenic resources at each Regional Project site:

- SF01 - Recreation Park. Recreation Park is located between industrial development to the east and residential structures along to the west. The buried water quality improvement structures Recreation Park would not be visible, and the surface would be restored to the same or better condition than currently exists following construction. As such, the improvements at Recreation Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- NHP – North Hollywood Park. The area of North Hollywood Park proposed for the water quality improvement facilities is a well-used landscaped open space with various mature and less mature trees. The water quality improvements at this site would likely be subsurface facilities that would not be visible. Further, the park surface would be restored to the same or better condition than currently exists following construction. As such, the improvements at North Hollywood Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- GL01 – Fremont Park. Fremont Park is landscaped and includes various active and passive recreational uses. There are no designated scenic highways in the City of Glendale. The Open Space and Conservation Element of the General Plan identify several “urban hikeways” in an effort to provide opportunities for citizens and visitors to discover Glendale’s unique urban form. Three self-guided routes cross through downtown Glendale, highlighting the Financial/Fremont Park District, the Brand Shopping District, and the Civic Center District. Although Fremont Park is located along one of the hikeways, the water quality improvements at this site would likely be subsurface facilities that would not be visible, once completed. Further, the park surface would be restored to the same or better condition than currently exists following construction. As such, the improvements at Fremont Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- SP01 – Arroyo Park. Arroyo Park is landscaped, and contains active and passive recreational uses. Trees are located throughout the park. This park is not located along a locally designated scenic highway; however, as stated in the City’s Open Space and Resource Conservation element of the General Plan, it is considered a valued resource by the City of South Pasadena. The subsurface water quality improvements at this site would not be visible. There is the potential for surface bio retention improvements to be added between the wash and Stoney Drive; however, these improvements are expected to be consistent with the open space setting of the park and would not introduce incompatible structures. Further, the park surfaces would be restored to the same or better condition than currently exists following construction. As such, the improvements at Arroyo Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- SM01 – Lacy Park. Lacy Park is located within a residential neighborhood in the City of San Marino. The center of Lacy Park serves as an open expanse which is highlighted as a resource in the City’s General Plan. The proposed improvements

would be located beneath the ground surface in the central area of lacy park; however, because the improvements would be subsurface and the park surfaces restored to existing conditions or better, the improvements are not expected to adversely affect the central area as a scenic resource.

- AL01 – Almansor Park. Almansor Park is located adjacent to a single-family residential area and the Alhambra Golf Course in the City of Alhambra. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists, and are not anticipated to result in significant impacts to scenic resources or the visual character of the project area.
- MP01 – Sierra Vista Park. Sierra Vista Park is located in a mixed residential area in the City of Monterey Park. Because the improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists, significant impacts to scenic resources or visual character of the project area are not anticipated.
- LAC01 – Franklin D. Roosevelt Park. Franklin D. Roosevelt Park is located in a mixed residential and urbanized area in the southern portion of the County of Los Angeles. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists, and are not anticipated to result in significant impacts to scenic resources or the visual character of the project area.

d. affect day or nighttime views in the area?

No Environmental Constraints. The Regional Projects would involve the placement of buried infiltration or storage structures, with surface features restored. Exterior lighting of such structures are not anticipated. Water quality improvements such as bio-retention of runoff and stormwater could be placed at ground level in one area of Arroyo Park in South Pasadena; however, lighting, if any, is not expected to be substantial. Some low intensity security lighting could be included; however, such lighting would not be intrusive and would not represent a substantial source of new lighting. As a consequence, adverse impacts related to new lighting sources are not anticipated.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES.	In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:				
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b.	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?				X
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)) or timberland (as defined in PRC Section 4526)?				X
d.	Result in the loss of forest land or conversion of forest land to non-forest use?				X

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e.	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				X

Discussion:

- a. **Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

No Environmental Constraints. The California Department of Conservation, as part of its Farmland Mapping and Monitoring Program (FMMP), develops maps and statistical data to be used for analyzing impacts on California’s agricultural resources. The FMMP categorizes agricultural land according to soil quality and irrigation status; the best quality agricultural land is identified as Prime Farmland. According to the FMMP, the proposed Regional Project sites are located in areas designated as Urban and Built-Up Land, which is described as land occupied by structures that has a variety of uses including industrial, commercial, institutional facilities, railroad or other transportation yards (California Department of Conservation, 2010 and 2011b). There is no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance in the vicinity of the Regional Project sites. Therefore, there would be no impact to designated farmland.

- b. **Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?**

No Environmental Constraints. The Regional Project sites are zoned for open space or developed as existing parks, and there are no agricultural zoning designations or agricultural uses within the Project limits or adjacent areas. The Williamson Act applies to parcels consisting of at least 20 acres of Prime Farmland or at least 40 acres of land not designated as Prime Farmland. None of the Regional Project sites are located within a Prime Farmland designation, or on areas consisting of more than 40 acres of farmland (California Department of Conservation, 2010 and 2011b). No Williamson Act contracts apply to the Regional Project sites. Therefore, the Regional Projects would not have an impact on agricultural zoning or a Williamson Act contract.

- c. **Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)) or timberland (as defined in PRC Section 4526)?**

No Environmental Constraints. The Regional Project sites are zoned for open space or used for parks, and therefore would not conflict with existing zoning for, or require rezoning

of forest land or timberland. Therefore, the Regional Projects would have no impact on land zoned for forest land.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Environmental Constraints. The Regional Projects would occur at existing park sites, which are not designated as forest lands. The Regional Projects would not result in the loss of forest land or conversion of forest land to non-forest use.

e. Would the project involve other changes in the existing environment that, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Environmental Constraints. As discussed above, no farmland or forest land is located on the Regional Project sites. Therefore, the Regional Projects would not involve the disruption or damage of the existing environment that would result in the loss of farmland to non-agricultural use or conversion of forest land to non-forest use.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	AIR QUALITY. When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a.	Conflict with or obstruct implementation of the applicable air quality plan?			X	
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X			
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	X			
d.	Expose sensitive receptors to substantial pollutant concentrations?	X			
e.	Create objectionable odors affecting a substantial number of people?			X	

Discussion:

a. Would the project conflict with or obstruct implementation of the applicable air quality plans?

No Environmental Constraints. The Regional Project sites are located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for administering the Air Quality Management Plan (AQMP) for the Basin, which is a comprehensive air pollution control program for attaining state and federal ambient air quality standards. The Cities in which the Regional Project sites would occur have each adopted an Air Quality Element as part of their General Plan. The Air Quality Elements contains policies and goals for attaining state and federal air quality standards, while continuing economic growth, and includes implementation strategies for local programs contained in the AQMP. A significant impact could occur if the proposed project is inconsistent with the AQMP or the applicable General Plan.

The Regional Projects would place water quality improvements below each of the sites or at their surface, and would not require permanent changes in uses of the parks (or median). Rather, the Regional projects are deemed to be consistent with the planned and existing uses at each site and with the applicable general plan. Therefore, the Regional Projects are not expected to conflict with or obstruct implementation of the applicable air quality plan and no impact is anticipated.

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Some Environmental Constraints. Construction of the Regional Projects would require excavation of portions of each site for either the placement of subsurface storage and infiltration structures, or surface improvements. In addition, construction would be required to make connections with existing storm drains, and could require construction of accessory facilities such as subsurface pump stations or wet wells. The South Coast Air Quality Management District (SCAQMD) has established thresholds of significance for criteria pollutants generated during construction and operation, and a significant impact would occur if the Regional Projects result in construction or operational emissions that exceed the thresholds. Construction is likely to require heavy equipment such as loaders, and excavators, and substantial amounts of soil would require export from the sites. As a consequence, there is a possibility for construction emissions to exceed the SCAQMD significance thresholds, even with mitigation, depending on the construction phasing and schedule. Although such exceedances would not represent a substantial environmental constraint to the project, they would likely have the effect of increasing the length of time required for individual project approvals by requiring Mitigated Negative Declarations or Environmental Impact Reports for CEQA compliance. There is also the potential for the applicable decision-making body to determine that the benefits of an individual Regional Project do not override any associated significant impacts (including impacts to air quality), and therefore do not approve the project. However, this potential is considered to be minimal given the need for the Regional Projects in order to comply with the MS4 permit requirements.

Operation of the proposed Project would occur either passively, or if pumping is required, would not likely utilize a substantial amount of energy or require more than nominal operational activities, and therefore, are not likely to result in emission in excess of the SCAQMD significance thresholds for operation. Therefore, operation of the Regional Projects would not likely pose environmental constraints.

c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Some Environmental Constraints. Construction of the Regional projects could result in emissions that exceed SCAQMD significance thresholds, and pose constraints related to individual Regional Project approval, as discussed above. Construction of the Regional Projects, in conjunction with construction of other water quality and related improvements, could result in cumulative air quality impacts. Cumulative impacts would be addressed as part of the County's Program EIR or in site specific environmental compliance documentation (under the California Quality Act) and would pose the same environmental constraint as described above under Checklist Item III.b.

d. Would the project expose sensitive receptors to substantial pollutant concentrations?

Some Environmental Constraints. As discussed above, construction of the Regional projects could result in emissions that exceeds SCAQMD significance thresholds. Many of the Regional Projects are located in close proximity to residences, which are considered to be sensitive receptors. The SCAQMD has established localized significance thresholds (LST) to address the impacts that pollutant concentrations could have on nearby receptors. There is a potential for construction to result in emissions in excess of the applicable LSTs, which would have the effect of increasing the length of time required for individual project approvals for CEQA compliance.

e. Would the project create objectionable odors affecting a substantial number of people?

No Environmental Constraints. Construction of the Regional Projects would result in some odors associated with diesel emissions from construction equipment. Diesel odors are common in urbanized environments, and during project construction, would be temporary and localized, and not expected to result in substantial odor impacts.

Air emissions, including odors, during operation are anticipated to be absent or minimal, as surface water would not be stagnant, and storage and infiltration units would be located underground. Therefore, operation of the Regional Projects are not expected to result in substantial odors.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.	Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?				X

Discussion:

- a. **Would the project have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

No Environmental Constraints. No candidate, sensitive, or special-status species are known to occur on the Regional Project sites. Sites SF01 is located within the USGS San Fernando quadrangle; NHP within the Van Nuys quadrangle; GL01 within the Burbank quadrangle; SP01 within the Los Angeles quadrangle; SM01, AL01, and MP01 within the El Monte quadrangle; and LAC01 within the South Gate quadrangle. Federal and state listed threatened and endangered species have been found in each of the quadrangles in the past (CNDDDB, 2015); however it is very unlikely that such habitat existing at any of the Regional Project sites, as those sites are all developed and actively used urban recreational areas. In addition, there are no Significant Ecological Areas (SEAs) in the vicinity of the Regional Project sites (LA County, 2014).

- b. **Would the project have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

No Environmental Constraints. There is no riparian habitat or wetlands located at any of the Regional Project sites or the immediate vicinity, as all of the sites are developed are recreational areas. Open drainage channels that are concrete lined are located adjacent to NHP (Tujunga Wash), GL01 (Verdugo Wash), and SP01 (Arroyo Seco); however, these drainages are devoid of riparian habitat and are not expected to be physically modified. Each Regional Project site is designated in its respective general plan as recreation, open space, or other public use. In addition, no SEAs are located in the vicinity of the Regional Project sites.

- c. **Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?**

No Environmental Constraints. There is no riparian habitat or wetlands located at any of the Regional Project sites or the immediate vicinity, as all of the sites are developed are recreational areas (see discussion above for Checklist Item IV.b.), and adjacent washes are lined with concrete.

- d. **Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?**

Some Environmental Constraints. There are no known terrestrial migration corridors within the vicinities of the Regional Project sites. The sites are located in urban areas, and are not connected with other open space areas via undeveloped or natural corridors. Although wildlife may visit the Regional Project sites, introduction of subsurface facilities at the Regional Project sites would not otherwise impede migration. None of the Regional Project sites have water courses that can be used by migratory fish. Therefore, the Regional Projects would not interfere with wildlife migration.

The Regional Project sites include landscaped open space areas, which include trees that could be used as nesting sites. Impacts to migratory birds and active nests are prohibited under the Federal Migratory Bird Treaty Act (MBTA), 50 C.F.R. Part 10, and Sections 3500 through 3705 of the California Fish and Game Code protect most migratory bird species and active nests from harm or destruction. Nearly all native North American bird species are on the MBTA list. The nesting season varies according to species, but is generally February 15th through August 15th for most birds and January 31st through September 1st for raptors. If tree and vegetation removal would occur during nesting months at any Regional Project site, a confirmation bird survey at each of the sites should be performed to prevent disturbance of active nests. Such surveys are standard mitigation applied during site specific environmental documentation. The requirements for bird surveys are not expected to result in substantial environmental constraints, but could result in additional time requirements for CEQA compliance.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Some Environmental Constraints. The Regional Projects would be located in the City of San Fernando (SF01), City of Los Angeles (NHP), City of Glendale (GL01), City of South Pasadena (SP01), City of San Marino (SM01), City of Alhambra (AL01), City of Monterey Park (MP01), and the County of Los Angeles LAC01).

The City of San Fernando does not currently have any locally-designated tree species, and existing vegetation is limited to introduced species used for landscaping (i.e. lawn area, bushes, and trees) (City of San Fernando, 2008).

The City of San Marino has established an Oak Tree Preservation Program that assists property owners on the proper care of oak trees. San Marino has established tree removal regulations for private property, which would not apply to Lacy Park. The City however does prohibit tree removal in Lacy Park unless authorized by the City Manager.

The City of Alhambra has established tree removal requirements and allows trees to be removed at city-owned facilities only after a review by the department head having jurisdiction. Any removed trees must be replaced as soon as practicable.

The City of Monterey Park allows the removal of trees from public property provided the owner of adjacent private property receives approval from the recreation and parks director. It is assumed that the director would also have to approve any tree removals from Sierra Vista Park or public areas, if required for the water quality improvements.

The County of Los Angeles protects oak trees and requires a permit prior to any oak tree removals.

Other municipalities have established various requirements for tree protection.

The City of Los Angeles protects the following trees within its jurisdiction:

- Oak tree including valley oak
- California Live Oak
- Southern California Black Walnut
- Western Sycamore

- Any other oak genus indigenous to California but excluding the scrub oak,
- California Bay

The City of Glendale protects the following trees, regardless of their location (public or private property):

- Coast Live Oak
- Mesa Oak
- Valley Oak
- Scrub Oak
- California Sycamore
- California Bay

The City of South Pasadena has established regulations governing tree removals within its jurisdiction. A permit is required for trimming or removing the following tree types:

- Oak trees of all varieties
- Coast Redwood
- Dawn Redwood
- Sycamore
- Blue Elderberry
- Heritage trees
- Giant Redwood
- California Walnut
- Christmas Berry
- Mexican Elderberry

There is a potential for the Regional Projects to result in some tree removal, depending on the specific locations and parameters of the water quality improvements, which would require permits or other approvals from the respective jurisdiction. The jurisdictions could apply conditions of approval, including tree replacements, or other measure that mitigate the removals. There tree removals would likely have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

f. Would the project conflict with the provisions of an adopted habitat conservation plan, natural communities conservation plan, or any other approved local, regional, or state habitat conservation plan?

No Environmental Constraint. The Regional Project sites are located within urbanized areas and are developed as parks and recreational facilities. The sites are not located within an adopted Natural Communities Conservation Plan (NCCP) or Habitat Conservation Plan (HCP). In addition, the sites are not located in or near any SEA.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES.	Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?			X	
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
d.	Disturb any human remains, including those interred outside of formal cemeteries?			X	

Discussion:

a. Would the project cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines §15064.5?

No Environmental Constraints. The Regional Projects would be located at community parks, or on a center median. None of the locations where water quality improvements would occur at the Regional Project sites are developed with structures over the age of 50-years that would be directly affected, and therefore, none of the Regional Projects would result in demolition or relocation of any historic structure. However, there is one historic resource north of GL01, Fremont Park, and one historic structure located at the east end of Lacy Park (SM01) in San Marino.

SM01 – Lacy Park. Lacy Park was originally Wilson Lake in 1875, and the land was purchased by the city in 1925 and dedicated as a park. Many of the tree species, planted nearly 100 years ago, are the result of the designer, Mr. William Hertrich and its first Park Superintendent, Mr. Armin Thurnher. The City considers the Thurnher house, located at the east end of the Park, to be a historic resource. In addition, the San Marino War Memorial is located at the east end of the Park. The water quality improvements would be subsurface and confined to center area of the Park and are not expected to not result in physical changes to the Thurnher house or the War memorial.

GL01 – Fremont Park. Fremont Park is bounded by Kenilworth Avenue on its east boundary. Approximately 200 feet to the north of the northern boundary of Fremont Park, the Kenilworth Avenue Bridge crosses over the Verdugo Wash. This bridge is listed as a historic resource in the City of Glendale’s Register of Historic Resources. The water quality improvements would be confined to Fremont Park and would not result in physical changes to the bridge, or its context.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines §15064.5?

Some Environmental Constraints. The Regional Project site would be constructed within the boundaries of community parks and recreation sites. The surfaces of these sites are developed for active recreational uses (fields and courts) and passive recreational uses (picnic areas, etc.), and are not intensively developed. Because the development history of these sites is unknown and the onsite development is low intensity, there could be undisturbed soils below the sites which contain archaeological resources. Based on this, site-specific cultural resource investigations, including a cultural resources records search and field survey by a qualified archaeologist) should be conducted, either prior to or as part of the site-specific environmental documentation for each Regional Project. Mitigation that may be applied in the site-specific environmental document may include monitoring of excavation work by a qualified archaeologist with the authority to halt construction, and the subsequent evaluation and curation of any discovered resources. This potential constraint could have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Some Environmental Constraints. Similar to the discussion under archaeological resources, the development history of the Regional Project sites is unknown and the onsite development is low intensity. There could be undisturbed subsurface geological units suitable for containing paleontological resources. A site-specific paleontological records search should be conducted by the County's Natural History Museum to determine whether paleontological resources can be present at the depths that would occur at each site, either prior to or as part of the site-specific environmental documentation for each Regional Project. Mitigation that may be applied in the site-specific environmental document may include monitoring of excavation work by a qualified paleontologist with the authority to halt construction, and the subsequent evaluation and curation of any discovered resources. This potential constraint could have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

d. Disturb any human remains, including those interred outside of formal cemeteries?

No Environmental Constraint. No cemeteries or burial sites are known to have occurred at the Regional Project site; however, it is still possible that human remains exist in the subsurface. California Health and Safety Code Section 7050.5 requires that in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbances must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. Sections 5097.94 and 5097.98 of the Public Resources Code specify a protocol to be followed when the Native American Heritage Commission receives notification of a discovery of Native American human remains from a county coroner. Compliance with existing laws regarding the handling of human remains discovered outside of formal cemeteries are expected to address any issues associated with the unanticipated discovery of human remains during project construction, and no environmental constraints are anticipated.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI.	GEOLOGY AND SOILS. Would the project:				
a.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
	ii.) Strong seismic ground shaking?			X	
	iii.) Seismic-related ground failure, including liquefaction?			X	
	iv.) Landslides?				X
b.	Result in substantial soil erosion or the loss of topsoil?				X
c.	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			X	
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?				X

Discussion:

a. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

(i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Environmental Constraints. Southern California is one of the most seismically active areas in the U.S. Numerous active faults and fault zones are located within the general region, including the Whittier, Hollywood-Raymond, and Newport Inglewood faults. The Regional Projects would include subsurface storage basins and structures, and potentially some surface improvements. As a standard practice during the design process for any structure or facility, a geotechnical study is performed of each site that evaluates and identifies faults and fault zones that could affect the project, and that would make recommendations regarding project design based on the geotechnical considerations. Because geotechnical considerations are addressed during the design phase, the Regional Projects would not result in exposure of people or structures to substantial geotechnical hazards.

(ii.) Strong seismic ground shaking?

No Environmental Constraints. As discussed above, the Los Angeles Basin is an area of known seismic activity. The risk of seismic hazards such as ground shaking cannot be avoided. Similar to the earthquake fault hazards described above, geotechnical evaluations would be performed as a standard practice as part of the design phase, and the recommendations would be incorporated into project design to keep the Regional Projects from resulting in exposure of people or structures to substantial geotechnical hazards, including to ground shaking.

(iii.) Seismic-related ground failure, including liquefaction?

No Environmental Constraints. Similar to the earthquake hazards described above, a geotechnical study for each Regional Project would be prepared as a standard practice to address geotechnical considerations, including liquefaction, during the Project design phase, which would keep the Regional projects from resulting in exposure of people or structures to geotechnical hazards related to liquefaction.

(iv.) Landslides?

No Environmental Constraints. The Regional Projects would be constructed and operated on various community park sites and a center median. The project sites are relatively flat with no substantial natural or graded slopes. The Regional Projects are not located near any landslide hazard areas; therefore, there would be no environmental constraints.

b. Would the project result in substantial soil erosion or the loss of topsoil?

No Environmental Constraints. The majority of Regional Projects would involve storage structures beneath community recreation areas, and would not result in erosion. The

Regional Projects at Arroyo Park (SM01) could place bio-retention features at the ground surface; however, these improvements would be engineered and constructed in a manner that infiltrates captured stormwater, rather than conveys it offsite. These design features would limit the potential for erosion, and would not represent an environmental constraint.

- c. **Is the project located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?**

No Environmental Constraints. Although no unstable geologic conditions are known to occur at the Regional Project sites, a geotechnical study for each Regional Project would be prepared as a standard practice to address geotechnical considerations during the Project design phase. Recommendations would be incorporated into the project design, which would keep the Regional Projects from resulting in substantive geotechnical hazards or risk exposure.

- d. **Is the project located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

No Environmental Constraints Expansive soils generally result from specific clay minerals that expand when saturated and shrink when dry. Expansive clay minerals are common in the geologic deposits throughout the Southern California region, and there is the potential that expansive soils could be present at the Regional Project sites. As discussed above, a geotechnical study for each Regional Project would be prepared to address geotechnical considerations (including expansive soils) as a standard practice during the Project design phase, and recommendations would be incorporated into Project designs to keep the Regional Projects from resulting in substantial risks to life or property.

- e. **Would the project have soils that are incapable of supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

No Environmental Constraints. The Regional Projects are water quality improvement projects that do not generate wastewater. Therefore, the Regional Projects would not result in environmental constraints related to alternative wastewater disposal methods.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS.	Would the project:				
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b.	Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?			X	

Discussion;

- a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

No Environmental Constraints. The Regional Projects would generate criteria pollutant emissions during construction, including CO2 and equivalents. Construction emissions are amortized over 30-years, and are not likely to result in substantive annual greenhouse gas emissions. In addition, operation of the Regional Projects would consist of the pumping of stormwater to the treatment devices, and are not expected to generate substantial levels of greenhouse gasses.

- b. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?**

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not generate substantial greenhouse gas emissions. Because of this, the Regional Projects are not expected to not conflict with any applicable plans, policies, or regulations adopted by the state and local jurisdictions for the purposes of reducing GHG emissions.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school?				X
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?				X
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?				X
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Discussion:

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Environmental Constraint. Construction activities associated with the Regional Projects are not likely to involve the use of substantial quantities of hazardous materials and the most likely source of hazardous materials would be from vehicles and construction equipment at the site. However, there could be small amounts of hazardous materials, including solvents and lubricants used to maintain construction equipment. These materials would be confined and located at the applicable staging areas. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials), secondary confinement requirements, and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity and a Project-specific SWPPP, standard BMPs would be used during construction activities to minimize runoff of contaminants and clean-up any spills. Applicable BMPs include, but are not limited to controls for: vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; and waste management. Therefore, implementation of construction standards would minimize the potential for an accidental release of petroleum products, hazardous materials, and/or explosion during construction activities at the Project site. As a consequence, construction would not create an environmental constraint related to potential hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Operation of the Regional Projects would be automated (with minimal electrical consumption for pumping) and would not require hazardous materials. The infiltration units would filter incoming stormwater to remove oil, grease, metals, and trash; however, the filters would be routinely replaced, and disposed of in accordance with applicable laws and regulations. Based on the above, the Regional projects are not expected to create a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b. Would the project create a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

Some Environmental Constraints. The Regional Projects would be located on or beneath community parks within in residential or mixed commercial residential areas. Various hazardous materials and contamination databases were reviewed (Geotracker and Envirostor), and several sites were identified near two Regional Project sites (SF01 and AL01) that have indications of past contamination.

None of the other Regional Project sites were documented to have been subject to past contamination, leaks, or remediation efforts. Based on this, Regional Projects NHP, GL01, SP01, SM01, MP01, and LAC01 are not expected to create a hazard to the public or environment during construction.

- SF01 – Recreation Park. The water quality improvement are within Recreation Park is located about 350 feet west of a site (located just east of Parkside Drive) potentially contaminated with lead. The Envirostor database identifies this site as “San Fernando Playground” and as in need of evaluation. Because this site is in need of evaluation, the extent of contamination present is unknown, and due to its proximity to SF01, further due diligence may be required during the Project planning and design phase. This potential constraint could also have the effect of

increasing the length of time required for individual project approvals and CEQA compliance.

AL01 – Almansor Park. Geotracker identifies a leaking underground fuel tank located at 900 New Avenue that is owned by the City of Alhambra. Although Geotracker displayed the site location at the intersection of New Avenue and East Adams Avenue, the actual location of the tank may be at the City’s Fire Training Facility approximately 900 feet east of the area of Almansor Park where the water quality improvements would occur. Due to the distance of the leaking underground fuel tank from this Regional Project site and given that the tank location is at a lower elevation than Almansor Park, it is unlikely that leaked fuel has traveled to the Project site. In addition, Geotracker has identified several reported leaks from auto repair facilities (in 2000). Geotracker shows these sites located at the north end of Almansor Street (extended) and the railroad right-of-way; however, Geotracker appears to be displaying these locations incorrectly, and the actual locations of these facilities are north of the railroad right-of-way and west of the project site. Because of this, these facilities are not likely to have contaminated the project site or potential storm drain tie-in locations near the railroad right-of-way.

Based on the above, there appears to be a low potential for contaminated soils or groundwater to be present beneath the Project site, and no additional constraints related to hazardous materials are anticipated.

c. Would the project emit hazardous emissions or handle hazardous materials or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school?

No Environmental Constraint. None of the Regional Projects would utilize processes that could emit hazardous emissions or otherwise release hazardous substances or wastes. Infiltration devices would contain filtration systems designed to remove oils, metals, and other pollutants from storm water; however, the filters would be removed and disposed of in accordance with manufacturers’ recommendations and would not be released to the environment. Because of this, no environmental constraint associated with the Regional Projects are expected.

d. Is the project located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Environmental Constraint. The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the Legislator who authored the legislation that enacted it). Because this statute was enacted over twenty years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information to be included in the Cortese List does not exist. While Government Code Section 65962.5 makes reference to the preparation of a "list," many changes have occurred related to web-based information access since 1992 and this information is now largely available on the Internet sites of the responsible organizations (CalEPA, 2015). The California Environmental Protection Agency (CalEPA) has identified the data resources that provide information regarding the facilities or sites identified as meeting the "Cortese List" requirements (Cal EPA, 2014b), which are as follows:

- List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database,
- List of Leaking Underground Storage Tank Sites by County and Fiscal Year from State Water Board GeoTracker database,
- List of solid waste disposal sites identified by the State Water Board with waste constituents above hazardous waste levels outside the waste management unit,
- List of "active" Cease and Desist Orders (CDO) and Cleanup and Abatement Order (CAO) from the State Water Board¹, and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

The Hazardous Waste and Substance Site List maintained by the DTSC Information was downloaded from the DTSC EnviroStor website (DTSC, 2015), and reviewed. The Regional Project sites are not listed in the Hazardous Waste and Substance Site.

The Leaking Underground Storage Tank (LUST) Cleanup Sites contained in the State Water Resources Control Board (SWRCB) GeoTracker database was queried (February, 2015), and the Regional Project sites are not contained in the LUST Cleanup Site list.

The list of solid waste disposal sites identified by the SWRCB with waste constituents above hazardous waste levels outside the waste management unit (CalEPA, 2015c) was reviewed, and the Project site was not contained in the list.

The list of "active" CDOs and CAOs from the SWRCB (SWRCB, 2015b) was downloaded in February, 2015 and reviewed (sorted and searched). The Regional Project sites are not contained in the list of "active" CDO and CAO.

The DTSC list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code (DTSC, 2015b) was reviewed and the Regional Project sites are not included in this list.

Based on the reviews of the specific lists that currently comprise the Cortese List, none of the Regional Project sites are contained on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Environmental Constraints. The Regional Project site that is closest to a public airport is SF01, which is located approximately 1.4 miles northwest of the Whiteman Airport runway. None of the other Regional Project are located within 2 miles of a public use airport. Although SF01 is located within 2 miles of an airport, neither it nor the other Regional Project sites are located within an airport land use plan; therefore, there would be no environmental constraints.

¹ This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the State Water Boards' database does not distinguish between these types of orders.

- f. **For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

No Environmental Constraints. There are numerous private airports throughout Los Angeles County, which include heliports. The proximity of the heliports to any of the Regional Projects would not result in a safety hazard for people working in the Project area, as the Regional Project would have no effect on air transport activities or their flight paths. The Regional Projects would therefore not result in any safety hazards for people in the vicinity of the sites.

- g. **Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

No Environmental Constraint. The Regional Project sites are currently used for recreational activities (active and passive). Although the Regional Projects would place water quality improvement infrastructure within the park and recreational sites, additional construction would be required at each site to connect with the existing storm drain system, which are located within the streets surrounding each site. The storm drain connections would involve excavations into the streets to make the tie-ins with the storm drains, and would require the temporary closure of one or more lanes while street work is occurring. However, street work would occur under permit from the applicable City or County, and appropriate notifications would be made to local emergency providers so that alternative routes can be planned for in the event of an emergency. As a standard practice, street work would be subject to the requirements of a Traffic Control Plan approved by the local transportation agency, or would comply with applicable work area traffic control requirements. In addition, contractors would have steel plating available in the event excavations need to be quickly spanned. Aside from the temporary street work, no other disruptions to the local transportation system would occur, and substantial interruptions to emergency access are not anticipated.

- h. **Would the project expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

No Environmental Constraint. The Regional Project sites are developed as community parks and recreations areas, or landscaped center median, and no wildlands are present at the Regional Project sites. The areas immediately surrounding the Regional Project sites are urbanized, and no increased wildland fire hazard is expected as a result of the water quality improvements at each site.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	HYDROLOGY AND WATER QUALITY. Would the project:				
a.	Violate any water quality standards or waste discharge requirements?		X		
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?				X
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?				X
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?			X	
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f.	Otherwise substantially degrade water quality?				X
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?				X
h.	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
j.	Contribute to inundation by seiche, tsunami, or mudflow?			X	

Discussion:

- a. Would the project violate any water quality standards or waste discharge requirements?**

Some Environmental Constraints. The Regional Projects would install and operate water quality improvement facilities at eight parks Upper Los Angeles River watershed, which would divert, treat, and infiltrate stormwater in order to meet the requirements of the MS4 permits. The Regional Projects would generally result in beneficial impacts to water quality.

However, for SF01, there is a remote potential for subsurface contamination to be present at portions of SF01 if contamination from the sites west of Parkside Drive (see Checklist Item VIII.b. above) has migrated westward. If such subsurface contamination is present and infiltration would occur in areas where the contamination is present, then there is a potential for adverse water quality impacts to groundwater. This potential environmental constraint is considered remote but could result in increased time for the planning and design of these three Regional Projects, and could also have the effect of increasing the length of time required for individual project approvals, design and CEQA compliance.

- b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?**

No Environmental Constraints. The Regional Projects would not be located in areas used for groundwater recharge and therefore would not interfere with groundwater recharge. The Regional Projects would divert runoff and stormwater from the storm drain system in the Upper Los Angeles River watershed, and treat and infiltrate some of the diverted stormwater. As a consequence, the Regional Projects are considered to provide beneficial effects to groundwater by increasing infiltration above baseline conditions.

- c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?**

No Environmental Constraints. The Regional Projects would be located within community parks or a center median, and would not result in physical changes to a stream

or river. All Regional Project sites would be restored following construction. Infiltration would occur subsurface and would not result in erosion. Bio-retention features would be designed to properly manage the diverted runoff and storm water, and would not result in erosion.

- d. **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?**

No Environmental Constraints. The Regional Projects would divert and store or divert and treat/infiltrate a portion of the stormwater generated within the Upper Los Angeles River watershed, and would have the effect of decreasing the amount and slowing runoff generated in the watershed, which are considered to be beneficial effects. In addition, the stormwater diversions would decrease the potential for flooding downstream.

- e. **Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

No Environmental Constraints. The Regional Projects would divert and store or treat/infiltrate a portion of the stormwater generated within the Upper Los Angeles River watershed, and would have the effect of improving runoff quality and decreasing the potential for flooding downstream.

- f. **Would the project otherwise substantially degrade water quality?**

No Environmental Constraints. No constraints regarding water quality are anticipated beyond those discussed under Checklist Item IX.a. above.

- g. **Would the project place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?**

No Environmental Constraints. No housing is proposed under any of the Regional Projects.

- h. **Would the project place within a 100-year floodplain structures that would impede or redirect flood flows?**

No Environmental Constraints. The water quality improvements under the Regional Projects would be either buried infiltration or storage units, or surface bio-retention features, neither of which would impede site runoff or flood flows.

- i. **Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?**

No Environmental Constraints. Based on a review of the safety elements of the general plans of the Cities of Glendale, Los Angeles, Monterey Park, Pasadena, and South Pasadena, Regional Project sites SF01, NHP, SP01, and LAC01 appear to be within potential inundation or flood areas, including areas subject to flooding in the event of a dam failure. However, the Regional Projects would not house people or otherwise increase the risk of exposure to risks related to potential flooding. In addition, the Regional

Projects are stormwater management projects that are expected to result in beneficial effects to downstream conveyance capacity in the event of a flood.

j. Would the project contribute to inundation by seiche, tsunami, or mudflow?

No Environmental Constraints. The Regional Project sites are not located within a tsunami hazard zone, or near inland water bodies that could be subject to a seiche. In addition, the sites are relatively flat and are not subject to mudflows.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	LAND USE AND PLANNING. Would the project:				
a.	Physically divide an established community?				X
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Discussion:

a. Would the project physically divide an established community?

No Environmental Constraints. The Regional Projects would be located within existing community parks, and would not physically divide the surrounding communities.

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

No Environmental Constraints. The Regional Projects would be placed within community parks that are designated as open space or public facilities, and are considered to be consistent with planned and existing uses. It should be noted that for the water quality improvements under SP01, part of the site located west of Arroyo Seco appears to fall within the City of Los Angeles, and another portion within the City of South Pasadena. Regardless, the improvements at SP01 are not expected to conflict with either jurisdiction's applicable land use plan.

c. Would the project conflict with any applicable habitat conservation plan or natural communities conservation plan?

No Environmental Constraints. The Regional Project sites do not fall within or near an area covered by a habitat conservation plan or natural communities conservation plan. In addition, there are no Significant Ecological Areas in the vicinity of the Regional Projects.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES.	Would the project:				
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X

Discussion:

- a. **Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

No Environmental Constraints. The Regional Projects would be located within existing community parks or a center median, and none of the sites are designated as containing important mineral resources.

- b. **Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

No Environmental Constraints. The Regional Project sites are designated in the applicable general plan as open space or parks. Therefore, the Regional Projects would not result in the loss of availability of mineral resources.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE.	Would the project:				
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?		X		
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?			X	
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?				X
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?				X

Discussion:

- a. Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?**

No Environmental Constraints. The Regional Projects would be located beneath the surface as the eight respective sites and the surface restored such that existing activities could resume following completion of construction. Operation of the water quality improvements would be automated and pump systems required to convey stormwater to the buried facilities would either be subsurface or placed in small housing units. Noise from operations is not expected to be noticeable, and would not result in elevations in ambient noise levels at the Regional Project sites or vicinities. The water quality improvements would require periodic maintenance; however, maintenance activities would not result in substantial elevation in ambient noise.

Construction of the water quality improvement facilities would result in noise associated with construction equipment and haul trip activities. Construction noise is typically governed by ordinance in each jurisdiction, and the following summarizes the construction noise regulations (the City of San Fernando construction noise regulations are discussed below).

- City of Los Angeles Noise Regulations. The City of Los Angeles (municipal Code, Chapter IV, Article 1, Section 41.40) allows construction Monday through Friday between 7:00 a.m. to 9:00 p.m., Saturdays and National Holidays between 8:00 a.m. to 6:00 p.m., and prohibits construction on Sundays (except for residents). The noise regulations also prohibit night construction if related noise can disturb persons occupying sleeping quarters in any dwelling, hotel, or residence. Major public works projects conducted by the City are exempt from this weekend and holiday restriction.
- City of Glendale Construction Noise Regulations. The City of Glendale (Municipal Code section 8.36.080) prohibits construction for projects within 500 feet of a residential zone between the hours of 7:00 p.m. one day and 7:00 a.m. the next day; 7:00 p.m. Saturday to 7:00 a.m. Monday; and from 7:00 p.m. preceding a holiday to 7:00 a.m. following such holiday.
- City of South Pasadena Noise Regulations. The City of South Pasadena (Municipal Code 19A.13) prohibits construction within or within 500 feet of a residential before 8:00 a.m. and after 7:00 p.m. on Monday through Friday, on Saturday before 9:00 a.m. and after 7:00 p.m., and Sunday before 10 a.m. and after 6:00 p.m.
- City of San Marino Noise Regulations. The City of San Marino (Municipal Code Section 25.01.02) prohibits construction between the hours of 6:00 p.m. and 7:00 a.m. Monday through Friday, on Saturdays, before 9:00 a.m. and after 4:00 p.m., and on Sunday and National holidays. City of Alhambra. The City of Alhambra regulates noise sources in its jurisdiction (Municipal Code Chapter 18.02), but exempts construction on public property or by public entities or their authorized representatives from the noise regulations.
- City of Monterey Park. The City of Monterey Park regulate noise sources in its jurisdiction (Municipal Code 9.53.010 - 9.53.070), but exempts construction conducted between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and the hours of 9:00 a.m. and 6:00 p.m. on Saturdays, Sundays and holidays.
- County of Los Angeles. The County of Los Angeles regulates noise within its jurisdiction (Code section 12.08.440) and prohibits construction activities between the hours of 7:00 p.m. and 7:00 a.m. and on Sundays and national holidays. The Code also establishes specific noise level limits at residential receptors for different categories of construction (mobile equipment operated for short durations, and stationary equipment operated for longer durations); however, the construction noise levels of the proposed project are exempt from the noise limits of the County Noise Control Ordinance as specified in the County Noise Control Ordinance Part 5 Exemptions, H: 5, which includes all transportation, flood control, and utility company maintenance and construction operations at any time on public right of way, and those situations, which may occur on private real property deemed necessary to serve the best interest of the public and to protect the public's health and well-being (County, 2012).

Construction of the Regional Projects would occur within the hours allowed for in the applicable noise regulations, or would be exempt from the noise regulations. It should be noted that several schools (Martha Baldwin Elementary School and Emmaus Lutheran Preschool) are located close to Almansor Park, and a Head Start preschool is located at the central portion of Franklin D. Roosevelt Park, and some noise reducing measures may be prudent during construction despite compliance with noise regulations.

Some Environmental Constraints. The City of San Fernando has established construction noise controls that set limits on when construction could occur, and the noise levels at the property line. Section 34-28 (a)(10) (Specific noises prohibited) and Section 34-31(5) (Exclusions) of the San Fernando Municipal Code provide the following provisions for construction noise:

Noise sources associated with construction, repair, remodeling or grading of any real property are allowed up to 70 dB measured at the property line, provided such activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday.

Construction at Recreation Park would comply with the construction time restrictions (no construction between the hours of 6:00 p.m. to 7:00 a.m. Monday through Friday, or at any time on Saturdays and Sundays); however construction noise at the property line of the park could exceed the 70dBA restriction level established in the code. As such, construction of the water quality improvements at Recreation Park could conflict with the City’s noise regulations. This potential environmental constraint could result in increased time required for CEQA compliance for SF01.

b. Expose persons to or generate excessive groundborne vibration or groundborne noise?

No Environmental Constraints. Construction activities of the Regional Projects would generate some level of vibration. Construction equipment such as excavators, loaders, and haul trucks would generate vibrations that could result in groundborne noise or vibration that could affect nearby structures or residences. Transient vibration levels greater than 0.5 inches per second (in/sec) and continuous/frequent intermittent vibration levels greater than 0.3 in/sec have the potential to damage older residential structure. Additionally, transient vibration levels greater than 2.0 in/sec or continuous sources greater than 0.4 in/sec would be severely noticeable to a human (Caltrans, 2013b). All phases of the construction involve multiple trucks and other vibration producing equipment resulting in vibration levels approximately up to 0.02 in/sec at the closest residences. Excessive groundborne vibration and/or groundborne noise are not anticipated. Therefore, substantial vibrations are not expected to occur during construction of the Regional Projects.

Operation of the Regional Project could include changing of filters in runoff treatment units and general inspections; however, these types of maintenance activities do not produce substantive vibrations. Therefore, operation of the proposed Project would not result in impacts related to groundborne vibration or noise.

c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Environmental Constraints. Operation of the Regional Projects would include pump stations or wet wells that transfer stormwater from storm drains to the water quality improvement structures, as well as general maintenance activities. Pump stations would be underground or housed in small structures, and are not expected to produce audible

noise. Because of this, operation of the Regional Projects are not expected to result in permanent increase in ambient noise levels.

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Some Environmental Constraints. Construction of the Regional Projects would occur within the hours allowed for in the applicable local noise regulations or would be exempt from noise regulations, and although construction would result in temporary increases in noise levels compared to ambient conditions without construction, the noise levels are presumably not considered to be substantial due to consistency with noise regulations.

However, for construction projects in the City of Los Angeles that last more than 10 days within a three-month period, the City recommends using the threshold of significance of 5 dBA or more increase in noise levels over existing ambient community noise equivalent level (CNEL), which is a type of 24-hour average noise level (City of Los Angeles, 2006). Given the extent of construction, the anticipated construction durations, and the surrounding noise receptors, it is likely that construction of the Regional Projects in the City of Los Angeles (NHP) would result in temporary elevations of the CNEL in excess of the 5dBA threshold, which would have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Environmental Constraints. The Regional Project site that is closest to a public airport is SF01, which is located approximately 1.4 miles northwest of the Whiteman Airport runways. Although SF01 is located within 2 miles of an airport, the water quality improvements would be automated, and would not expose people to excessive noise related to proximity to an airport. None of the other Regional Project sites are located within an airport land use plan or within 2 miles of a public airport.

f. For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Environmental Constraints. There are numerous private airports throughout Los Angeles County, which include heliports. The proximity of the heliports to any of the Regional Projects would not result in exposure of people to excessive noise levels, as the Regional Project would have no effect on air transport activities or their flight paths, and would not cause people to move closer to a private airport.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII.	POPULATION AND HOUSING. Would the project:				
a.	Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?				X
b.	Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?				X
c.	Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?				X

Discussion:

- a. **Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and business) or indirectly (e.g., through extension of roads or other infrastructure)?**

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not result in substantive employment demand and do not have a housing component that could induce population growth.

- b. **Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

No Environmental Constraints. No housing is located on any of the Regional Project sites, and no housing displacements would occur.

- c. **Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

No Environmental Constraints. There is no housing within the Regional Project site boundaries that would be displaced. The Regional Projects would not result in the displacement of any persons, or the need for replacement housing.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV.	PUBLIC SERVICES. Would the project:				
a.	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
	i.) Fire protection?				X
	ii.) Police protection?				X
	iii.) Schools?				X
	iv.) Parks?				X
	v.) Other public facilities?				X

Discussion:

- a. **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

i.) Fire Protection

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new fire protection services. Although the Regional Projects would involve some construction within the street system to connect to storm drains, the construction is not expected to substantively increase fire protection response times because prior notifications to emergency service providers occur as a standard permit condition for in-street construction.

ii.) Police Protection

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new police protection services. Although the Regional Projects would involve some construction within the street system to connect to storm drains, the construction is not expected to substantively increase police protection response times

because prior notifications to emergency service providers occur as a standard permit condition for in-street construction.

iii) Schools

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new schools.

iv) Parks

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new parks. Environmental constraints related to impacts on existing community parks are discussed under Checklist Item XV.b. below.

v) Other Public Facilities

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new public facilities.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION.	Would the project:				
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?		X		

Discussion:

- a. **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

No Environmental Constraints. The Regional Projects would construct and operate water quality improvement facilities at specific community parks in the Cities of San Fernando, Los Angeles, Glendale, San Marino, Alhambra, and Monterey Park, and the County of Los Angeles. The water quality improvement facilities are considered to be infrastructure projects that do not increase the housing stock and do not result in the movement or relocation of people from one area to another. As a consequence, the Regional Projects would not result in increased demand for recreational facilities and would therefore not directly or indirectly result in physical deterioration of parks or other recreational facilities.

- b. **Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?**

Some Environmental Constraints. The Regional Projects would construct and operate water quality improvement facilities at specific community parks. Construction is estimated to take up to 18 months, and would result in the temporary disruption of park activities within the construction zone. The likely disruption to recreational uses at each Regional Project site are discussed below.

- **SF01 – Recreation Park.** The water quality improvement features at Recreation Park include buried storage basins and infiltration units within southern portion of the park. The improvements, depending on where they would be located, would require substantial excavation of the main park site, which could result in temporary closure of the softball field and other areas within the south end of the park. The closures would occur for the duration of construction (estimated to be 12-18 months) and the amount of time it would take to restore the fields, and other affect recreational features (estimated at 1-2 months). The temporary loss of

recreational areas of Recreation Park is likely to require close coordination between the City of San Fernando, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

- NHP – North Hollywood Park. The water quality improvements at North Hollywood Park would likely be subsurface infiltration and/or storage structures. Construction of these facilities would result in the temporary closure of some existing walking paths areas used for passive recreation. The temporary closure of a large portion of North Hollywood Park during construction is likely to require close coordination between the City of Los Angeles, local residents, and community stakeholders to develop suitable mitigation options for addressing impacts to passive recreational uses of the park. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

- GL01 - Fremont Park. The water quality improvements proposed for the Fremont Park include a subsurface infiltration or storage facility within the southeastern portion of the park (beneath the active field). The improvements would require the temporary closure (up to approximately 18 months) of this portion of the park, including the active field and potentially relocation of other recreational facilities within the park. The temporary closure of a portion of Fremont Park during construction will likely to require close coordination between the City of Glendale, local residents, and community stakeholders to develop suitable mitigation options for addressing impacts to Fremont Park. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

- SP01 – Arroyo Park. The water quality improvement facilities at Arroyo Park would include buried infiltration structures storage basins beneath the 3 baseball and softball fields in the northern part of the park, beneath the baseball field at the portion of the park west of the Arroyo Seco, and potential surface bio-retention improvements east of the Arroyo Seco to Stoney Drive. This latter area contains vegetation and does not appear to be used for active recreation. The improvements are likely to require substantial excavation within the park, which would result in temporary closure of multiple active areas (baseball and softball fields) and the periphery. Other park uses such as picnic areas and playgrounds may require relocation to elsewhere in the park. The closures would occur for the duration of construction (estimated to be up to 18 months) and the amount of time it would take to restore the fields and recreational areas. The temporary closure of the recreational uses within Arroyo Park is likely to require close coordination between the City of South Pasadena, City of Los Angeles (a small section of the park west of the Arroyo Seco is located within the City of Los Angeles), local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

- SM01 – Lacy Park.** The water quality improvement facilities at Lacy Park would include buried infiltration and/or storage basins in approximately the center of the park. The improvements would require substantial excavation, which could result in temporary closure of the ball field and potentially several picnic areas around the periphery of the central green space. The temporary closure would occur for the duration of construction (estimated to up to 18 months) plus the amount of time it would take to restore the central green space area (estimated at 1-2 months). The temporary closure of the central portion of Lacy Park is likely to require close coordination between the City of San Marino, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary closure. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- AL01 – Almansor Park.** The water quality improvement facilities proposed for Almansor Park include buried infiltration units and storage basins beneath the ball fields. The improvements would require substantial excavation, which would result in temporary closure of the ball fields for the duration of construction (estimated to be up to 18 months) plus the amount of time it would take to restore the fields, and other affect recreational features (estimated at 1-2 months). The temporary closure of the recreational uses within Almansor Park is likely to require close coordination between the City of Alhambra, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- MP01 – Sierra Vista Park.** The water quality improvement facilities proposed for Sierra Vista Park include buried infiltration units and/or storage basins at the southern end of the park, beneath the softball field. The improvements would require substantial excavation, which would result in temporary closure of the softball field and tennis courts. The closures would occur for the duration of construction (estimated to be up to 18 months) plus the amount of time it would take to restore the field, and other affect recreational features (estimated at approximately 1 month). The temporary closure of the recreational uses within Sierra Vista Park is likely to require close coordination between the City of Monterey Park, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- LAC01 – Franklin D. Roosevelt Park.** The water quality improvement facilities proposed for the Franklin D. Roosevelt Park would include buried infiltration units and/or storage basins beneath the northern, middle, and southern areas of the Park. The improvements are likely to require substantial excavation and result in temporary closure of these areas of the park, which include soccer fields, ball fields, basketball courts, and picnic areas. The closures would occur for the duration of construction (estimated to be up to 18 months) plus the amount of time it would take to restore the affected recreational areas (estimated at 1-2 months). The temporary closure of large portions of Franklin D. Roosevelt park will require close coordination between the County of Los Angeles, local residents, and

community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational areas. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC.	Would the project:				
a.	Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				X
c.	Result in a change in marine vessel traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d.	Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e.	Result in inadequate emergency access?				
f.	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

Discussion:

- a. **Would the project increase the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

No Environmental Constraints. The Regional Projects would involve water quality improvements at eight community parks within the Upper Los Angeles River watershed.

Although the Regional Projects would require some construction within the streets surrounding each site to make connections with storm drains, the construction would be temporary and subject to traffic control plans as required by the applicable city. Once the connections are made, the streets would be repaired and returned to service. Because the Regional projects would not make substantive changes to the circulation system or street capacities, they are not expected to pose environmental constraints in this area.

- b. Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

No Environmental Constraints. The Regional Projects are not located along a designated or interim CMP highway or arterial (Metro, 2010), and are not considered traffic generators. Therefore, the Regional Project would not conflict with the LA County Congestion Management Plan.

- c. Would the project result in a change in marine vessel traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

No Environmental Constraints. The Regional Projects are land based and are not generators of marine vessel traffic. Therefore, the Regional Project would not result in any environmental constraints related to marine vessel traffic.

- d. Would the project substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

No Environmental Constraints. The Regional Projects would involve water quality improvements at seven community parks. Although the Regional Projects would require some construction within the streets surrounding each site to make connections with storm drains, the construction would be temporary and subject to traffic control plans as required by the applicable city. Once the connections are made, the streets would be repaired and returned to service. Because no substantive changes would be made to the street system, the Regional Projects would not increase roadway hazards.

- e. Would the project result in inadequate emergency access?**

No Environmental Constraints. As discussed under Checklist Item VIII.g. above, the Regional Projects would not result in substantial interruptions to emergency access.

- f. Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?**

No Environmental Constraints. The Regional Projects proposed for the community park sites would not result in permanent changes to the street systems that could affect alternative transportation routes, such as bike lanes or bike paths.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS.	Would the project:				
a.	Exceed wastewater treatment requirements of the applicable regional water quality control board?				X
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?				X
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g.	Comply with federal, state, and local statutes and regulations related to solid waste?				X

Discussion:

- a. Would the project exceed wastewater treatment requirements of the applicable regional water quality control board?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that are not generators of wastewater. Therefore, the Regional Projects would not affect wastewater treatment requirements.

- b. **Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

No Environmental Constraints. The Regional Projects are water quality improvements projects would not consume or require potable water, and would not generate wastewater. Therefore, the Regional Projects would not increase require new potable water supplies or additional wastewater treatment capacity.

- c. **Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that would divert a portion of the runoff generated in the Upper Los Angeles River watershed, and would store, treat, and infiltrate the diverted runoff. The Regional Projects would have beneficial effects on downstream storm drain capacity.

- d. **Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that would not consume water. Therefore, the Regional Projects would not require new water supplies.

- e. **Has the wastewater treatment provider that serves or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that would not generate wastewater and would not have an effect on existing wastewater treatment capacity.

- f. **Is the project served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

No Environmental Constraints. The Regional Projects are water quality improvements projects would not generate substantial amounts of solid wastes. The Regional Projects would include a pre-treatment or filtration device that removes sediment, oils, particulates, and other contaminants from stormwater. The filters would periodically be removed and disposed of in accordance with applicable laws and regulations. Although some solid wastes would be generated by the Regional Projects, the amounts would be minimal and would not adversely affect landfill capacity. During construction, excavated soil would be hauled away and reused elsewhere in the area, or used as landfill cover, which does not contribute to reductions in landfill capacity.

- g. **Would the project comply with federal, state, and local statutes and regulations related to solid waste?**

No Environmental Constraints. As discussed above, the Regional Projects would generate minimal solid wastes, but would comply with applicable solid waste regulations.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII.	MANDATORY FINDINGS OF SIGNIFICANCE				
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?		X		
b.	Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)		X		
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Discussion:

- a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?**

Construction of the Regional Projects could affect nesting birds if tree removals are required during the nesting season. Construction of water quality improvements at the Regional Project sites has the potential to encounter archaeological and paleontological resources, which could require site-specific mitigation. These potential constraints have been identified above, and would be addressed during site-specific CEQA compliance.

- b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past**

projects, the effects of other current projects, and the effects of probable future projects.)

Construction of the Regional Projects could contribute to cumulative air quality and potentially cumulative noise impacts, as well as other resource area cumulative impacts. However, cumulative impacts would be addressed in the County's Program EIR or in site-specific CEQA documentation.

c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

The Regional Projects would result in impacts on human beings related to air quality, hazardous materials, water quality, noise, and recreation, as described above. These impacts would be addressed in future site-specific CEQA documentation.

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APPENDIX C
OPTIMIZATION RESULTS
by TetraTech

Assumptions

- BMP area was fixed at the maximum footprint; depth was varied
- Maximum BMP depth was assumed based on the assumptions below
- Each curve is cut off at the maximum BMP size, per assumptions below

Cluster ID	Site Name	Max Drainage Area ¹ (ac)	Min Drainage Area ² (ac)	BMP Footprint (ac)	Max. BMP Depth ³ (ft)	Max. Practical Active Depth (ft)	Aggregate Infiltration Rate ⁴ (in/hr)	Comment on Max Drainage Area
AL01	Almanson Park	1145	51	10.205	165	25	0.70	Max updated to now include San Pascual Wash as max.
GL01	Fremont Park	13375.7	206.2264	0.3743	50	20	0.30	Max is not applicable as it is accepting the Verdugo Wash
LAC01	Roosevelt Park	2249.62	190	9.5979	80	20	0.30	Okay as is
MP01	Sierra Vista Park	2927.7265	799.4605	0.652	80	20	0.30	Okay as is
SF01	San Fernando	4429.9353	422.2799	2.7103	50	20	0.80	Max is not applicable as this is accepting the Pacoima Wash
SM01	Lacy Park	927.52563	1067.2045	2.3892	145	20	0.39	Okay as is
SP01	Lower Arroyo Park	15380.546	145.2086	10.588	25	25	0.80	Max is not applicable as it is accepting the Arroyo Seco
NHP	North Hollywood Park	13909.873	5122.0118	7.9579	65	20	0.80	Max is not applicable as it is accepting the Tujunga Wash

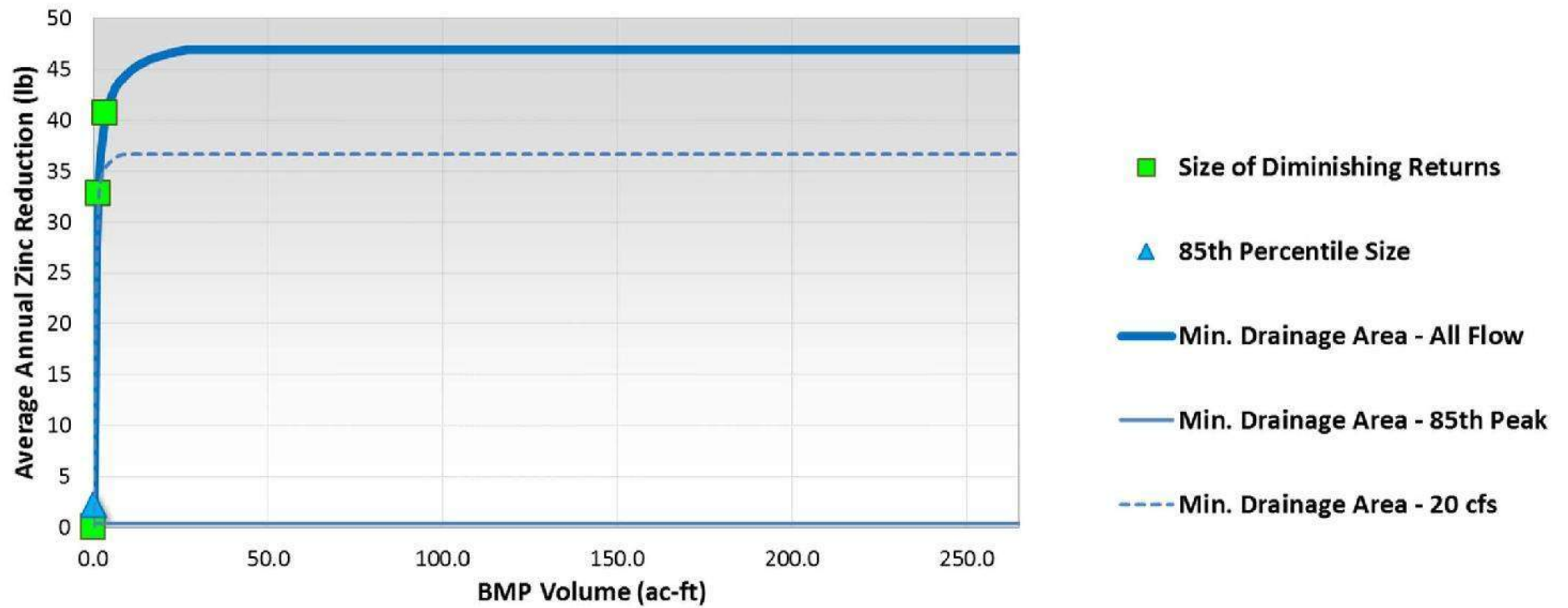
¹ Max Drainage Areas were delineated from subwatersheds from LA County GIS

² Min Drainage Areas were provided by Tetra Tech

³ BMP depth was determined using Groundwater Depth Contours provided by Tetra Tech. 10 feet of separation is a conformance with the County's LID ordinance.

⁴ Soil data was taken from LA County GIS and associated infiltration rates were provided by Eliza Jane

SP01 – Lower Arroyo Park



Small drainage area and large BMP footprint; small incremental increases in BMP size result in high pollutant load reduction



ATTACHMENTS FOR SECTION 3

Schedule

The preliminary schedule to prepare a feasibility study (1/1/2021), design and permit (1/1/2022), and construct the project (1/1/2024) will support the Upper LA River EWMP Group's effort to attain its 2024 interim compliance target.



ATTACHMENTS FOR SECTION 4

Water Quality & Water Supply



ATTACHMENTS FOR SECTION 5

Community



SAFE, CLEAN WATER PROGRAM

TECHNICAL RESOURCES SUMMARY

Regional Program Projects Module

PROJECT CONCEPT NAME	Arroyo Seco Projects Part 3 of 4: Constructed Wetlands at the Arroyo Seco Golf Course
PROJECT CONCEPT LEAD(S)	Shahid Abbas, Director of Public Works, City of South Pasadena; Kristine Courdy, Deputy Director of Public Works, City of South Pasadena
SCW WATERSHED AREA	Upper Los Angeles River
TOTAL FUNDING REQUESTED	\$ 100,000.00

Compiled: Saturday, December 14, 2019

Created By: N/A (Kristine Courdy)

OVERVIEW

The Technical Resources Program is a part of the Safe, Clean Water Regional Program providing resources to community groups, municipalities, and individuals who need technical assistance to develop their Project concepts. Each Watershed Area Steering Committee will determine how to appropriate funds for the Technical Resources Program.

The Technical Resources Program funds the development of Project Feasibility Studies. Technical Assistance Teams will work with the necessary parties to add Projects for which there are completed Feasibility Studies to an eligible water quality plan, assist in acquiring a letter of support for non-Municipal Infrastructure Program Project Applicants, and address other prerequisites to apply to the Infrastructure Program. Upon completion, Feasibility Studies shall be submitted to the Watershed Area Steering Committees for consideration.

The Watershed Area Steering Committees will decide which Project concepts will be forwarded to the Technical Assistance Teams for development. The District will provide Technical Assistance Teams comprised of subject matter experts in Stormwater and/or Urban Runoff infrastructure design, hydrology, soils, Nature-Based Solutions, green infrastructure, Stormwater and/or Urban Runoff quality, water supply, recreation, open space, community needs, and other areas. The Technical Assistance Teams will complete Feasibility Studies in partnership with and on behalf of Municipalities, CBOs, NGOs, and others who may not have the technical resources or capabilities to develop Feasibility Studies.

This document summarizes a Project concept that is being proposed for Feasibility Study funding under the Technical Resources Program. This document is based upon inputs to and outputs from the web-based tool called the 'SCW Regional Program Projects Module' (<https://portal.safecleanwaterla.org/projects-module/>).

ORGANIZATIONAL OVERVIEW:

1 GENERAL INFORMATION

- 1.1 Overview
- 1.2 Project Location
- 1.3 Background
- 1.4 Additional Information

2 DESIGN ELEMENTS

- 2.1 Configuration
- 2.2 Capture Area
- 2.3 Site Conditions & Constraints
- 2.4 Cost
- 2.5 Operations & Maintenance
- 2.6 Additional Information

3 SCHEDULE

- 3.1 Schedule
- 3.2 Additional Information

4 WATER QUALITY & WATER SUPPLY

- 4.1 Water Quality
- 4.2 Water Supply
- 4.3 Additional Information

5 COMMUNITY

- 5.1 Community Investment
- 5.2 Community Engagement
- 5.3 Additional Information

6 NATURE-BASED SOLUTIONS

7 ATTACHMENTS

1 GENERAL INFORMATION

This section provides general information on the Project concept including location and a brief description.

1.1 Overview

The following table provides an overview of the Project concept and the proposed Lead(s):

Project concept Name:	Arroyo Seco Projects Part 3 of 4: Constructed Wetlands at the Arroyo Seco Golf Course
-----------------------	---

Brief Project concept description:

The project will direct wet and dry weather drainage from South Pasadena areas east of the Arroyo Seco Golf Course and north of Mission St to a constructed wetlands, and use the captured water for park irrigation. The project will make use of an existing pond in the public Arroyo Seco Golf Course that currently receives dry weather flows from an existing dike to the north. The proposed design will increase its capacity and allow it to capture wet weather flows. This nature based solution will include the planting of native plants and trees.

This project possesses significant advantages over other stormwater capture projects:

- According to existing City and County storm drain maps, a county storm drain with a significant upstream drainage area is immediately adjacent to the pond. From the pond area, the pipe flows via gravity approximately 400 feet to the Arroyo Seco. This should significantly reduce the construction costs and completion time associated with redirecting stormwater flows both to and from the project. See the site map Attachment to Section 1.
- The project would expand the capacity of an existing pond, which should reduce the construction costs and project completion time. The constructed wetlands also provides a nature-based solution, and is a more cost effective solution than an underground stormwater capture facility.
- The City owns the land and the project location is at an existing water feature in a golf course, which will reduce both the project costs and result in a minimal impact on the public's use of the surrounding area.
- To provide an economy of scale, the project could be designed and constructed together with the other three adjacent projects that the City is submitting for Technical Resources Program funding.

Note that the City is submitting four project concepts for Fiscal Year 2020-2021 that are adjacent to each other as well as the Arroyo Seco. If some or all of these project concepts are accepted for Technical Resources Program funding, the feasibility study will be conducted together which will result in a lower overall cost. Should all four project concepts be approved for Technical Resources Program funding, the total funding requested for the projects will be \$200,000.

SCW Watershed Area:

Upper Los Angeles River

Call for Projects year:

FY20-21

Total funding requested:

\$ 100,000.00

Project concept Lead(s):

Shahid Abbas, Director of Public Works, City of South Pasadena; Kristine Courdy, Deputy Director of Public Works, City of South Pasadena

Additional Project concept Collaborators:	N/A
Additional Project concept Collaborators:	N/A
Additional Project concept Collaborators:	N/A
LACFCD assistance for maintenance of the Project concept?	No
Is this a non-municipal project?	No

1.2 Project Location

The following table details the Project location:

Latitude:	34.116258
Longitude:	-118.167884
Street Address:	1055 Lohman Ln
City:	South Pasadena
State:	CA
Zip Code:	91030

Is the project located within or providing a benefit to a Disadvantaged Community (DAC)?

Yes

The following is a summary of how the Project concept will benefit its DAC with a discussion of measures on displacement avoidance:

The project concept will improve park space in the public Arroyo Seco Golf Course immediately east of and adjacent to the Arroyo Seco. There is a DAC tract of 4,224 people on the west side of the Arroyo Seco within a short walking distance to the project area. Existing bridges connect this community to the project. (GEOID 06037183103.) There are also two DAC block groups of 1,591 people about half a mile east of the project, and within the City of South Pasadena. (GEOIDs 060374806002, 060374806005.)

The project is on existing park space and so there will be no displacement.

DAC information source: <https://gis.water.ca.gov/app/dacs/>

1.3 Background

Please describe the historical background of the Project concept. Please also state which regional water management plan includes the proposed project (SWRP, E/WMP, IRWMP or other, if applicable):

The Upper La River EWMP includes a "signature" project for the City of South Pasadena that has an adjacent location and purpose as this concept. The EWMP project as proposed (referred to as the Lower Arroyo Park), however, had significant technical feasibility constraints. Through this concept planning effort, these initial constraints were resolved, and the initial EWMP concept has been improved upon. The EWMP in turn has been incorporated into the IRWMP, and the SWRP. This specific project has also been included in the Adaptive Management Section of the ULAR EWMP Group's Annual Report.

1.4 Additional Information

Additional general information regarding Project concept is provided as the following attachments:

Attachments for this Section	
Attachment Name	Description
Constructed Wetlands at the Arroyo Seco Golf Course - Project Drainage Area	A map of the project drainage area
Constructed Wetlands at the Arroyo Seco Golf Course - Project Features	A map of the project features.
Arroyo Seco Golf Course Projects - Initial Concept Landscape Plan	Arroyo Seco Golf Course Projects - Initial Concept Landscape Plan for the project, as well as the adjacent project (separate application) at the driving range.
Maps combining the 4 submitted projects.pdf	Maps combining the 4 project submitted for Technical Resources Program funding.

2 DESIGN ELEMENTS

This section provides an overview of the anticipated design elements for the Project concept.

2.1 Configuration

The following is a description of the Project concept layout including its anticipated footprint and key components:

The project will consist of a constructed wetlands, constructed at the location of an existing pond in the public Arroyo Seco Golf Course. The wetlands will have a BMP capacity of up to approximately 6 ac-ft, and a footprint of approximately up to 26,000 sq ft. The project will direct wet and dry weather drainage from South Pasadena areas east of the Arroyo Seco Golf Course and north of Mission St. The proposed design will increase the existing pond's capacity and allow it to capture wet weather flows. This nature based solution will also include native plants and trees.

This project possesses significant advantages over other stormwater capture projects:

- According to existing City and County storm drain maps, a county storm drain with a significant upstream drainage area is immediately adjacent to the pond. From the pond area, the pipe flows via gravity approximately 400 feet to the Arroyo Seco. This should significantly reduce the costs associated with redirecting stormwater flows both to and from the project. See the site map Attachment to Section 1.
- The project would expand the capacity of an existing pond, which should reduce the construction costs and project completion time. The constructed wetlands also provides a nature-based solution, and is a more cost effective solution than an underground stormwater capture facility.
- The City owns the land and the area is currently unused (being a small pond), which will reduce both the project costs and impact on the public's use of the space.
- To provide an economy of scale, the project could be designed and constructed together with the other three adjacent projects that the City is submitting for Technical Resources Program funding.

Note that the City is submitting four project concepts for Fiscal Year 2020-2021 that are adjacent to each other as well as the Arroyo Seco. If some or all of these project concepts are accepted for Technical Resources Program funding, the feasibility study will be conducted together which will result in a lower overall cost. Should all four project concepts be approved for Technical Resources Program funding, the total funding requested for the projects will be \$200,000.

Specify whether the project is Wet or Dry:

Wet and dry

Estimated Capacity for the Project concept:

6

2.2 Capture Area

The size and land uses of the capture area upstream of a project plays an important role in its water quality and water supply benefits.

The following table details the capture area and its imperviousness:

Capture Area Summary	
Capture Area:	106.4 ac
Impervious Area:	50.9 ac
Pervious Area:	55.5 ac

The following table is a summary of the land use breakdown for the impervious area that drains to the project:

Breakdown of Impervious Acreage in Capture Area		
Land Use Type	Percent Impervious	Acres
Commercial	12.45 %	6.34
Highways and Interstates	0.88 %	0.45
Institutional	2.59 %	1.32
Multi Family Residential	38.19 %	19.44
Open Space	0.05 %	0.03
Secondary Roads and Alleys	25.33 %	12.89
Single Family Residential	13.97 %	7.11
Urban Open Space	6.54 %	3.33

2.3 Site Conditions & Constraints

The following is a summary of engineering analyses performed to date, and a description of existing and / or potential constraints or limitations due to existing conditions.

Although engineering analyses have not yet been completed for this specific project, the concept for the adjacent signature project in the Upper LA River EWMP--Lower Arroyo Park--did provide desktop analyses of geotechnical conditions, environmental constraints, and project sizing optimization. These reports are included as an attachment to Section 2 of this application. Further engineering analysis will be completed as part of the feasibility study that is being requested through this Technical Resources Program application.

Known existing and potential constraints include:

- Tree removal, which could disturb active nests or destroy protected trees, which may increase time for site-specific CEQA compliance.
- The presence of archeological or paleontological resources.
- Closing the existing parts of the existing golf course during the construction phase of the project.

2.4 Cost

The following tables provide details on the anticipated capital and annualized costs for the Project concept:

Capital Cost Breakdown	
Construction Cost:	\$ 3,500,000.00

Planning and Design Cost*	\$ 350,000.00
---------------------------	---------------

*Includes early concept design, pre-project monitoring, feasibility study development, site investigations, formal project design, intermediate and project completion audits, CEQA and other environmental impact studies and permitting.

Annual Cost Breakdown	
Annual Maintenance Cost:	\$ 35,000.00
Annual Operation Cost:	\$ N/A
Annual Monitoring Cost:	\$ 3,000.00
Project Life Span:	50 years

2.5 Operations & Maintenance

The following is a description of the operations and maintenance needs for the Project:

Typical maintenance activities and frequencies include:

- Schedule semiannual inspections for burrows, sediment accumulation, structural integrity of the outlet, and litter accumulation.
- Whenever possible use mechanical methods of vegetation removal (e.g mowing with tractor-type or push mowers, hand cutting with gas or electric powered weed trimmers) rather than applying herbicides. Use hand weeding where practical.
- Performing mowing at optimal times. Mowing should not be performed if significant rain events are predicted.
- Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary, and compost or dispose of at a landfill.
- Where practical, use automatic timers to minimize runoff.
- Ensure that there is no runoff from the landscaped area(s) if re-claimed water is used for irrigation.
- Apply water at rates that do not exceed the infiltration rate of the soil.
- Utilize a comprehensive management system that incorporates integrated pest management (IPM) techniques.
- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.
- Remove accumulated trash and debris in the basin at the middle and end of the wet season. The frequency of this activity may be altered to meet specific site conditions and aesthetic considerations.
- Where permitted by the Department of Fish and Wildlife or other agency regulations, stock wet ponds/constructed wetlands regularly with mosquito fish (*Gambusia* spp.) to enhance natural mosquito and midge control.
- Introduce mosquito fish and maintain vegetation to assist their movements to control mosquitoes, as well as to provide access for vector inspectors. An annual vegetation harvest in summer appears to be optimum, in that it is after the bird breeding season, mosquito fish can provide the needed control until vegetation reaches late summer density, and there is time for re-growth for runoff treatment purposes before the wet season. In certain cases, more frequent plant harvesting may be required by local vector control agencies.
- Maintain emergent and perimeter shoreline vegetation as well as site and road access to facilitate vector surveillance and control activities.
- Remove accumulated sediment in the forebay and regrade about every 5-7 years or when the

accumulated sediment volume exceeds 10 percent of the basin volume. Sediment removal may not be required in the main pool area for as long as 20 years.

The following is the agency and contact person that will be responsible for operations and maintenance of the Project:

Kristine Courdy, Deputy Director of Public Works, City of South Pasadena

The following expertise or technical training is necessary to perform basic operation and maintenance of the Project:

N/A

2.6 Additional Information

Additional information regarding design elements for the Project concept is provided as the following attachments:

Attachments for this Section	
Attachment Name	Description
CASQA BMP Fact Sheet TC-21 (Constructed Wetlands)	The CASQA BMP Fact Sheet for Constructed Wetlands, TC-21, which includes information on design and O&M.
Site Conditions and Constraints Attachment	Includes concept planning documents for a similar project (Lower Arroyo Park) located adjacent to the current concept location, and described in the Upper LA River EWMP. Also attached is the County's "Initial Study/Environmental Constraints Evaluation For the Eight Recommended Regional Projects within the Upper Los Angeles River Watershed", which includes the Lower Arroyo Park.

3 Schedule

This section provides an preliminary schedule required to design, construct, operate, and maintain the project.

Schedule Milestone Table	
Milestone Name	Completion Date
Feasibility Study	01/01/2021
Design and Permitting	01/01/2022
Construction	01/01/2024

3.1 Additional Information

Additional information regarding schedule for the Project concept is provided as the following attachments:

Attachments for this Section	
Attachment Name	Description
Note on Schedule	Explains connection between EWMP compliance schedule and project completion schedule.

4 WATER QUALITY & WATER SUPPLY

This section provides an overview of project elements that will provide water quality and water supply benefits.

4.1 Water Quality

The following describes how the Project concept will address primary pollutants of concern:

The project will capture the primary pollutants of bacteria, metals, toxics, and trash, in both dry and wet weather from a regional drainage area. (See CASQA Fact Sheet TC-21 for Constructed Wetlands for information on pollutant removal effectiveness. The Fact Sheet is an attachment to Section 2 of this application. See the attachment to Section 1 for a map of the upstream drainage area.)

The following describes the water quality concerns in the vicinity and downstream of the proposed Project concept area:

The project is adjacent to the Arroyo Seco. The Arroyo Seco is impaired and is under TMDLs for dry and wet weather bacteria, metals including zinc and copper, and trash. The LA River downstream shares the same impairments and TMDLs, and the harbor at the LA River estuary is impaired for toxic chemicals. The preliminary schedule to prepare a feasibility study (1/1/2021), design and permit (1/1/2022), and construct this project (1/1/2024) will support the Upper LA River EWMP Group's effort to attain its 2024 TMDL/EWMP interim compliance target.

4.2 Water Supply

The following describes and justifies the nexus between water supply and the stormwater and/or urban runoff that will be captured/infiltrated/diverted by the Project:

The stormwater and dry weather urban runoff captured by the constructed wetlands will be used to irrigate the public Arroyo Seco Golf Course, adjacent landscaping, and the downstream driving range and Nature Park. The existing pond currently takes in dry weather flows from an existing dike to the north and delivers it to the golf course for irrigation use. Thus the area's existing water supply infrastructure can be used to divert stormwater to landscape irrigation.

If the adjacent proposed underground stormwater detention basin is constructed in tandem with this project, this basin could also hold water to augment the existing irrigation use. In addition, the water could be stored in the proposed constructed wetlands for the driving range and Nature Park. (See the City's separate Technical Resources Program application for more information on this proposed project.) Excess captured water could also potentially be diverted to the sanitary sewer for later use.

Currently the City's Water Division provides 30 acre-feet/year of potable water to the Arroyo Seco Golf Course, 32 acre-feet/year to Arroyo Park, and 2 acre-feet/year to the Arroyo Nature trail. Thus the dry weather flows and stormwater captured by this project and the other proposed projects submitted by the City have the potential to serve as the primary source of irrigation water.

Will this Project capture water for onsite irrigation use?

Yes

The following describes onsite use by the Project:

The stormwater and dry weather urban runoff captured by the constructed wetlands will be used to irrigate the public Arroyo Seco Golf Course, adjacent landscaping, and the downstream driving range and Nature Park. See the above description for additional detail.

Will this Project capture water used for water recycling by a wastewater treatment facility?

No

The following describes water recycling by the project:

N/A

Will the Project be connected to a managed water supply aquifer?

No

If Yes, managed Aquifer Name:

N/A

4.3 Additional Information

Additional information regarding water quality and water supply benefits of the Project concept is provided as the following attachments:

5 COMMUNITY

This section provides an overview of project elements related to community investment benefits and community engagement performed to date.

5.1 Community Investment

The following table details the Project’s anticipated community investment benefits:

Community Investment		
Investment Type	Applicable?	Detailed Description
Does this project improve flood management, flood conveyance, or flood risk mitigation?	Yes	The project will increase flood protection through reduced peak flow rates from peak flow attenuation in the existing storm drain system.
Does this project create, enhance, or restore park space, habitat, or wetland space?	Yes	The project will create wetland space and enhance the public Arroyo Seco Golf Course.
Does this project improve public access to waterways?	No	N/A
Does this project create or enhance new recreational opportunities?	Yes	The project will create wetland space and enhance the public Arroyo Seco Golf Course.
Does this project create or enhance green spaces at school?	No	N/A
Does this project reduce heat local island effect and increase shade?	Yes	Several species of native trees (i.e sycamore trees, oak trees) and shrubs will be considered for planting.
Does this project increase shade or the number of trees or other vegetation at the site location?	Yes	Strategically selected native trees and vegetation will be planted to uptake pollutants and will be maintained as part of the wetland system.

5.2 Community Engagement

The following describes the effort of engagement that has occurred to date and identify (if any) agencies / municipalities / stakeholders that were involved in the development of the Project concept:

None to date, however, efforts are proposed during the development of the Project.

The following describes the plan to engage the community during the early development phase of the Project:

The City will hold community-based workshops with the general public and other stakeholders, such as local environmental groups. The City will directly contact local environmental groups involved with the Arroyo Seco--such as the South Pasadena Beautiful, Arroyo Seco Foundation and North East Trees--to ensure that they are aware of the workshops and have the ability to participate in the development of the project.

5.3 Additional Information

Additional information regarding community benefits and engagement for the Project concept is provided as the following attachments:

6 NATURE-BASED SOLUTIONS

This section provides an overview of Project elements that will leverage nature-based solutions.

Will this Project implement natural processes?

Yes

The following is a description of natural processes that will be implemented:

Comparable to natural wetlands, the constructed wetlands will implement natural processes to slow, detain, and capture water, and will incorporate native vegetation. This will protect, enhance, and restore habitat and the public Arroyo Seco Golf Course.

Will this project utilize natural materials?

Yes

The following is a description of natural materials that will be utilized:

Comparable to natural wetlands, the constructed wetlands will incorporate native vegetation. This will protect, enhance, and restore habitat and the public Arroyo Seco Golf Course.

The following describes how nature-based solutions are utilized to the maximum extent feasible. If nature-based solutions are not used, a description of what options have been considered and why they were not included is provided.

The selection of a constructed wetlands with native vegetation (versus for a example, an underground stormwater capture facility) demonstrates the use of nature-based solutions to the maximum extent feasible.

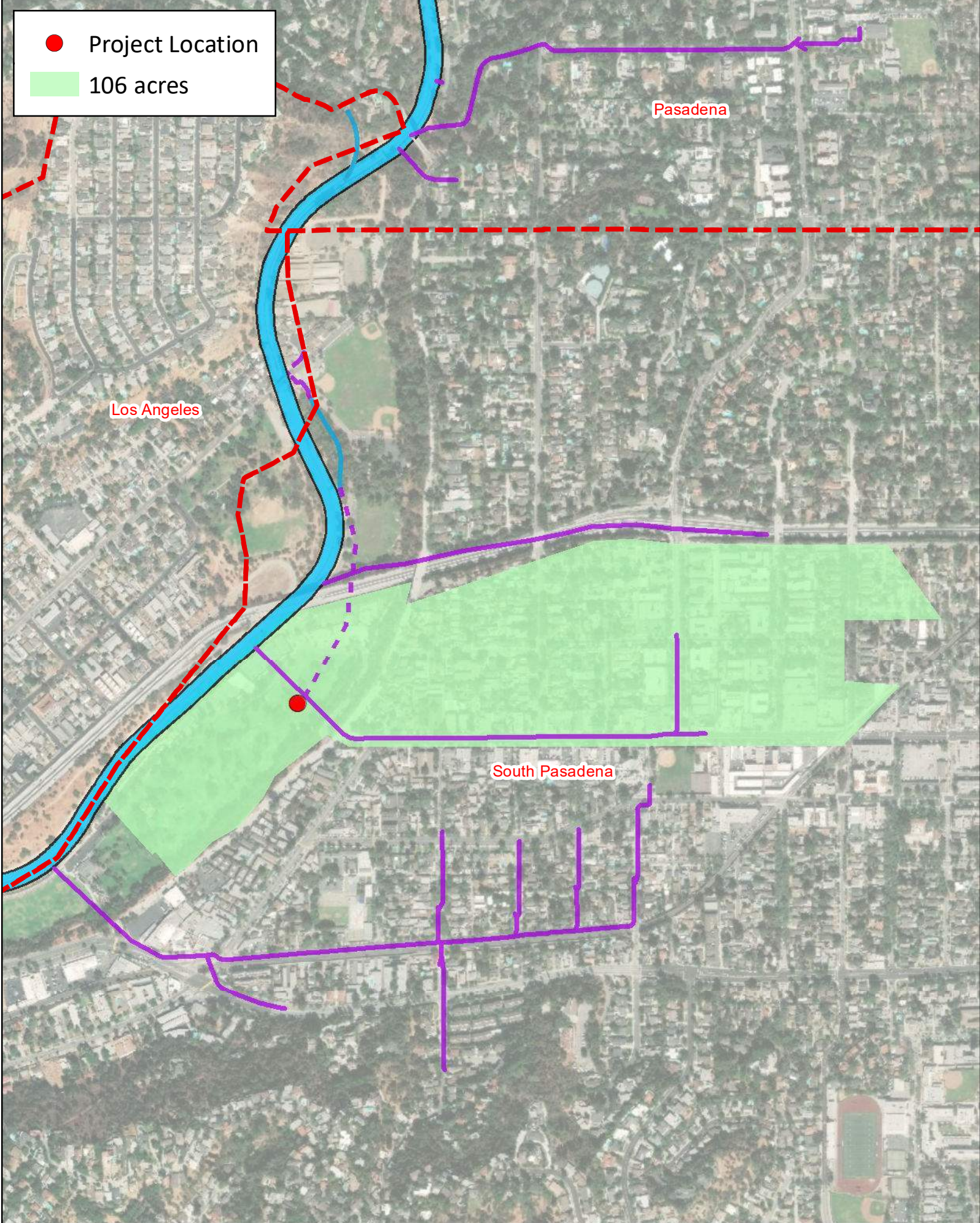
7 ATTACHMENTS

Attachments are bundled and organized in the following pages, with cover pages between each subsection.




ATTACHMENTS FOR SECTION 1

General Information




Constructed Wetlands at the Arroyo Seco Golf Course: Project Drainage Area

SEWER SYSTEM FEATURE

 sewer lift station

STORM DRAIN FEATURE

 catch basin


 dike; diversion

 outfall (Arroyo Seco Project)

 outfall (other)


 outfall (TBD)


 tunnel entrance

 well/city interconnection

SEWER SYSTEM LINE

 private (4" line)


 local (4"-16" line)


 trunk (16"-27" line)


STORM DRAIN LINE

 channel (Arroyo Seco)


 channel


 storm drain piping


 storm drain piping (proposed)

 storm drain piping (TBD)

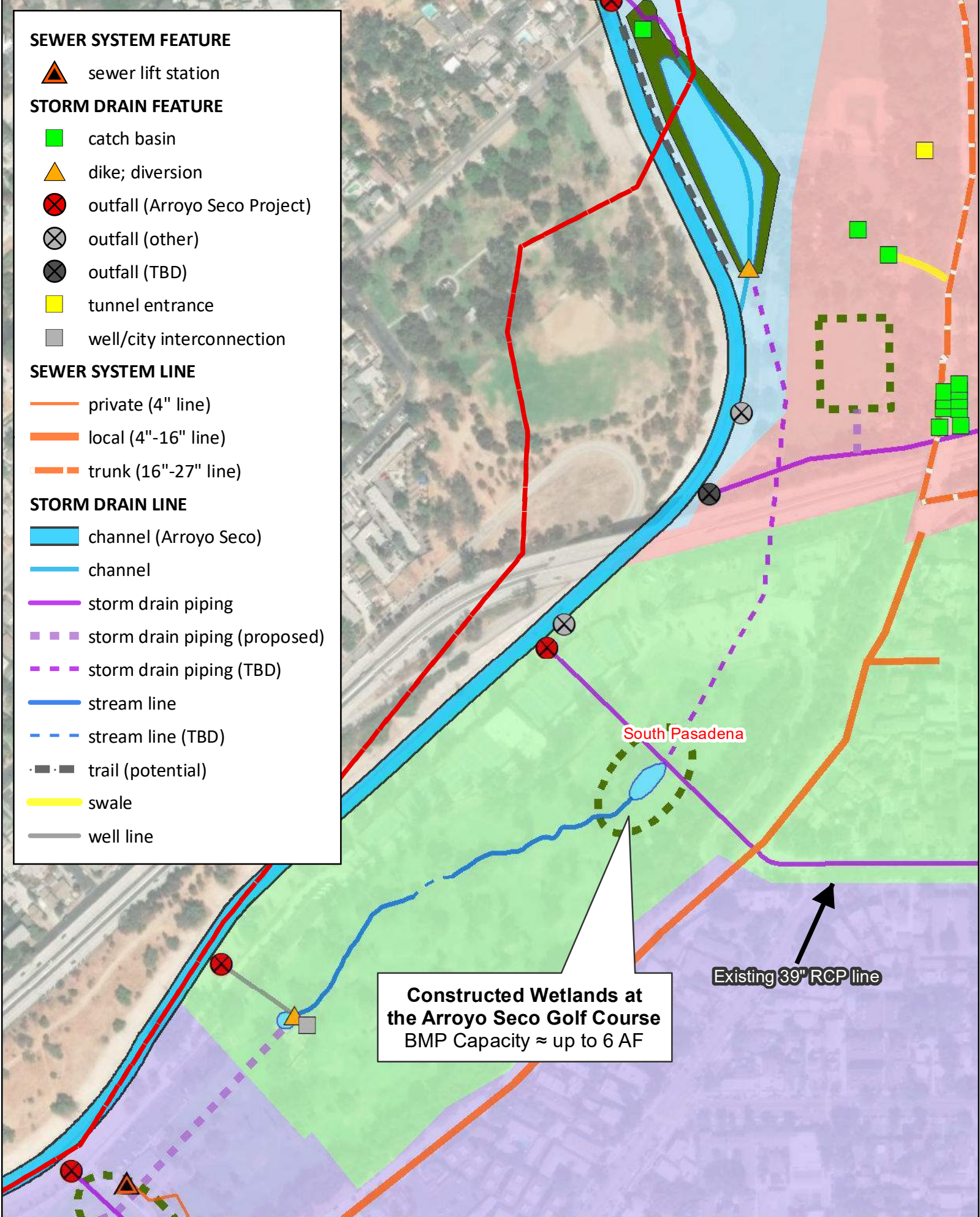
 stream line

 stream line (TBD)

 trail (potential)

 swale

 well line



Constructed Wetlands at the Arroyo Seco Golf Course: Project Features



Arroyo Seco Project 3 (Constructed Wetlands at the Arroyo Seco Golf Course) and Project 4 (Constructed Wetlands at the Arroyo Seco Golf Course Driving Range): Initial Concept Landscape Plan

Maps Combining the Four Projects Submitted for Technical Resources Program Funding

Projects:

1. Constructed Wetlands by the Arroyo Seco
2. Stormwater Capture Basin and Park Improvements
3. Constructed Wetlands at the Arroyo Seco Golf Course **(this application)**
4. Constructed Wetlands at the Arroyo Seco Golf Course Driving Range


Note that if some or all of the following projects are funded in conjunction, the total requested funds will decrease.

SEWER SYSTEM FEATURE

 sewer lift station

STORM DRAIN FEATURE

 catch basin

 dike; diversion

 outfall (Arroyo Seco Project)

 outfall (other)


 outfall (TBD)


 tunnel entrance

 well/city interconnection


SEWER SYSTEM LINE

 private (4" line)

 local (4"-16" line)


 trunk (16"-27" line)


STORM DRAIN LINE


 channel (Arroyo Seco)

 channel


 diversion line


 storm drain piping


 storm drain piping (proposed)

 storm drain piping (TBD)

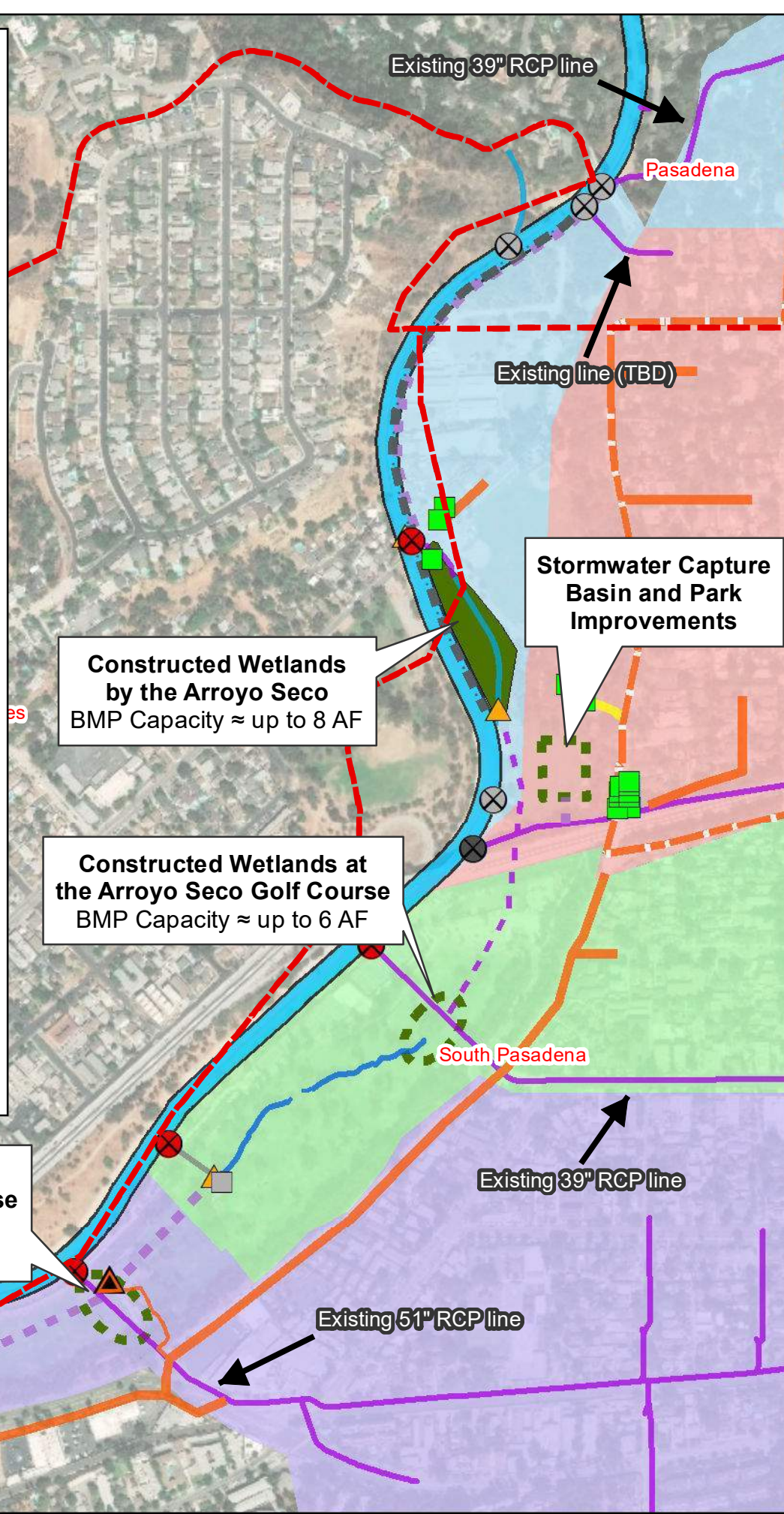
 stream line

 stream line (TBD)

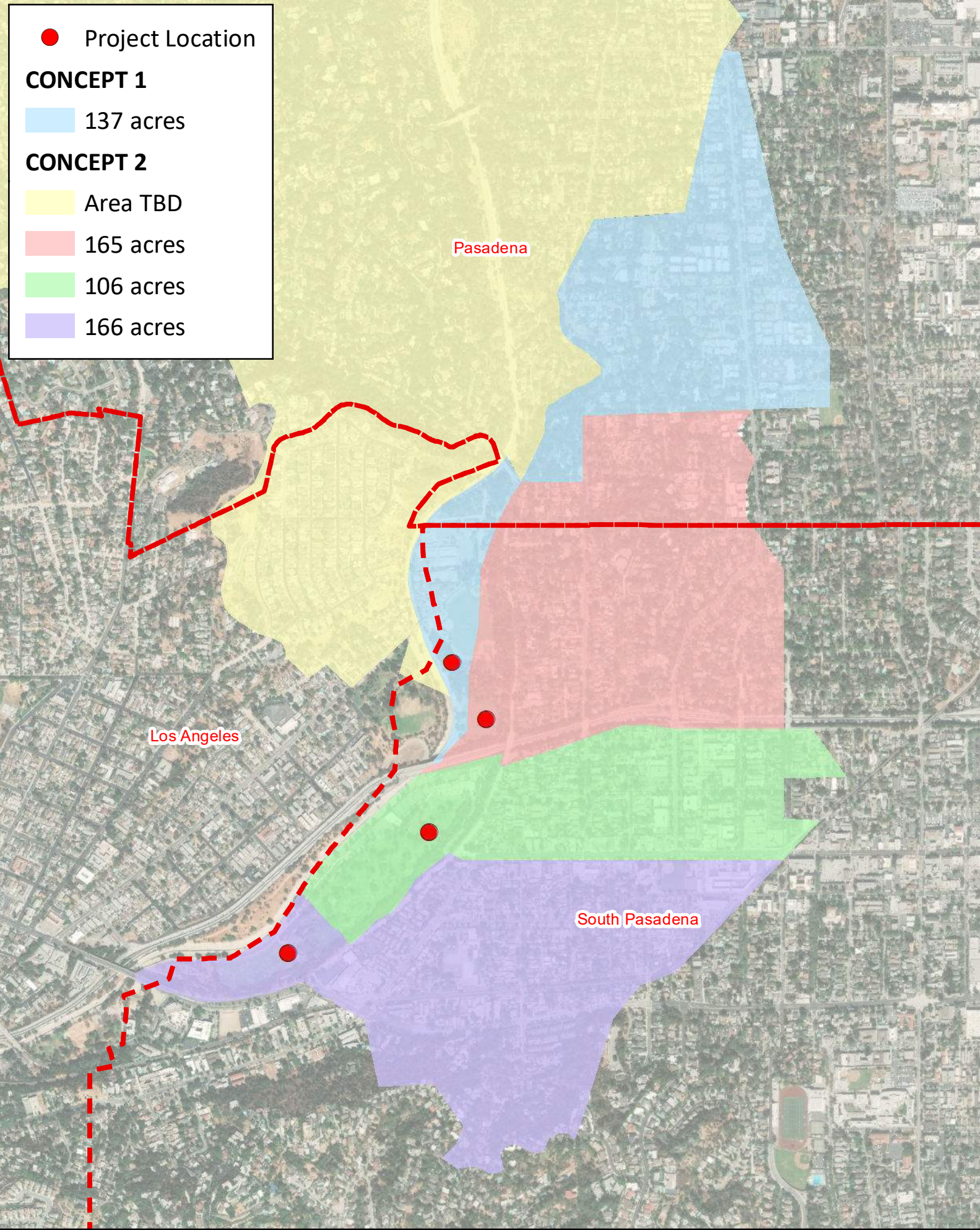
 trail (potential)

 swale

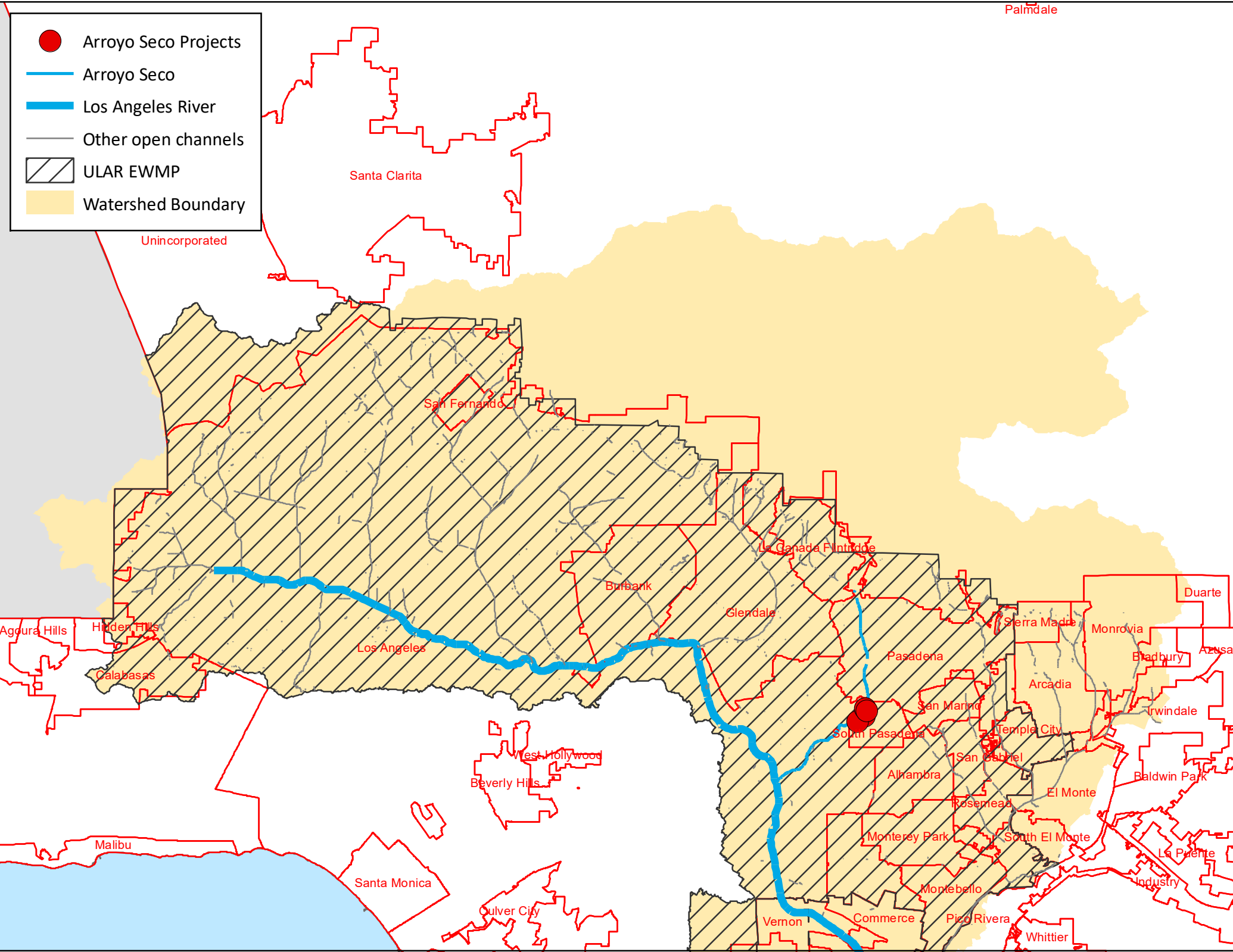
 well line



Arroyo Seco Projects: Project Features



Arroyo Seco Projects: Project Drainage Area





ATTACHMENTS FOR SECTION 2

Design Elements



Description

Constructed wetlands are constructed basins that have a permanent pool of water throughout the year (or at least throughout the wet season) and differ from wet ponds primarily in being shallower and having greater vegetation coverage. The schematic diagram is of an on-line pond that includes detention for larger events, but this is not required in all areas of the state.

A distinction should be made between using a constructed wetland for storm water management and diverting storm water into a natural wetland. The latter practice is not recommended and in all circumstances, natural wetlands should be protected from the adverse effects of development, including impacts from increased storm water runoff. This is especially important because natural wetlands provide storm water and flood control benefits on a regional scale.

Wetlands are among the most effective stormwater practices in terms of pollutant removal and they also offer aesthetic value. As stormwater runoff flows through the wetland, pollutant removal is achieved through settling and biological uptake within the wetland. Flow through the root systems forces the vegetation to remove nutrients and dissolved pollutants from the stormwater.

California Experience

The City of Laguna Niguel in Orange County has constructed several wetlands, primarily to reduce bacteria concentrations in dry weather flows. The wetlands have been very successful in this regard. Even though there is not enough perennial flow to maintain the permanent pool at a constant elevation, the wetland vegetation has thrived.

Design Considerations

- Area Required
- Slope
- Water Availability
- Aesthetics
- Environmental Side-effects

Targeted Constituents

<input checked="" type="checkbox"/>	Sediment	■
<input checked="" type="checkbox"/>	Nutrients	▲
<input checked="" type="checkbox"/>	Trash	■
<input checked="" type="checkbox"/>	Metals	■
<input checked="" type="checkbox"/>	Bacteria	■
<input checked="" type="checkbox"/>	Oil and Grease	■
<input checked="" type="checkbox"/>	Organics	■

Legend (Removal Effectiveness)

- Low
- ▲ Medium
- High



Advantages

- If properly designed, constructed and maintained, wet basins can provide substantial wildlife and wetlands habitat.
- Due to the presence of the permanent wet pool, properly designed and maintained wet basins can provide significant water quality improvement across a relatively broad spectrum of constituents including dissolved nutrients.
- Widespread application with sufficient capture volume can provide significant control of channel erosion and enlargement caused by changes to flow frequency relationships resulting from the increase of impervious cover in a watershed.

Limitations

- There may be some aesthetic concerns about a facility that looks swampy.
- Some concern about safety when constructed where there is public access.
- Mosquito and midge breeding is likely to occur in wetlands.
- Cannot be placed on steep unstable slopes.
- Need for base flow or supplemental water if water level is to be maintained.
- Require a relatively large footprint
- Depending on volume and depth, pond designs may require approval from the State Division of Safety of Dams

Design and Sizing Guidelines

- Capture volume determined by local requirements or sized to treat 85% of the annual runoff volume.
- Outlet designed to discharge the capture volume over a period of 24 hours.
- Permanent pool volume equal to twice the water quality volume.
- Water depth not to exceed about 4 feet.
- Wetland vegetation occupying no more than 50% of surface area.
- Include energy dissipation in the inlet design and a sediment forebay to reduce resuspension of accumulated sediment and facilitate maintenance.
- A maintenance ramp should be included in the design to facilitate access to the forebay for maintenance activities and for vector surveillance and control.
- To facilitate vector surveillance and control activities, road access should be provided along at least one side of BMPs that are seven meters or less in width. Those BMPs that have shoreline-to-shoreline distances in excess of seven meters should have perimeter road access on both sides or be designed such that no parcel of water is greater than seven meters from the road.

Construction/Inspection Considerations

- In areas with porous soils an impermeable liner may be required to maintain an adequate permanent pool level.
- Outlet structures and piping should be installed with collars to prevent water from seeping through the fill and causing structural failure.
- Inspect facility after first large storm to determine whether the desired residence time has been achieved.

Performance

The processes that impact the performance of constructed wetlands are essentially the same as those operating in wet ponds and similar pollutant reduction would be expected. One concern about the long-term performance of wetlands is associated with the vegetation density. If vegetation covers the majority of the facility, open water is confined to a few well defined channels. This can limit mixing of the stormwater runoff with the permanent pool and reduce the effectiveness as compared to a wet pond where a majority of the area is open water.

Siting Criteria

Wet ponds are a widely applicable stormwater management practice and can be used over a broad range of storm frequencies and sizes, drainage areas and land use types. Although they have limited applicability in highly urbanized settings and in arid climates, they have few other restrictions. Constructed wetlands may be constructed on- or off-line and can be sited at feasible locations along established drainage ways with consistent base flow. An off-line design is preferred. Constructed wetlands are often utilized in smaller sub-watersheds and are particularly appropriate in areas with residential land uses or other areas where high nutrient loads are considered to be potential problems (e.g., golf courses).

Wetlands generally consume a fairly large area (typically 4-6 percent of the contributing drainage area), and these facilities are generally larger than wet ponds because the average depth is less.

Wet basin application is appropriate in the following settings: (1) where there is a need to achieve a reasonably high level of dissolved contaminant removal and/or sediment capture; (2) in small to medium-sized regional tributary areas with available open space and drainage areas greater than about 10 ha (25 ac.); (3) where base flow rates or other channel flow sources are relatively consistent year-round; (4) in settings where wildlife habitat benefits can be appreciated.

Additional Design Guidelines

Constructed wetlands generally feature relatively uniformly vegetated areas with depths of one foot or less and open water areas (25-50% of the total area) no more than about 1.2 m (4 feet) deep, although design configuration options are relatively flexible. Wetland vegetation is comprised generally of a diverse, local aquatic plant species. Constructed wetlands can be designed on-line or off-line and generally serve relatively smaller drainage areas than wet ponds, although because of the shallow depths, the footprint of the facility will be larger than a wet pond serving the same tributary area.

The extended detention shallow wetland combines the treatment concepts of the dry extended detention pond and the constructed wetland. In this design, the water quality volume is detained above the permanent pool and released over 24 hours. In addition to increasing the residence time, which improves pollutant removal, this design also attenuates peak runoff rates. Consequently, this design alternative is recommended.

Pretreatment incorporates design features that help to settle out coarse sediment particles. By removing these particles from runoff before they reach the large permanent pool, the maintenance burden of the pond is reduced. In ponds, pretreatment is achieved with a sediment forebay. A sediment forebay is a small pool (typically about 10 percent of the volume of the permanent pool). Coarse particles remain trapped in the forebay, and maintenance is performed on this smaller pool, eliminating the need to dredge the entire pond.

Effective wetland design displays "complex microtopography." In other words, wetlands should have zones of both very shallow (<6 inches) and moderately shallow (<18 inches) wetlands incorporated, using underwater earth berms to create the zones. This design will provide a longer flow path through the wetland to encourage settling, and it provides two depth zones to encourage plant diversity.

There are a variety of sizing criteria for determining the volume of the permanent pool, mostly related to the water quality volume (i.e., the volume of water treated for pollutant removal) or the average storm size in a particular area. In addition, several theoretical approaches to determination of permanent pool volume have been developed. However, there is little empirical evidence to support these designs. Consequently, a simplified method (i.e., permanent pool volume equal to twice the water quality volume) is recommended.

Design features are also incorporated to ease maintenance of both the forebay and the main pool of ponds. Ponds should be designed with a maintenance access to the forebay to ease this relatively routine (every 5–7 year) maintenance activity. In addition, ponds should generally have a drain to draw down the pond for vegetation harvesting or the more infrequent dredging of the main cell of the pond.

Summary of Design Recommendations

- (1) Facility Sizing – The basin should be sized to hold the permanent pool as well as the required water quality volume. The volume of the permanent pool should equal twice the water quality volume.
- (2) Pond Configuration - The wet basin should be configured as a two stage facility with a sediment forebay and a main pool. The basins should be wedge-shaped, narrowest at the inlet and widest at the outlet. The minimum length to width ratio should be 1.5 where feasible. The depth in the center of the basin should be about 4 feet deep to prevent vegetation from encroaching on the pond open water surface.
- (3) Pond Side Slopes - Side slopes of the basin should be 3:1 (H:V) or flatter for grass stabilized slopes. Slopes steeper than 3:1 should be stabilized with an appropriate slope stabilization practice.
- (4) Sediment Forebay - A sediment forebay should be used to isolate gross sediments as they enter the facility and to simplify sediment removal. The sediment forebay

should consist of a separate cell formed by an earthen berm, gabion, or loose riprap wall. The forebay should be sized to contain 15 to 25% of the permanent pool volume and should be at least 3 feet deep. Exit velocities from the forebay should not be erosive. Direct maintenance access should be provided to the forebay. The bottom of the forebay may be hardened (concrete) to make sediment removal easier. A fixed vertical sediment depth marker should be installed in the forebay to measure sediment accumulation.

- (5) Splitter Box - When the pond is designed as an off-line facility, a splitter structure is used to isolate the water quality volume. The splitter box, or other flow diverting approach, should be designed to convey the 25-year event while providing at least 1.0 foot of freeboard along pond side slopes.
- (6) Vegetation - A plan should be prepared that indicates how aquatic and terrestrial areas will be vegetatively stabilized. Wetland vegetation elements should be placed along the aquatic bench or in the shallow portions of the permanent pool. The optimal elevation for planting of wetland vegetation is within 6 inches vertically of the normal pool elevation. A list of some wetland vegetation native to California is presented in the wet pond fact sheet.

Maintenance

The amount of maintenance required for a constructed wetland is highly dependent on local regulatory agencies, particular health and vector control agencies. These agencies are often extremely concerned about the potential for mosquito breeding that may occur in the permanent pool.

Routine harvesting of vegetation may increase nutrient removal and prevent the export of these constituents from dead and dying plants falling in the water. A previous study (Faulkner and Richardson, 1991) documented dramatic reductions in nutrient removal after the first several years of operation and related it to the vegetation achieving a maximum density. Vegetation harvesting in the summer is recommended.

Typical maintenance activities and frequencies include:

- Schedule semiannual inspections for burrows, sediment accumulation, structural integrity of the outlet, and litter accumulation.
- Remove accumulated trash and debris in the basin at the middle and end of the wet season. The frequency of this activity may be altered to meet specific site conditions and aesthetic considerations.
- Where permitted by the Department of Fish and Game or other agency regulations, stock wet ponds/constructed wetlands regularly with mosquito fish (*Gambusia spp.*) to enhance natural mosquito and midge control.
- Introduce mosquito fish and maintain vegetation to assist their movements to control mosquitoes, as well as to provide access for vector inspectors. An annual vegetation harvest in summer appears to be optimum, in that it is after the bird breeding season, mosquito fish can provide the needed control until vegetation reaches late summer density, and there is

time for re-growth for runoff treatment purposes before the wet season. In certain cases, more frequent plant harvesting may be required by local vector control agencies.

- Maintain emergent and perimeter shoreline vegetation as well as site and road access to facilitate vector surveillance and control activities.
- Remove accumulated sediment in the forebay and regrade about every 5-7 years or when the accumulated sediment volume exceeds 10 percent of the basin volume. Sediment removal may not be required in the main pool area for as long as 20 years.

Cost

Construction Cost

Wetlands are relatively inexpensive storm water practices. Construction cost data for wetlands are rare, but one simplifying assumption is that they are typically about 25 percent more expensive than storm water ponds of an equivalent volume. Using this assumption, an equation developed by Brown and Schueler (1997) to estimate the cost of wet ponds can be modified to estimate the cost of storm water wetlands using the equation:

$$C = 30.6V^{0.705}$$

where:

C = Construction, design, and permitting cost;

V = Wetland volume needed to control the 10-year storm (ft³).

Using this equation, typical construction costs are the following:

\$ 57,100 for a 1 acre-foot facility

\$ 289,000 for a 10 acre-foot facility

\$ 1,470,000 for a 100 acre-foot facility

Wetlands consume about 3 to 5 percent of the land that drains to them, which is relatively high compared with other storm water management practices. In areas where land value is high, this may make wetlands an infeasible option.

Maintenance Cost

For ponds, the annual cost of routine maintenance has typically been estimated at about 3 to 5 percent of the construction cost; however, the published literature is almost totally devoid of actual maintenance costs. Since ponds are long-lived facilities (typically longer than 20 years), major maintenance activities are unlikely to occur during a relatively short study.

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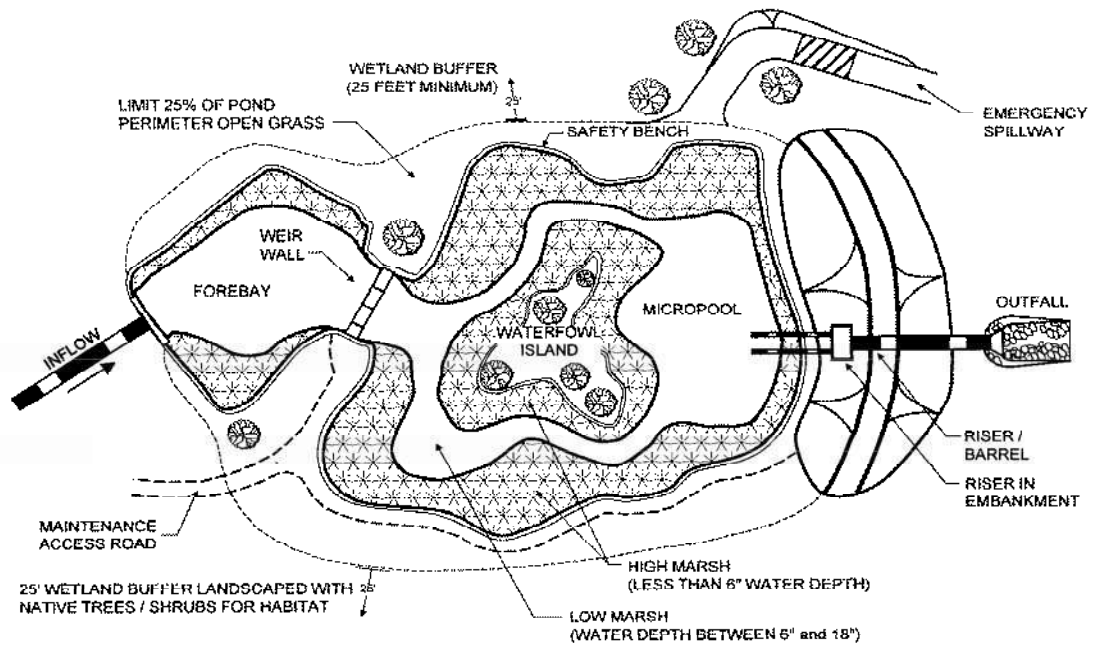
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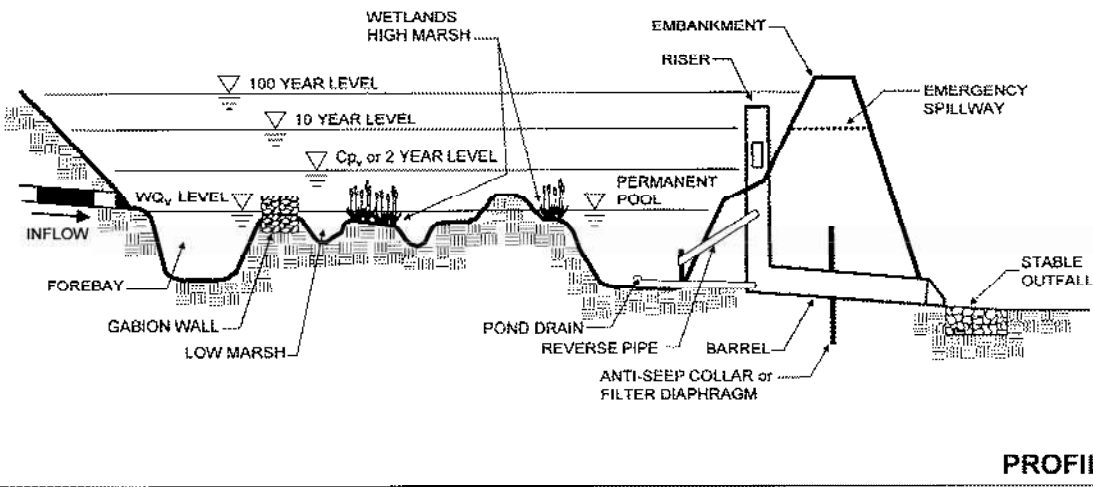
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PLAN VIEW



PROFILE

Site Conditions and Constraints

The following are concept planning documents for a similar project (Lower Arroyo Park) located adjacent to the current concept location, and described in the Upper LA River EWMP. Also attached is the County's "Initial Study/Environmental Constraints Evaluation For the Eight Recommended Regional Projects within the Upper Los Angeles River Watershed", which includes the Lower Arroyo Park.

The Lower Arroyo Park project as originally proposed had significant technical feasibility constraints. Through this most recent concept planning effort, these initial constraints were resolved, and the original EWMP concept has been improved upon. The primary modification was moving the project from the west of the Arroyo Seco to the east side, to coincide with the locations of several storm drain pipes that run underneath City park space and directly to the river. Despite the change in location, the attached EWMP concept planning documents for the Lower Arroyo Park provide useful information on the general site location, geotechnical analysis, watershed characteristics, potential retrofit characteristics, as well as environmental constraints.

4.5.8 Lower Arroyo Park

Lower Arroyo Park is located within the City of South Pasadena in an area that drains to Arroyo Seco. A channelized portion of Arroyo Seco runs through the center of the proposed site parcel. Park facilities include two baseball diamonds, open field space, and playground equipment. The potential BMP type is proposed as a below-ground retention/infiltration basin situated beneath the baseball diamonds and other open field space in the southwest corner and northern portions of the park.

No maximum drainage area was identified for this site since it is located adjacent to a receiving waterbody, Arroyo Seco. After review of available site opportunities and surrounding infrastructure, a smaller (alternative) drainage area was delineated, encompassing approximately 145 acres.

After reviewing the hydrologic model results and estimated runoff volume for the various diversion scenarios, it was determined that this project site was suitable for a retention/infiltration BMP sized to accommodate more than the 85th percentile design storm flows contributed from the smaller alternative drainage area. As a result, the recommended active volume of the BMP is 3.7 acre feet.

Table 4-10 below summarizes key conceptual design parameters of the BMP proposed at Lower Arroyo Park. **Figure 4-32** presents summary facts of the Lower Arroyo Park signature project. **Figures 4-33 to 4-35** provided on the following pages show proposed site features and the tributary drainage area(s) considered during the engineering and environmental feasibility analysis.

Table 4-10. Key Design Parameters for Lower Arroyo Park

Summary of Lower Arroyo Park (SP01)		
Project Site Parameters	Total (Maximum) Drainage Area	145 ac
	Alternative (Minimum) Drainage Area	145 ac
	Maximum Recommended BMP Volume	265 ac-ft
	Alternative Recommended BMP Volume	3.7 ac-ft
	Groundwater Depth	25 ft
	Maximum BMP Opportunity Area	10.6 ac
BMP Design Parameters		
	Recommended Maximum BMP Depth (below ground surface)	25 ft
	Available BMP Volume	265 ac-ft
	Recommended Active BMP Volume	3.7 ac-ft

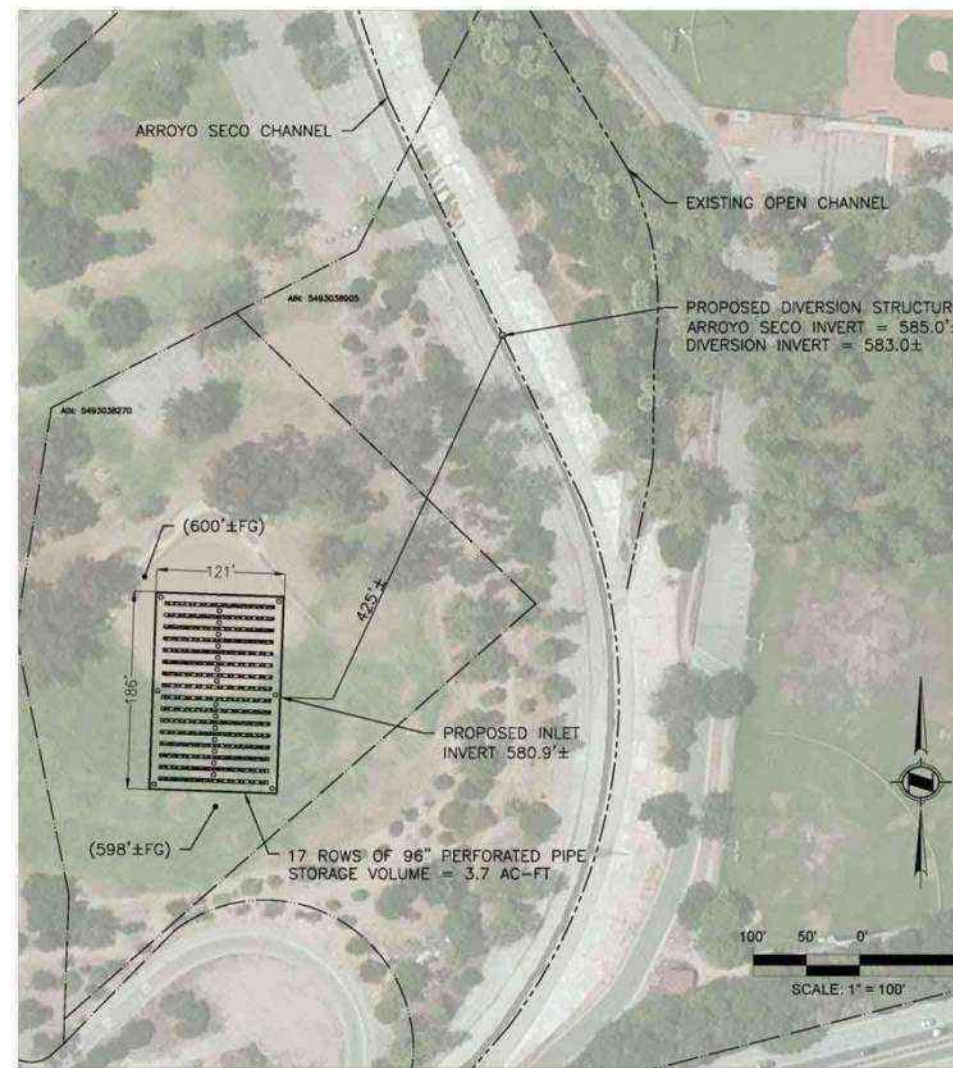
Site Location				Watershed Characteristics		Retrofit Characteristics	
Site Location, City	South Pasadena	Site Name	Lower Arroyo Park	Drainage Area Max/Min, ac	145/145	Proposed Retrofit	Subsurface Infiltration
Latitude	34° 7' 18.123" N	Longitude	118° 10' 4.0620" W	Hydrologic Soil Group	Hanford Gravelly Sandy Loam	Recommended BMP Footprint, ft ²	22506
Landuse	Open Space	Street Address	San Pasqual Avenue & Stoney Drive	Soil Infiltration Rate, in/hr	0.80	Available BMP Volume, ac-ft	265
Major Watershed	Upper Los Angeles River	Land Owner	City of South Pasadena	Manages 85th Percentile, 24 hr Design Storm Event?	Yes	BMP Water Storage Depth, ft	9
Existing Land Use of Site:	Park			Recommended Active BMP Volume, ac-ft	3.7	Gravel Depth, ft	1
				Approximate Rainfall Event Depth Captured Based on Recommended Volume, inch = 0.8			
Budget- Level estimates for both soft and hard costs		\$5,132,000	Schedule	1 year design, 6 months bid, 9 months construction (2 ¼ years total)			



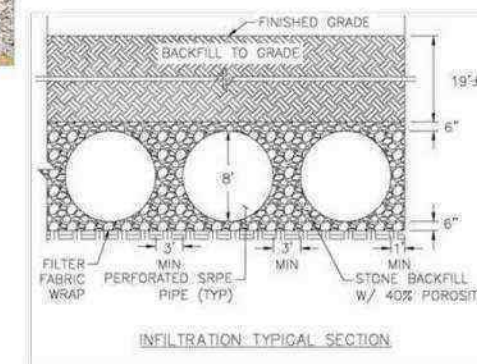
Drainage Map



Watershed and Vicinity



Rendered Improvements



Upper Los Angeles River Enhanced Management Program
 Signature Project: Lower Arroyo Park
 FACT SHEET PN 182198

Note: Figures are not to scale



Figure 4-32. Summary Facts: Lower Arroyo Park Signature Project



Figure 4-33. Lower Arroyo Park Subsurface Infiltration Drainage Area



Figure 4-34. Lower Arroyo Park Subsurface Infiltration Site Location

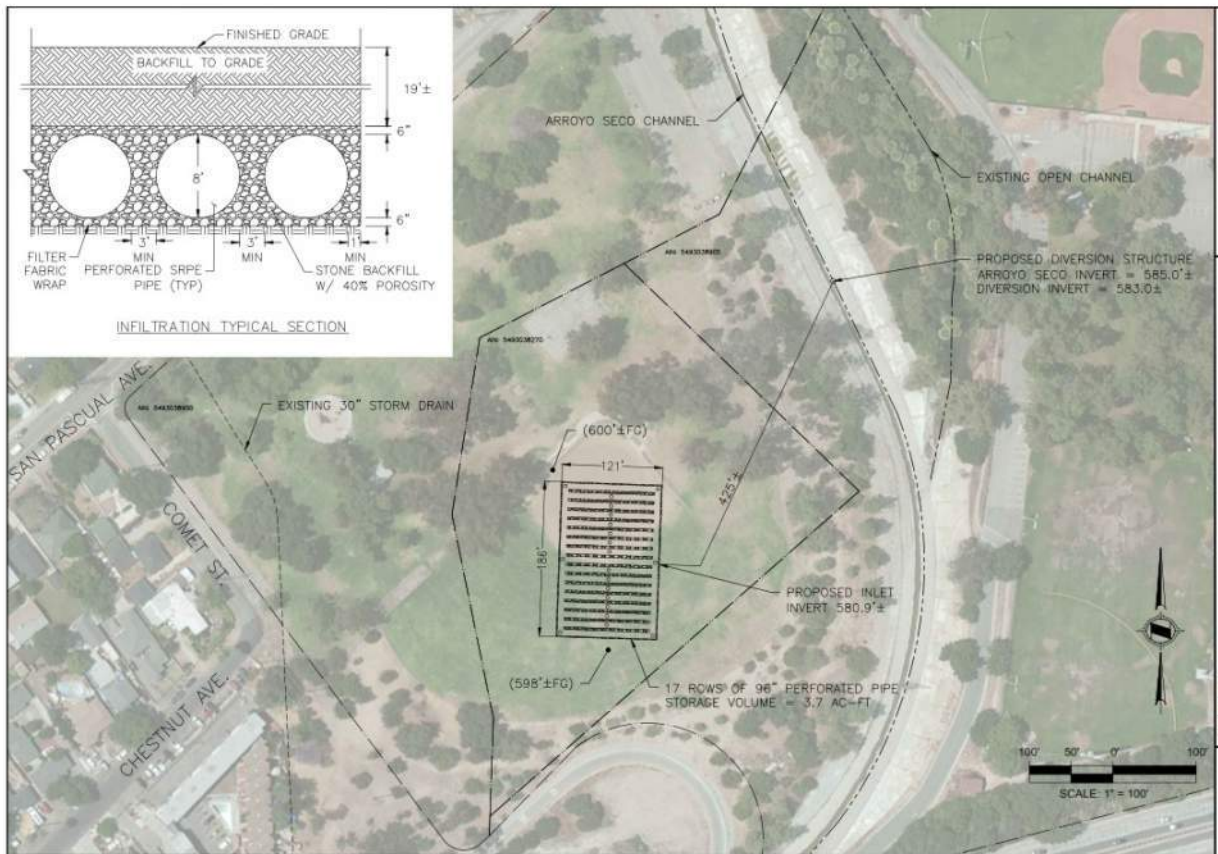


Figure 4-35. Lower Arroyo Park Subsurface Infiltration Concept

4.6 How is the EWMP Integrated with Previous, Ongoing and Future Water Quality Planning Efforts?

The EWMP includes a compilation of numerous previous stormwater compliance planning documents created for the ULAR, and the EWMP represents the “master stormwater compliance plan” moving forward. As such, it is important to recognize and, to the extent practicable, incorporate other planning efforts in the LA River watershed. This section provides a brief overview of the previous planning documents incorporated into the EWMP and considers how the EWMP will be integrated into other efforts to restore and provide access to the Los Angeles River and increase the reliability of local water supplies.

4.6.1 Previous Water Quality Planning Efforts

The process of developing a set of regional project opportunities described above included a review and analysis of many local and regional planning efforts underway by many other agencies and organizations throughout the watershed. The previously developed plans reviewed during EWMP development include the following:

- Implementation Plans for the LA River and Tributaries Metals TMDLs:
 - *City of Los Angeles Draft Implementation Plan, 2010*

3.7 LOWER ARROYO PARK

Lower Arroyo Park is located within the City of South Pasadena in an area that drains to Arroyo Seco. A channelized portion of Arroyo Seco runs through the center of the proposed site parcel. Park facilities include two baseball diamonds, open field space, and playground equipment. The potential BMP type is proposed as a below-ground retention/infiltration basin situated beneath the baseball diamonds and other open field space in the southwest corner and northern portions of the park.

No maximum drainage area was identified for this site since it is located adjacent to a receiving waterbody, Arroyo Seco. After review of available site opportunities and surrounding infrastructure, a smaller (alternative) drainage area was delineated, encompassing approximately 145 acres.

After reviewing the hydrologic model results and estimated runoff volume for the various diversion scenarios, it was determined that this project site was suitable for a retention/infiltration BMP sized to accommodate more than the 85th percentile design storm flows contributed from the smaller alternative drainage area. As a result, the recommended active volume of the BMP is 3.7 acre feet.

Table 3.7-1 summarizes key conceptual design parameters of the BMP proposed at Lower Arroyo Park. A map of the project site including key infrastructure and highlighted BMP opportunity areas is provided in Appendix D. A map of the alternative (minimum) tributary drainage area can be found in Appendix E.

Table 3.7-1 Summary of Lower Arroyo Park (SP01)

Table 3.7-1 Summary of Lower Arroyo Park (SP01)		
Project Site Parameters	Total (Maximum) Drainage Area	N/A
	Alternative (Minimum) Drainage Area	145 ac
	Maximum Required BMP Volume	N/A
	Alternative Required BMP Volume	0.06 ac-ft
	Groundwater Depth	25 ft
BMP Design Parameters	BMP Opportunity Area	10.6 ac
	Recommended Maximum BMP Depth	25 ft
	Available BMP Volume	265 ac-ft
	Recommended Active BMP Volume	3.7 ac-ft

In addition to the volumetric features summarized above, it is envisioned that this site would feature the following potential benefits:

- Drains an urbanized area
- Stormwater capture and some infiltration
- Stormwater quality improvement via pre-treatment, retention, and infiltration
- Water harvested can be utilized for a significant amount of on-site irrigation

APPENDIX A

DESKTOP GEOTECHNICAL

ANALYSIS

Cluster ID	Site Name	Total Area (ac)	Aggregate Infiltration Rate (in/hr)	Chino Silt Loam		Hanford Fine Sandy Loam		Hanford Gravelly Sandy Loam		Ramona Loam		Ramona Sandy Loam		Tujunga Fine Sandy Loam		Yolo Loam	
				Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total
AL01	Almanson Park	133.6	0.70	0.0	0%	0.0	0%	0.0	0%	27.6	21%	92.8	69%	13.3	10%	0.0	0%
GL01	Fremont Park	9.4	0.30	0.0	0%	9.4	100%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%
LAC01	Roosevelt Park	24.3	0.30	17.3	71%	7.1	29%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%
MP01	Sierra Vista Park	2.5	0.30	0.0	0%	0.0	0%	0.0	0%	0.1	5%	0.0	0%	0.0	0%	2.3	95%
NHP	North Hollywood Park San	22.5	0.80	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	22.5	100%	0.0	0%
SF01	Fernando Regional Park	10.7	0.80	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	10.7	100%	0.0	0%
SM01	Lacy Park	26.7	0.39	0.0	0%	0.0	0%	0.0	0%	21.9	82%	4.8	18%	0.0	0%	0.0	0%
SP01	Lower Arroyo Park	25.5	0.80	0.0	0%	0.0	0%	25.5	100%	0.0	0%	0.0	0%	0.0	0%	0.0	0%

Hydrologic Soil Group	Infiltration Rate (in/hr)	Soil Textures	Corresponding Unified Soil Classification	
			Symbol	Description
A	1.63	gravel	GW	well-graded gravels, sandy gravels
	1.63	sandy gravel	GP	gap-graded or uniform gravels, sandy gravels
	1.63	silty gravels	GM	silty gravels, silty sandy gravels
	1.63		SW	well-graded gravelly sands
	0.8	sandy gravel	SP	gap-graded or uniform sands, gravelly sands
	0.8	loamy sand		
	0.8	sandy loam		
B	0.45		SM	silty sands, silty gravelly sands
	0.3	loam, silt loam	MH	micaceous silts, diatomaceous silts, volcanic ash
C	0.2	sandy clay loam	ML	silts, very fine sands, silty or clayey fine sands
D	0.06	clay loam	GC	clayey gravels, clayey sandy gravels
	0.06	silty clay loam	SC	clayey sands, clayey gravelly sands
	0.06	sandy clay	CL	low plasticity clays, sandy or silty clays
	0.06	silty clay	OL	organic silts and clays of low plasticity
	0.06	clay	CH	highly plastic clays and sandy clays
	0.06		OH	organic silts and clays of high plasticity

Summary Environmental Constraints: Upper Los Angeles River Watershed Regional Projects

SP01 – Arroyo Park

- **AQ:** Construction emissions in excess of thresholds; may increase time for site-specific CEQA compliance.
- **AQ:** Cumulative AQ impacts may increase time for site-specific CEQA compliance.
- **AQ:** Air pollutant concentrations from construction may increase time for site-specific CEQA compliance.
- **BIO:** Tree removal could disturb active nests (violation of Migratory Bird Treaty Act); may increase time for site-specific CEQA compliance.
- **BIO:** Tree removal could destroy protected trees; may increase time for site-specific CEQA compliance.
- **CUL:** Archeological resources may be present; should be addressed during site specific CEQA compliance.
- **CUL:** Paleontological resources may be present; should be addressed during site specific CEQA compliance.
- **REC:** Temporary closure of the recreational uses within Arroyo Park is likely to require close coordination between the City of South Pasadena, City of Los Angeles (a small section of the park west of the Arroyo Seco appears to be located within the City of Los Angeles), local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. Increased site-specific CEQA compliance time.

**Initial Study/
Environmental Constraints Evaluation**

For

**the Eight Recommended Regional Projects
within the Upper Los Angeles River Watershed**

February 2015



City of Los Angeles



**Bureau of Engineering
Watershed Protection
Division**

1.0 INTRODUCTION

National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit (MS4 Permit) Order No. R4-2012-0175 establishes the waste discharge requirements for stormwater and non-stormwater discharges within the watersheds of Los Angeles County. This MS4 Permit was adopted by the California Regional Water Quality Control Board, Los Angeles Region (Regional Board), on November 8, 2012, and became effective on December 28, 2012.

The MS4 Permit includes provisions that allow permittees the flexibility to customize their stormwater programs to achieve compliance with certain receiving water limitations and water quality based effluent limits over time. Specifically, permittees may voluntarily choose to develop and implement an Enhanced Watershed Management Program (Program). The Program includes prioritization of water-quality issues, identification of implementation strategies, control measures, and Best Management Practices (BMPs) sufficient to meet pertinent standards, integrated water-quality monitoring, and opportunity for stakeholder input. Through the Program, permittees will implement projects to improve water quality, and also have incentives to evaluate and, where feasible, implement regional projects that retain all non-stormwater runoff and all stormwater runoff from the 85th percentile, 24-hour storm event for the drainage area tributary to those projects.

Municipalities, non-governmental organizations and community stakeholders throughout the County of Los Angeles are working collaboratively to develop Enhanced Watershed Management Plans for each of LA's five watersheds - Ballona Creek, Dominguez Channel, Marina Del Rey, Santa Monica Bay and Upper Los Angeles River. The objectives of the Enhanced Watershed Management Plans (or EWMPs) are to comply with water quality mandates, improve the quality of our rivers, creeks and beaches, and address current and future regional water supply issues.

Each of the five watersheds has a Watershed Management Group that meets on a regular basis. The goal of each Watershed Management Group is to develop an EWMP for their specific watershed. Each EWMP will identify current and future multi-benefit projects that will improve water quality, promote water conservation, enhance recreational opportunities, manage flood risk, improve local aesthetics, and support public education opportunities. Each EWMP will include water quality priorities, watershed control measures, reasonable assurance analysis, the scheduling of projects and the monitoring, assessment and adaptive management of projects. The Upper Los Angeles River Watershed Management Group has developed a list of eight very high priority Regional Projects for implementation, which has been submitted to the Regional Water Quality Control Board for approval.

The Los Angeles County Flood Control District is in the process of preparing a Program EIR (Program EIR) to address the environmental impacts associated with implementing EWMPs within 12 watersheds in the MS4 permit coverage area. One of these watersheds is the Upper Los Angeles River Watershed. The Program EIR will focus on potential effects that could result from implementation of the projects and management actions identified in each EWMP, and would assess the physical changes to the environment that would likely result from the construction and operation of EWMP projects, including direct, indirect, and cumulative impacts.

The purpose of this environmental constraints evaluation is to identify potential site-specific environmental constraints associated with each of the recommended eight structural Regional Projects within the Upper Los Angeles River Watershed, including increased time requirements to address issues, obtain project approvals (including CEQA compliance).

Environmental Constraints of Regional Projects within the Upper Los Angeles River Watershed	1	February, 2015
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2.0 PROJECT DESCRIPTION

2.1 Project Location

2.1.1 Regional Setting

The Upper Los Angeles River Watershed is located on the Los Angeles Coastal Plain south of the San Gabriel Mountains. The watershed encompasses large portions of the San Fernando Valley; east into Pasadena, South Pasadena, San Marino, Alhambra, Monterey Park; south into Los Angeles and south Los Angeles (see Figure 1). The Upper Los Angeles River Watershed is largely urbanized.

2.1.2 Project Setting

Eight structural Regional Projects are recommended for implementation, and the general settings at each location, are as follows:

- SF01 - Recreation Park in the City of San Fernando. The site includes a multi-purpose center, indoor gymnasium, an active recreational field (softball), outdoor basketball courts, playgrounds, fitness area, and picnic areas. The San Fernando Regional Pool facility is located on the northern portion of the site. Mature trees are located along the periphery and some interior areas around the active field. Surrounding land uses include single and multi-family residential units to the west, commercial/industrial uses to the east, the Pacoima Wash to the southeast, and railroad right-of-way to the southwest. The operating hours for the park are sunrise to 9 p.m. daily.
- NHP – North Hollywood Park in the City of Los Angeles. The southern part of North Hollywood Park (located south of Magnolia Boulevard) is a landscaped area that includes mature trees, and walking paths. The trees are interspersed throughout the open space. A September 11, 2001 memorial is located near the west border in approximately the middle of the park. Commercial and multi-family uses are located to the east across Tujunga Avenue, and the Tujunga Wash and Hollywood Freeway to the west.
- GL01 - Fremont Park in the City of Glendale. The site includes tennis courts, a basketball court, playgrounds, horseshoe pits, picnic areas with barbecues, and wading pool. A field is also located along the eastern portion of the park. Mature trees are present at the site and along the periphery. Surrounding land uses include single and multi-family residential units to the west, south and east of the park, and the Verdugo Wash to the north of the park. The operating hours for the park are sunrise to sunset daily.
- SP01 - Arroyo Park in the City of South Pasadena. Arroyo Park is bisected by the Arroyo Seco. The site east of the Arroyo Seco includes multiple lighted athletic fields (baseball, softball and soccer), playground equipment, picnic areas, small amphitheater, and hiking trails. The park located west of the Arroyo Seco includes a baseball field and open space. Both sites include mature trees. Surrounding land uses are primarily single family residences (in the vicinity of the west site). The San Pascual Stables are located to the north of the park and San Pascual Avenue. The park does not have designated operating hours. (South Pasadena, 2015c).
- SM01 – Lacy Park in the City of San Marino. The site includes a central landscaped green space with an inner and outer walkway around the perimeter. The perimeter of the green space has been planted with trees of varying species, and most are mature. Site uses include tennis courts, picnic areas, playground, and small field. Surrounding land uses are primarily single-family homes. The operating hours for the park is Monday - Friday: 6:30 a.m. to Sunset, and Saturday -

Sunday: 8:00 a.m. to 8:00 p.m. (March 13–November 5) or 8:00 a.m. to 6:00 p.m. (November 6–March 12).

- AL01 – Almansor Park in the City of Alhambra. The site includes open space areas, picnic tables with covered shelters, playground equipment, barbecues, restrooms, ball fields, tennis courts, horseshoe pits, exercise par course, meeting room, activity room, gymnasium, outdoor basketball court, a small lake, and a jogging course. Mature trees are located along the periphery. Surrounding land uses include single-family residences to the south and west, Alhambra Golf Course to the immediate east, and the Alhambra Fire Training Facility and Alhambra Wash farther to the east. In addition, the Martha Baldwin Elementary School, Emmaus Lutheran School, and Emmaus Lutheran Church are contiguous to the park. The operating hours for the park are 5:00 a.m. to 10:30 p.m. daily. .
- MP01 - Sierra Vista Park in the City of Monterey Park. The site includes a softball field, outdoor basketball and paddle tennis court, children's play area, picnic area, and community center. Mature trees are located along the periphery. Surrounding land uses include single- and multi-family residences. The operating hours for the park are 6:00a.m. - 10:00 p.m. daily.
- LAC01 – Franklin D. Roosevelt Park in the County of Los Angeles. The site includes basketball courts, children’s play areas, soccer fields, ball fields, a community center, computer center, fitness zone, gymnasium, skate park, picnic areas with barbecue grills, and senior center. In addition, a Head Start preschool operated by the Mexican American Opportunity Foundation is located at the park. The operating hours for the park are sunrise to sunset, daily. Surrounding land uses include single-family residences to the north and east of the park, commercial and residential to the south, and railroad right-of-way to the west.

2.2 Goals and Objectives

The purpose of the Regional Projects is to improve water quality and help the Cities and County comply with the MS4 permit discharge requirements for stormwater and non-stormwater discharges within the Upper Los Angeles River Watershed.

2.3 Description of Proposed Project

The Regional Projects are defined by the MS4 Permit as multi-benefit regional projects that, wherever feasible, retain all non-stormwater runoff and all stormwater runoff from the 85th percentile, 24-hour storm event for the contributing drainage area, while also achieving other benefits such as flood control and/or water supply. The proposed eight Regional Project sites within the Upper Los Angeles River Watershed would include one or more of the following at each site:

- Infiltration Projects, that could include surface infiltration devices (infiltration basins, infiltration trenches, infiltration galleries, and bio-retention approaches.
- Multi-Directional Infiltration Projects that could include devices such as dry wells, and/or hybrid bio-retention and dry wells.
- Detention Basins that promote settling out of larger particles.
- Capture and Use Projects such as underground cisterns, storage facilities to make captured water available for uses such as irrigation.

The Regional Projects would install and operate infiltrations structures, detention basins, and/or capture and use structures at eight locations (eight parks) within the Upper Los Angeles River Watershed, as described above. The infiltrations structures, detention basins, and/or capture and use structures would likely be located underground at each of the park sites, with possible bio-retention approaches in select areas.

Environmental Constraints of Regional Projects within the Upper Los Angeles River Watershed	3	February , 2015
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The water quality improvements proposed at each of the Regional Project sites within the Upper Los Angeles River Watershed are as follows:

- SF01-Recreation Park: Buried Infiltration structure, capture and use facility, or detention basin.
- NHP-North Hollywood Park: Buried Infiltration structure, capture and use facility, or detention basin.
- GL01-Fremont Park: Buried Infiltration structure, capture and use facility, or detention basin.
- SP01-Arroyo Park: Buried Infiltration structure, capture and use facility, or detention basin, with possible bio-retention in suitable areas.
- SM01-Lacy Park: Buried Infiltration structure, capture and use facility, or detention basin.
- AL01 – Almansor Park: Buried Infiltration structure, capture and use facility, or detention basin.
- MP01 – Sierra Vista Park: Buried Infiltration structure, capture and use facility, or detention basin.
- LAC01-Franklin D. Roosevelt Park: Buried Infiltration structure, capture and use facility, or detention basin.

In addition, accessory improvements would be required at each Regional Project site to make connections with nearby storm drains, as well as other improvement such as wells, pump stations, and electrical connections and controls.

2.4 Regional Project Construction

Construction of each of the Regional Projects is expected to take between 12-18 months, and would involve mobilization (of materials and equipment), excavation and shoring, haul away of soils, construction of the infiltration, detention, or capture and use structure (likely to be cast-in-place concrete), accessory improvements such as storm drain connections, equipment installation, backfilling, and surface restoration. Because the project sites are all park areas, the construction areas would have to be physically separated from the remaining park areas and screened. Due to the large quantities of runoff that would be infiltrated, detained, or captured, the subsurface structures would likely occupy substantial subsurface portions of the identified sites. Following construction of the facilities, surface features at each location would be restored to existing conditions or better.

2.5 Regional Project Operations

Once the Regional Projects are completed and commissioned, they would operate automatically, although their operation would be monitored and adjustments made on an as-needed basis, including during wet weather. The majority of the Regional Project would have subsurface components and their operation would not be detectible or apparent at the site surface. Small above-ground structures that house control equipment may be required.

Regional Projects that utilize approaches at the site surfaces (such as bio-retention) could periodically fill with retained runoff, and preclude other uses of those areas until percolation has been completed and the areas dry enough to support other uses.

2.6 Anticipated Permits and Approvals

Approvals or permits from the following agencies are expected to be required:

- City of Alhambra
- City of Glendale
- City of Los Angeles
- City of Monterey Park
- City of San Marino

- City of South Pasadena
- City of San Fernando
- County of Los Angeles
- State and Regional Water Quality Control Boards
- Others?

3.0 Initial Study Checklist

Potential environmental constraints associated with the Regional Projects are addressed in the Initial Study Checklist and detailed discussions are provided below.

Environmental Checklist Form

1. Project Title:	Upper Los Angeles River Regional Projects
2. Lead Agency Name and Address:	Varies depending on jurisdiction of each Regional Project (City of Alhambra, City of Glendale, City of Los Angeles, City of Monterey Park, City of San Marino, City of South Pasadena, City of San Fernando, and County of Los Angeles)
3. Contact Person and Phone Number:	Jim Rasmus, Black and Veatch (858) 945-8675
4. Project Location:	City of Alhambra, City of Glendale, City of Los Angeles, City of Monterey Park, City of San Marino, City of South Pasadena, City of San Fernando, and County of Los Angeles
5. Project Sponsor's Name and Address:	Bureau of Sanitation Watershed Protection Division 1149 S. Broadway, 10th Floor Los Angeles, CA 90015
6. General Plan Designations:	Varies (Open Space)
7. Zoning:	Varies (includes OS, OS-1XL, SR – special recreation)
8. Description of Project:	The proposed Project consists of installation and operation of runoff infiltration and/or capture and use facilities at eight (8) locations within the Upper Los Angeles River Watershed. Facility options include underground stormwater and runoff detention facilities, underground infiltration facilities, and surface treatment features. Ancillary improvements, including connector pipelines to nearby storm drains, and/or pump stations or wet wells would be included.

Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by the Regional Projects (i.e., the proposed Project would involve environmental constraints, as indicated by the checklist on the following pages).

	Aesthetics		Agriculture and Forest Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources		Geology/Soils
	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials	X	Hydrology/Water Quality
	Land Use/Planning		Mineral Resources	X	Noise
	Population/Housing		Public Services	X	Recreation
	Transportation/Traffic		Utilities/Service Systems	X	Mandatory Findings of Significance

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS.	Would the project:				
a.	Have a substantial adverse effect on a scenic vista?			X	
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?			X	
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?			X	

Discussion:

a. Would the project have a substantial adverse effect on a scenic vista?

A scenic vista generally provides focal views of objects, settings, or features of visual interest; or panoramic views of large geographic areas of scenic quality, primarily from a given vantage point. Substantial constraints occur if the Regional Projects introduce incompatible visual elements within a field of view containing a scenic vista or substantially alters a view of a scenic vista.

No Environmental Constraints.

- SF01 - Recreation Park. Recreation Park is located in an urbanized portion of the City of San Fernando and is not located within a Scenic Vista. Further, the improvements at this site would likely be buried features with the park surface restored to the same or better condition than currently exists.
- NHP – North Hollywood Park. North Hollywood Park is located in the City of Los Angeles’ North Hollywood Community in an urbanized area, and is not located within a Scenic Vista. The improvements at this site would occur underground, and the park surface restored to the same or better condition than currently exists.
- GL01 – Fremont Park. Fremont Park, located in the City of Glendale just north of SR134 and south of the Verdugo Wash, is not located within a Scenic Vista. The improvements would place subsurface structures at this site, with the park surface restored to the same or better condition than currently exists.

- SP01 – Arroyo Park. Arroyo Park is located in South Pasadena along the Arroyo Seco north of the Pasadena Freeway. Although a ridgeline is present along the east side of Arroyo Park, the future improvements at this site would likely be buried and surface features restored to the same or better condition than currently exists. A small area of surface bio-treatment features could be added between the wash and San Ramon Drive. None of the proposed improvements would block views of the surrounding hillside, and no scenic vistas would be adversely affected.
- SM01 – Lacy Park. Lacy Park is located within a residential neighborhood in the City of San Marino. There are no designated scenic vistas in Lacy Park. The improvements would place subsurface structures at this site, with the park surface restored to the same or better condition than currently exists.
- AL01 – Almansor Park. Almansor Park is located adjacent to a single-family residential area and the Alhambra Golf Course in the City of Alhambra. This park is not located within a Scenic Vista. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists.
- MP01 – Sierra Vista Park. Sierra Vista Park is located in a mixed residential area in the City of Monterey Park. This park is not located within a Scenic Vista. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists.
- LAC01 – Franklin D. Roosevelt Park. Franklin D. Roosevelt Park is located in a mixed residential and urbanized area in the southern portion of the County of Los Angeles. This park is not located within a Scenic Vista. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists.

b./c. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

No Environmental Constraints. The Regional Project improvements would not have the potential to damage scenic resources within a state scenic highway because none of the activities would be located near an eligible or designated state scenic highway. The California Department of Transportation (Caltrans) is responsible for the official nomination and designation of eligible scenic highways. The nearest officially designated state scenic highway (State Highway 2, from approximately three miles north of Interstate [I]-210 in La Cañada to the San Bernardino County Line) (California Department of Transportation, 2013) is located approximately 6 miles northeast of the nearest Regional Project (GL01 – Fremont Park).

The nearest eligible state scenic highway (State Highway 1, from State Highway 19 near Long Beach to I-5 south of San Juan Capistrano) (California Department of Transportation, 2013) is approximately 14 miles southeast of the nearest Regional Project (LAC01 – Franklin D. Roosevelt Park). None of the Regional Projects are visible from either of these State Scenic Highways; therefore, the Regional Projects would not adversely affect the quality of the scenic views from these locations.

In addition, the following summarizes specific details regarding scenic resources at each Regional Project site:

- SF01 - Recreation Park. Recreation Park is located between industrial development to the east and residential structures along to the west. The buried water quality improvement structures Recreation Park would not be visible, and the surface would be restored to the same or better condition than currently exists following construction. As such, the improvements at Recreation Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- NHP – North Hollywood Park. The area of North Hollywood Park proposed for the water quality improvement facilities is a well-used landscaped open space with various mature and less mature trees. The water quality improvements at this site would likely be subsurface facilities that would not be visible. Further, the park surface would be restored to the same or better condition than currently exists following construction. As such, the improvements at North Hollywood Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- GL01 – Fremont Park. Fremont Park is landscaped and includes various active and passive recreational uses. There are no designated scenic highways in the City of Glendale. The Open Space and Conservation Element of the General Plan identify several “urban hikeways” in an effort to provide opportunities for citizens and visitors to discover Glendale’s unique urban form. Three self-guided routes cross through downtown Glendale, highlighting the Financial/Fremont Park District, the Brand Shopping District, and the Civic Center District. Although Fremont Park is located along one of the hikeways, the water quality improvements at this site would likely be subsurface facilities that would not be visible, once completed. Further, the park surface would be restored to the same or better condition than currently exists following construction. As such, the improvements at Fremont Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- SP01 – Arroyo Park. Arroyo Park is landscaped, and contains active and passive recreational uses. Trees are located throughout the park. This park is not located along a locally designated scenic highway; however, as stated in the City’s Open Space and Resource Conservation element of the General Plan, it is considered a valued resource by the City of South Pasadena. The subsurface water quality improvements at this site would not be visible. There is the potential for surface bio retention improvements to be added between the wash and Stoney Drive; however, these improvements are expected to be consistent with the open space setting of the park and would not introduce incompatible structures. Further, the park surfaces would be restored to the same or better condition than currently exists following construction. As such, the improvements at Arroyo Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- SM01 – Lacy Park. Lacy Park is located within a residential neighborhood in the City of San Marino. The center of Lacy Park serves as an open expanse which is highlighted as a resource in the City’s General Plan. The proposed improvements

would be located beneath the ground surface in the central area of lacy park; however, because the improvements would be subsurface and the park surfaces restored to existing conditions or better, the improvements are not expected to adversely affect the central area as a scenic resource.

- AL01 – Almansor Park. Almansor Park is located adjacent to a single-family residential area and the Alhambra Golf Course in the City of Alhambra. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists, and are not anticipated to result in significant impacts to scenic resources or the visual character of the project area.
- MP01 – Sierra Vista Park. Sierra Vista Park is located in a mixed residential area in the City of Monterey Park. Because the improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists, significant impacts to scenic resources or visual character of the project area are not anticipated.
- LAC01 – Franklin D. Roosevelt Park. Franklin D. Roosevelt Park is located in a mixed residential and urbanized area in the southern portion of the County of Los Angeles. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists, and are not anticipated to result in significant impacts to scenic resources or the visual character of the project area.

d. affect day or nighttime views in the area?

No Environmental Constraints. The Regional Projects would involve the placement of buried infiltration or storage structures, with surface features restored. Exterior lighting of such structures are not anticipated. Water quality improvements such as bio-retention of runoff and stormwater could be placed at ground level in one area of Arroyo Park in South Pasadena; however, lighting, if any, is not expected to be substantial. Some low intensity security lighting could be included; however, such lighting would not be intrusive and would not represent a substantial source of new lighting. As a consequence, adverse impacts related to new lighting sources are not anticipated.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES.	In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:				
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b.	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?				X
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)) or timberland (as defined in PRC Section 4526)?				X
d.	Result in the loss of forest land or conversion of forest land to non-forest use?				X

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e.	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				X

Discussion:

- a. **Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

No Environmental Constraints. The California Department of Conservation, as part of its Farmland Mapping and Monitoring Program (FMMP), develops maps and statistical data to be used for analyzing impacts on California’s agricultural resources. The FMMP categorizes agricultural land according to soil quality and irrigation status; the best quality agricultural land is identified as Prime Farmland. According to the FMMP, the proposed Regional Project sites are located in areas designated as Urban and Built-Up Land, which is described as land occupied by structures that has a variety of uses including industrial, commercial, institutional facilities, railroad or other transportation yards (California Department of Conservation, 2010 and 2011b). There is no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance in the vicinity of the Regional Project sites. Therefore, there would be no impact to designated farmland.

- b. **Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?**

No Environmental Constraints. The Regional Project sites are zoned for open space or developed as existing parks, and there are no agricultural zoning designations or agricultural uses within the Project limits or adjacent areas. The Williamson Act applies to parcels consisting of at least 20 acres of Prime Farmland or at least 40 acres of land not designated as Prime Farmland. None of the Regional Project sites are located within a Prime Farmland designation, or on areas consisting of more than 40 acres of farmland (California Department of Conservation, 2010 and 2011b). No Williamson Act contracts apply to the Regional Project sites. Therefore, the Regional Projects would not have an impact on agricultural zoning or a Williamson Act contract.

- c. **Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)) or timberland (as defined in PRC Section 4526)?**

No Environmental Constraints. The Regional Project sites are zoned for open space or used for parks, and therefore would not conflict with existing zoning for, or require rezoning

of forest land or timberland. Therefore, the Regional Projects would have no impact on land zoned for forest land.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Environmental Constraints. The Regional Projects would occur at existing park sites, which are not designated as forest lands. The Regional Projects would not result in the loss of forest land or conversion of forest land to non-forest use.

e. Would the project involve other changes in the existing environment that, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Environmental Constraints. As discussed above, no farmland or forest land is located on the Regional Project sites. Therefore, the Regional Projects would not involve the disruption or damage of the existing environment that would result in the loss of farmland to non-agricultural use or conversion of forest land to non-forest use.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	AIR QUALITY. When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a.	Conflict with or obstruct implementation of the applicable air quality plan?			X	
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X			
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	X			
d.	Expose sensitive receptors to substantial pollutant concentrations?	X			
e.	Create objectionable odors affecting a substantial number of people?			X	

Discussion:

a. Would the project conflict with or obstruct implementation of the applicable air quality plans?

No Environmental Constraints. The Regional Project sites are located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for administering the Air Quality Management Plan (AQMP) for the Basin, which is a comprehensive air pollution control program for attaining state and federal ambient air quality standards. The Cities in which the Regional Project sites would occur have each adopted an Air Quality Element as part of their General Plan. The Air Quality Elements contains policies and goals for attaining state and federal air quality standards, while continuing economic growth, and includes implementation strategies for local programs contained in the AQMP. A significant impact could occur if the proposed project is inconsistent with the AQMP or the applicable General Plan.

The Regional Projects would place water quality improvements below each of the sites or at their surface, and would not require permanent changes in uses of the parks (or median). Rather, the Regional projects are deemed to be consistent with the planned and existing uses at each site and with the applicable general plan. Therefore, the Regional Projects are not expected to conflict with or obstruct implementation of the applicable air quality plan and no impact is anticipated.

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Some Environmental Constraints. Construction of the Regional Projects would require excavation of portions of each site for either the placement of subsurface storage and infiltration structures, or surface improvements. In addition, construction would be required to make connections with existing storm drains, and could require construction of accessory facilities such as subsurface pump stations or wet wells. The South Coast Air Quality Management District (SCAQMD) has established thresholds of significance for criteria pollutants generated during construction and operation, and a significant impact would occur if the Regional Projects result in construction or operational emissions that exceed the thresholds. Construction is likely to require heavy equipment such as loaders, and excavators, and substantial amounts of soil would require export from the sites. As a consequence, there is a possibility for construction emissions to exceed the SCAQMD significance thresholds, even with mitigation, depending on the construction phasing and schedule. Although such exceedances would not represent a substantial environmental constraint to the project, they would likely have the effect of increasing the length of time required for individual project approvals by requiring Mitigated Negative Declarations or Environmental Impact Reports for CEQA compliance. There is also the potential for the applicable decision-making body to determine that the benefits of an individual Regional Project do not override any associated significant impacts (including impacts to air quality), and therefore do not approve the project. However, this potential is considered to be minimal given the need for the Regional Projects in order to comply with the MS4 permit requirements.

Operation of the proposed Project would occur either passively, or if pumping is required, would not likely utilize a substantial amount of energy or require more than nominal operational activities, and therefore, are not likely to result in emission in excess of the SCAQMD significance thresholds for operation. Therefore, operation of the Regional Projects would not likely pose environmental constraints.

c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Some Environmental Constraints. Construction of the Regional projects could result in emissions that exceed SCAQMD significance thresholds, and pose constraints related to individual Regional Project approval, as discussed above. Construction of the Regional Projects, in conjunction with construction of other water quality and related improvements, could result in cumulative air quality impacts. Cumulative impacts would be addressed as part of the County's Program EIR or in site specific environmental compliance documentation (under the California Quality Act) and would pose the same environmental constraint as described above under Checklist Item III.b.

d. Would the project expose sensitive receptors to substantial pollutant concentrations?

Some Environmental Constraints. As discussed above, construction of the Regional projects could result in emissions that exceeds SCAQMD significance thresholds. Many of the Regional Projects are located in close proximity to residences, which are considered to be sensitive receptors. The SCAQMD has established localized significance thresholds (LST) to address the impacts that pollutant concentrations could have on nearby receptors. There is a potential for construction to result in emissions in excess of the applicable LSTs, which would have the effect of increasing the length of time required for individual project approvals for CEQA compliance.

e. Would the project create objectionable odors affecting a substantial number of people?

No Environmental Constraints. Construction of the Regional Projects would result in some odors associated with diesel emissions from construction equipment. Diesel odors are common in urbanized environments, and during project construction, would be temporary and localized, and not expected to result in substantial odor impacts.

Air emissions, including odors, during operation are anticipated to be absent or minimal, as surface water would not be stagnant, and storage and infiltration units would be located underground. Therefore, operation of the Regional Projects are not expected to result in substantial odors.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.	Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?				X

Discussion:

- a. **Would the project have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

No Environmental Constraints. No candidate, sensitive, or special-status species are known to occur on the Regional Project sites. Sites SF01 is located within the USGS San Fernando quadrangle; NHP within the Van Nuys quadrangle; GL01 within the Burbank quadrangle; SP01 within the Los Angeles quadrangle; SM01, AL01, and MP01 within the El Monte quadrangle; and LAC01 within the South Gate quadrangle. Federal and state listed threatened and endangered species have been found in each of the quadrangles in the past (CNDDDB, 2015); however it is very unlikely that such habitat existing at any of the Regional Project sites, as those sites are all developed and actively used urban recreational areas. In addition, there are no Significant Ecological Areas (SEAs) in the vicinity of the Regional Project sites (LA County, 2014).

- b. **Would the project have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

No Environmental Constraints. There is no riparian habitat or wetlands located at any of the Regional Project sites or the immediate vicinity, as all of the sites are developed are recreational areas. Open drainage channels that are concrete lined are located adjacent to NHP (Tujunga Wash), GL01 (Verdugo Wash), and SP01 (Arroyo Seco); however, these drainages are devoid of riparian habitat and are not expected to be physically modified. Each Regional Project site is designated in its respective general plan as recreation, open space, or other public use. In addition, no SEAs are located in the vicinity of the Regional Project sites.

- c. **Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?**

No Environmental Constraints. There is no riparian habitat or wetlands located at any of the Regional Project sites or the immediate vicinity, as all of the sites are developed are recreational areas (see discussion above for Checklist Item IV.b.), and adjacent washes are lined with concrete.

- d. **Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?**

Some Environmental Constraints. There are no known terrestrial migration corridors within the vicinities of the Regional Project sites. The sites are located in urban areas, and are not connected with other open space areas via undeveloped or natural corridors. Although wildlife may visit the Regional Project sites, introduction of subsurface facilities at the Regional Project sites would not otherwise impede migration. None of the Regional Project sites have water courses that can be used by migratory fish. Therefore, the Regional Projects would not interfere with wildlife migration.

The Regional Project sites include landscaped open space areas, which include trees that could be used as nesting sites. Impacts to migratory birds and active nests are prohibited under the Federal Migratory Bird Treaty Act (MBTA), 50 C.F.R. Part 10, and Sections 3500 through 3705 of the California Fish and Game Code protect most migratory bird species and active nests from harm or destruction. Nearly all native North American bird species are on the MBTA list. The nesting season varies according to species, but is generally February 15th through August 15th for most birds and January 31st through September 1st for raptors. If tree and vegetation removal would occur during nesting months at any Regional Project site, a confirmation bird survey at each of the sites should be performed to prevent disturbance of active nests. Such surveys are standard mitigation applied during site specific environmental documentation. The requirements for bird surveys are not expected to result in substantial environmental constraints, but could result in additional time requirements for CEQA compliance.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Some Environmental Constraints. The Regional Projects would be located in the City of San Fernando (SF01), City of Los Angeles (NHP), City of Glendale (GL01), City of South Pasadena (SP01), City of San Marino (SM01), City of Alhambra (AL01), City of Monterey Park (MP01), and the County of Los Angeles LAC01).

The City of San Fernando does not currently have any locally-designated tree species, and existing vegetation is limited to introduced species used for landscaping (i.e. lawn area, bushes, and trees) (City of San Fernando, 2008).

The City of San Marino has established an Oak Tree Preservation Program that assists property owners on the proper care of oak trees. San Marino has established tree removal regulations for private property, which would not apply to Lacy Park. The City however does prohibit tree removal in Lacy Park unless authorized by the City Manager.

The City of Alhambra has established tree removal requirements and allows trees to be removed at city-owned facilities only after a review by the department head having jurisdiction. Any removed trees must be replaced as soon as practicable.

The City of Monterey Park allows the removal of trees from public property provided the owner of adjacent private property receives approval from the recreation and parks director. It is assumed that the director would also have to approve any tree removals from Sierra Vista Park or public areas, if required for the water quality improvements.

The County of Los Angeles protects oak trees and requires a permit prior to any oak tree removals.

Other municipalities have established various requirements for tree protection.

The City of Los Angeles protects the following trees within its jurisdiction:

- Oak tree including valley oak
- California Live Oak
- Southern California Black Walnut
- Western Sycamore

- Any other oak genus indigenous to California but excluding the scrub oak,
- California Bay

The City of Glendale protects the following trees, regardless of their location (public or private property):

- Coast Live Oak
- Mesa Oak
- Valley Oak
- Scrub Oak
- California Sycamore
- California Bay

The City of South Pasadena has established regulations governing tree removals within its jurisdiction. A permit is required for trimming or removing the following tree types:

- Oak trees of all varieties
- Coast Redwood
- Dawn Redwood
- Sycamore
- Blue Elderberry
- Heritage trees
- Giant Redwood
- California Walnut
- Christmas Berry
- Mexican Elderberry

There is a potential for the Regional Projects to result in some tree removal, depending on the specific locations and parameters of the water quality improvements, which would require permits or other approvals from the respective jurisdiction. The jurisdictions could apply conditions of approval, including tree replacements, or other measure that mitigate the removals. There tree removals would likely have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

f. Would the project conflict with the provisions of an adopted habitat conservation plan, natural communities conservation plan, or any other approved local, regional, or state habitat conservation plan?

No Environmental Constraint. The Regional Project sites are located within urbanized areas and are developed as parks and recreational facilities. The sites are not located within an adopted Natural Communities Conservation Plan (NCCP) or Habitat Conservation Plan (HCP). In addition, the sites are not located in or near any SEA.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES.	Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?			X	
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
d.	Disturb any human remains, including those interred outside of formal cemeteries?			X	

Discussion:

a. Would the project cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines §15064.5?

No Environmental Constraints. The Regional Projects would be located at community parks, or on a center median. None of the locations where water quality improvements would occur at the Regional Project sites are developed with structures over the age of 50-years that would be directly affected, and therefore, none of the Regional Projects would result in demolition or relocation of any historic structure. However, there is one historic resource north of GL01, Fremont Park, and one historic structure located at the east end of Lacy Park (SM01) in San Marino.

SM01 – Lacy Park. Lacy Park was originally Wilson Lake in 1875, and the land was purchased by the city in 1925 and dedicated as a park. Many of the tree species, planted nearly 100 years ago, are the result of the designer, Mr. William Hertrich and its first Park Superintendent, Mr. Armin Thurnher. The City considers the Thurnher house, located at the east end of the Park, to be a historic resource. In addition, the San Marino War Memorial is located at the east end of the Park. The water quality improvements would be subsurface and confined to center area of the Park and are not expected to not result in physical changes to the Thurnher house or the War memorial.

GL01 – Fremont Park. Fremont Park is bounded by Kenilworth Avenue on its east boundary. Approximately 200 feet to the north of the northern boundary of Fremont Park, the Kenilworth Avenue Bridge crosses over the Verdugo Wash. This bridge is listed as a historic resource in the City of Glendale’s Register of Historic Resources. The water quality improvements would be confined to Fremont Park and would not result in physical changes to the bridge, or its context.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines §15064.5?

Some Environmental Constraints. The Regional Project site would be constructed within the boundaries of community parks and recreation sites. The surfaces of these sites are developed for active recreational uses (fields and courts) and passive recreational uses (picnic areas, etc.), and are not intensively developed. Because the development history of these sites is unknown and the onsite development is low intensity, there could be undisturbed soils below the sites which contain archaeological resources. Based on this, site-specific cultural resource investigations, including a cultural resources records search and field survey by a qualified archaeologist) should be conducted, either prior to or as part of the site-specific environmental documentation for each Regional Project. Mitigation that may be applied in the site-specific environmental document may include monitoring of excavation work by a qualified archaeologist with the authority to halt construction, and the subsequent evaluation and curation of any discovered resources. This potential constraint could have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Some Environmental Constraints. Similar to the discussion under archaeological resources, the development history of the Regional Project sites is unknown and the onsite development is low intensity. There could be undisturbed subsurface geological units suitable for containing paleontological resources. A site-specific paleontological records search should be conducted by the County's Natural History Museum to determine whether paleontological resources can be present at the depths that would occur at each site, either prior to or as part of the site-specific environmental documentation for each Regional Project. Mitigation that may be applied in the site-specific environmental document may include monitoring of excavation work by a qualified paleontologist with the authority to halt construction, and the subsequent evaluation and curation of any discovered resources. This potential constraint could have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

d. Disturb any human remains, including those interred outside of formal cemeteries?

No Environmental Constraint. No cemeteries or burial sites are known to have occurred at the Regional Project site; however, it is still possible that human remains exist in the subsurface. California Health and Safety Code Section 7050.5 requires that in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbances must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. Sections 5097.94 and 5097.98 of the Public Resources Code specify a protocol to be followed when the Native American Heritage Commission receives notification of a discovery of Native American human remains from a county coroner. Compliance with existing laws regarding the handling of human remains discovered outside of formal cemeteries are expected to address any issues associated with the unanticipated discovery of human remains during project construction, and no environmental constraints are anticipated.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS.	Would the project:				
a.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
	ii.) Strong seismic ground shaking?			X	
	iii.) Seismic-related ground failure, including liquefaction?			X	
	iv.) Landslides?				X
b.	Result in substantial soil erosion or the loss of topsoil?				X
c.	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			X	
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?				X

Discussion:

a. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

(i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Environmental Constraints. Southern California is one of the most seismically active areas in the U.S. Numerous active faults and fault zones are located within the general region, including the Whittier, Hollywood-Raymond, and Newport Inglewood faults. The Regional Projects would include subsurface storage basins and structures, and potentially some surface improvements. As a standard practice during the design process for any structure or facility, a geotechnical study is performed of each site that evaluates and identifies faults and fault zones that could affect the project, and that would make recommendations regarding project design based on the geotechnical considerations. Because geotechnical considerations are addressed during the design phase, the Regional Projects would not result in exposure of people or structures to substantial geotechnical hazards.

(ii.) Strong seismic ground shaking?

No Environmental Constraints. As discussed above, the Los Angeles Basin is an area of known seismic activity. The risk of seismic hazards such as ground shaking cannot be avoided. Similar to the earthquake fault hazards described above, geotechnical evaluations would be performed as a standard practice as part of the design phase, and the recommendations would be incorporated into project design to keep the Regional Projects from resulting in exposure of people or structures to substantial geotechnical hazards, including to ground shaking.

(iii.) Seismic-related ground failure, including liquefaction?

No Environmental Constraints. Similar to the earthquake hazards described above, a geotechnical study for each Regional Project would be prepared as a standard practice to address geotechnical considerations, including liquefaction, during the Project design phase, which would keep the Regional projects from resulting in exposure of people or structures to geotechnical hazards related to liquefaction.

(iv.) Landslides?

No Environmental Constraints. The Regional Projects would be constructed and operated on various community park sites and a center median. The project sites are relatively flat with no substantial natural or graded slopes. The Regional Projects are not located near any landslide hazard areas; therefore, there would be no environmental constraints.

b. Would the project result in substantial soil erosion or the loss of topsoil?

No Environmental Constraints. The majority of Regional Projects would involve storage structures beneath community recreation areas, and would not result in erosion. The

Regional Projects at Arroyo Park (SM01) could place bio-retention features at the ground surface; however, these improvements would be engineered and constructed in a manner that infiltrates captured stormwater, rather than conveys it offsite. These design features would limit the potential for erosion, and would not represent an environmental constraint.

- c. **Is the project located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?**

No Environmental Constraints. Although no unstable geologic conditions are known to occur at the Regional Project sites, a geotechnical study for each Regional Project would be prepared as a standard practice to address geotechnical considerations during the Project design phase. Recommendations would be incorporated into the project design, which would keep the Regional Projects from resulting in substantive geotechnical hazards or risk exposure.

- d. **Is the project located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

No Environmental Constraints Expansive soils generally result from specific clay minerals that expand when saturated and shrink when dry. Expansive clay minerals are common in the geologic deposits throughout the Southern California region, and there is the potential that expansive soils could be present at the Regional Project sites. As discussed above, a geotechnical study for each Regional Project would be prepared to address geotechnical considerations (including expansive soils) as a standard practice during the Project design phase, and recommendations would be incorporated into Project designs to keep the Regional Projects from resulting in substantial risks to life or property.

- e. **Would the project have soils that are incapable of supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

No Environmental Constraints. The Regional Projects are water quality improvement projects that do not generate wastewater. Therefore, the Regional Projects would not result in environmental constraints related to alternative wastewater disposal methods.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS.	Would the project:				
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b.	Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?			X	

Discussion;

- a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

No Environmental Constraints. The Regional Projects would generate criteria pollutant emissions during construction, including CO2 and equivalents. Construction emissions are amortized over 30-years, and are not likely to result in substantive annual greenhouse gas emissions. In addition, operation of the Regional Projects would consist of the pumping of stormwater to the treatment devices, and are not expected to generate substantial levels of greenhouse gasses.

- b. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?**

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not generate substantial greenhouse gas emissions. Because of this, the Regional Projects are not expected to not conflict with any applicable plans, policies, or regulations adopted by the state and local jurisdictions for the purposes of reducing GHG emissions.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school?				X
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?				X
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?				X
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Discussion:

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Environmental Constraint. Construction activities associated with the Regional Projects are not likely to involve the use of substantial quantities of hazardous materials and the most likely source of hazardous materials would be from vehicles and construction equipment at the site. However, there could be small amounts of hazardous materials, including solvents and lubricants used to maintain construction equipment. These materials would be confined and located at the applicable staging areas. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials), secondary confinement requirements, and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity and a Project-specific SWPPP, standard BMPs would be used during construction activities to minimize runoff of contaminants and clean-up any spills. Applicable BMPs include, but are not limited to controls for: vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; and waste management. Therefore, implementation of construction standards would minimize the potential for an accidental release of petroleum products, hazardous materials, and/or explosion during construction activities at the Project site. As a consequence, construction would not create an environmental constraint related to potential hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Operation of the Regional Projects would be automated (with minimal electrical consumption for pumping) and would not require hazardous materials. The infiltration units would filter incoming stormwater to remove oil, grease, metals, and trash; however, the filters would be routinely replaced, and disposed of in accordance with applicable laws and regulations. Based on the above, the Regional projects are not expected to create a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b. Would the project create a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

Some Environmental Constraints. The Regional Projects would be located on or beneath community parks within in residential or mixed commercial residential areas. Various hazardous materials and contamination databases were reviewed (Geotracker and Envirostor), and several sites were identified near two Regional Project sites (SF01 and AL01) that have indications of past contamination.

None of the other Regional Project sites were documented to have been subject to past contamination, leaks, or remediation efforts. Based on this, Regional Projects NHP, GL01, SP01, SM01, MP01, and LAC01 are not expected to create a hazard to the public or environment during construction.

- SF01 – Recreation Park. The water quality improvement are within Recreation Park is located about 350 feet west of a site (located just east of Parkside Drive) potentially contaminated with lead. The Envirostor database identifies this site as “San Fernando Playground” and as in need of evaluation. Because this site is in need of evaluation, the extent of contamination present is unknown, and due to its proximity to SF01, further due diligence may be required during the Project planning and design phase. This potential constraint could also have the effect of

increasing the length of time required for individual project approvals and CEQA compliance.

AL01 – Almansor Park. Geotracker identifies a leaking underground fuel tank located at 900 New Avenue that is owned by the City of Alhambra. Although Geotracker displayed the site location at the intersection of New Avenue and East Adams Avenue, the actual location of the tank may be at the City’s Fire Training Facility approximately 900 feet east of the area of Almansor Park where the water quality improvements would occur. Due to the distance of the leaking underground fuel tank from this Regional Project site and given that the tank location is at a lower elevation than Almansor Park, it is unlikely that leaked fuel has traveled to the Project site. In addition, Geotracker has identified several reported leaks from auto repair facilities (in 2000). Geotracker shows these sites located at the north end of Almansor Street (extended) and the railroad right-of-way; however, Geotracker appears to be displaying these locations incorrectly, and the actual locations of these facilities are north of the railroad right-of-way and west of the project site. Because of this, these facilities are not likely to have contaminated the project site or potential storm drain tie-in locations near the railroad right-of-way.

Based on the above, there appears to be a low potential for contaminated soils or groundwater to be present beneath the Project site, and no additional constraints related to hazardous materials are anticipated.

c. Would the project emit hazardous emissions or handle hazardous materials or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school?

No Environmental Constraint. None of the Regional Projects would utilize processes that could emit hazardous emissions or otherwise release hazardous substances or wastes. Infiltration devices would contain filtration systems designed to remove oils, metals, and other pollutants from storm water; however, the filters would be removed and disposed of in accordance with manufacturers’ recommendations and would not be released to the environment. Because of this, no environmental constraint associated with the Regional Projects are expected.

d. Is the project located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Environmental Constraint. The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the Legislator who authored the legislation that enacted it). Because this statute was enacted over twenty years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information to be included in the Cortese List does not exist. While Government Code Section 65962.5 makes reference to the preparation of a "list," many changes have occurred related to web-based information access since 1992 and this information is now largely available on the Internet sites of the responsible organizations (CalEPA, 2015). The California Environmental Protection Agency (CalEPA) has identified the data resources that provide information regarding the facilities or sites identified as meeting the "Cortese List" requirements (Cal EPA, 2014b), which are as follows:

- List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database,
- List of Leaking Underground Storage Tank Sites by County and Fiscal Year from State Water Board GeoTracker database,
- List of solid waste disposal sites identified by the State Water Board with waste constituents above hazardous waste levels outside the waste management unit,
- List of "active" Cease and Desist Orders (CDO) and Cleanup and Abatement Order (CAO) from the State Water Board¹, and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

The Hazardous Waste and Substance Site List maintained by the DTSC Information was downloaded from the DTSC EnviroStor website (DTSC, 2015), and reviewed. The Regional Project sites are not listed in the Hazardous Waste and Substance Site.

The Leaking Underground Storage Tank (LUST) Cleanup Sites contained in the State Water Resources Control Board (SWRCB) GeoTracker database was queried (February, 2015), and the Regional Project sites are not contained in the LUST Cleanup Site list.

The list of solid waste disposal sites identified by the SWRCB with waste constituents above hazardous waste levels outside the waste management unit (CalEPA, 2015c) was reviewed, and the Project site was not contained in the list.

The list of "active" CDOs and CAOs from the SWRCB (SWRCB, 2015b) was downloaded in February, 2015 and reviewed (sorted and searched). The Regional Project sites are not contained in the list of "active" CDO and CAO.

The DTSC list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code (DTSC, 2015b) was reviewed and the Regional Project sites are not included in this list.

Based on the reviews of the specific lists that currently comprise the Cortese List, none of the Regional Project sites are contained on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Environmental Constraints. The Regional Project site that is closest to a public airport is SF01, which is located approximately 1.4 miles northwest of the Whiteman Airport runway. None of the other Regional Project are located within 2 miles of a public use airport. Although SF01 is located within 2 miles of an airport, neither it nor the other Regional Project sites are located within an airport land use plan; therefore, there would be no environmental constraints.

¹ This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the State Water Boards' database does not distinguish between these types of orders.

- f. **For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

No Environmental Constraints. There are numerous private airports throughout Los Angeles County, which include heliports. The proximity of the heliports to any of the Regional Projects would not result in a safety hazard for people working in the Project area, as the Regional Project would have no effect on air transport activities or their flight paths. The Regional Projects would therefore not result in any safety hazards for people in the vicinity of the sites.

- g. **Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

No Environmental Constraint. The Regional Project sites are currently used for recreational activities (active and passive). Although the Regional Projects would place water quality improvement infrastructure within the park and recreational sites, additional construction would be required at each site to connect with the existing storm drain system, which are located within the streets surrounding each site. The storm drain connections would involve excavations into the streets to make the tie-ins with the storm drains, and would require the temporary closure of one or more lanes while street work is occurring. However, street work would occur under permit from the applicable City or County, and appropriate notifications would be made to local emergency providers so that alternative routes can be planned for in the event of an emergency. As a standard practice, street work would be subject to the requirements of a Traffic Control Plan approved by the local transportation agency, or would comply with applicable work area traffic control requirements. In addition, contractors would have steel plating available in the event excavations need to be quickly spanned. Aside from the temporary street work, no other disruptions to the local transportation system would occur, and substantial interruptions to emergency access are not anticipated.

- h. **Would the project expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

No Environmental Constraint. The Regional Project sites are developed as community parks and recreations areas, or landscaped center median, and no wildlands are present at the Regional Project sites. The areas immediately surrounding the Regional Project sites are urbanized, and no increased wildland fire hazard is expected as a result of the water quality improvements at each site.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	HYDROLOGY AND WATER QUALITY. Would the project:				
a.	Violate any water quality standards or waste discharge requirements?		X		
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?				X
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?				X
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?			X	
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f.	Otherwise substantially degrade water quality?				X
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?				X
h.	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
j.	Contribute to inundation by seiche, tsunami, or mudflow?			X	

Discussion:

- a. Would the project violate any water quality standards or waste discharge requirements?**

Some Environmental Constraints. The Regional Projects would install and operate water quality improvement facilities at eight parks Upper Los Angeles River watershed, which would divert, treat, and infiltrate stormwater in order to meet the requirements of the MS4 permits. The Regional Projects would generally result in beneficial impacts to water quality.

However, for SF01, there is a remote potential for subsurface contamination to be present at portions of SF01 if contamination from the sites west of Parkside Drive (see Checklist Item VIII.b. above) has migrated westward. If such subsurface contamination is present and infiltration would occur in areas where the contamination is present, then there is a potential for adverse water quality impacts to groundwater. This potential environmental constraint is considered remote but could result in increased time for the planning and design of these three Regional Projects, and could also have the effect of increasing the length of time required for individual project approvals, design and CEQA compliance.

- b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?**

No Environmental Constraints. The Regional Projects would not be located in areas used for groundwater recharge and therefore would not interfere with groundwater recharge. The Regional Projects would divert runoff and stormwater from the storm drain system in the Upper Los Angeles River watershed, and treat and infiltrate some of the diverted stormwater. As a consequence, the Regional Projects are considered to provide beneficial effects to groundwater by increasing infiltration above baseline conditions.

- c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?**

No Environmental Constraints. The Regional Projects would be located within community parks or a center median, and would not result in physical changes to a stream

or river. All Regional Project sites would be restored following construction. Infiltration would occur subsurface and would not result in erosion. Bio-retention features would be designed to properly manage the diverted runoff and storm water, and would not result in erosion.

- d. **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?**

No Environmental Constraints. The Regional Projects would divert and store or divert and treat/infiltrate a portion of the stormwater generated within the Upper Los Angeles River watershed, and would have the effect of decreasing the amount and slowing runoff generated in the watershed, which are considered to be beneficial effects. In addition, the stormwater diversions would decrease the potential for flooding downstream.

- e. **Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

No Environmental Constraints. The Regional Projects would divert and store or treat/infiltrate a portion of the stormwater generated within the Upper Los Angeles River watershed, and would have the effect of improving runoff quality and decreasing the potential for flooding downstream.

- f. **Would the project otherwise substantially degrade water quality?**

No Environmental Constraints. No constraints regarding water quality are anticipated beyond those discussed under Checklist Item IX.a. above.

- g. **Would the project place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?**

No Environmental Constraints. No housing is proposed under any of the Regional Projects.

- h. **Would the project place within a 100-year floodplain structures that would impede or redirect flood flows?**

No Environmental Constraints. The water quality improvements under the Regional Projects would be either buried infiltration or storage units, or surface bio-retention features, neither of which would impede site runoff or flood flows.

- i. **Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?**

No Environmental Constraints. Based on a review of the safety elements of the general plans of the Cities of Glendale, Los Angeles, Monterey Park, Pasadena, and South Pasadena, Regional Project sites SF01, NHP, SP01, and LAC01 appear to be within potential inundation or flood areas, including areas subject to flooding in the event of a dam failure. However, the Regional Projects would not house people or otherwise increase the risk of exposure to risks related to potential flooding. In addition, the Regional

Projects are stormwater management projects that are expected to result in beneficial effects to downstream conveyance capacity in the event of a flood.

j. Would the project contribute to inundation by seiche, tsunami, or mudflow?

No Environmental Constraints. The Regional Project sites are not located within a tsunami hazard zone, or near inland water bodies that could be subject to a seiche. In addition, the sites are relatively flat and are not subject to mudflows.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	LAND USE AND PLANNING. Would the project:				
a.	Physically divide an established community?				X
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Discussion:

a. Would the project physically divide an established community?

No Environmental Constraints. The Regional Projects would be located within existing community parks, and would not physically divide the surrounding communities.

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

No Environmental Constraints. The Regional Projects would be placed within community parks that are designated as open space or public facilities, and are considered to be consistent with planned and existing uses. It should be noted that for the water quality improvements under SP01, part of the site located west of Arroyo Seco appears to fall within the City of Los Angeles, and another portion within the City of South Pasadena. Regardless, the improvements at SP01 are not expected to conflict with either jurisdiction's applicable land use plan.

c. Would the project conflict with any applicable habitat conservation plan or natural communities conservation plan?

No Environmental Constraints. The Regional Project sites do not fall within or near an area covered by a habitat conservation plan or natural communities conservation plan. In addition, there are no Significant Ecological Areas in the vicinity of the Regional Projects.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES.	Would the project:				
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X

Discussion:

- a. **Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

No Environmental Constraints. The Regional Projects would be located within existing community parks or a center median, and none of the sites are designated as containing important mineral resources.

- b. **Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

No Environmental Constraints. The Regional Project sites are designated in the applicable general plan as open space or parks. Therefore, the Regional Projects would not result in the loss of availability of mineral resources.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE.	Would the project:				
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?		X		
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?			X	
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?				X
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?				X

Discussion:

- a. Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?**

No Environmental Constraints. The Regional Projects would be located beneath the surface as the eight respective sites and the surface restored such that existing activities could resume following completion of construction. Operation of the water quality improvements would be automated and pump systems required to convey stormwater to the buried facilities would either be subsurface or placed in small housing units. Noise from operations is not expected to be noticeable, and would not result in elevations in ambient noise levels at the Regional Project sites or vicinities. The water quality improvements would require periodic maintenance; however, maintenance activities would not result in substantial elevation in ambient noise.

Construction of the water quality improvement facilities would result in noise associated with construction equipment and haul trip activities. Construction noise is typically governed by ordinance in each jurisdiction, and the following summarizes the construction noise regulations (the City of San Fernando construction noise regulations are discussed below).

- City of Los Angeles Noise Regulations. The City of Los Angeles (municipal Code, Chapter IV, Article 1, Section 41.40) allows construction Monday through Friday between 7:00 a.m. to 9:00 p.m., Saturdays and National Holidays between 8:00 a.m. to 6:00 p.m., and prohibits construction on Sundays (except for residents). The noise regulations also prohibit night construction if related noise can disturb persons occupying sleeping quarters in any dwelling, hotel, or residence. Major public works projects conducted by the City are exempt from this weekend and holiday restriction.
- City of Glendale Construction Noise Regulations. The City of Glendale (Municipal Code section 8.36.080) prohibits construction for projects within 500 feet of a residential zone between the hours of 7:00 p.m. one day and 7:00 a.m. the next day; 7:00 p.m. Saturday to 7:00 a.m. Monday; and from 7:00 p.m. preceding a holiday to 7:00 a.m. following such holiday.
- City of South Pasadena Noise Regulations. The City of South Pasadena (Municipal Code 19A.13) prohibits construction within or within 500 feet of a residential before 8:00 a.m. and after 7:00 p.m. on Monday through Friday, on Saturday before 9:00 a.m. and after 7:00 p.m., and Sunday before 10 a.m. and after 6:00 p.m.
- City of San Marino Noise Regulations. The City of San Marino (Municipal Code Section 25.01.02) prohibits construction between the hours of 6:00 p.m. and 7:00 a.m. Monday through Friday, on Saturdays, before 9:00 a.m. and after 4:00 p.m., and on Sunday and National holidays. City of Alhambra. The City of Alhambra regulates noise sources in its jurisdiction (Municipal Code Chapter 18.02), but exempts construction on public property or by public entities or their authorized representatives from the noise regulations.
- City of Monterey Park. The City of Monterey Park regulate noise sources in its jurisdiction (Municipal Code 9.53.010 - 9.53.070), but exempts construction conducted between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and the hours of 9:00 a.m. and 6:00 p.m. on Saturdays, Sundays and holidays.
- County of Los Angeles. The County of Los Angeles regulates noise within its jurisdiction (Code section 12.08.440) and prohibits construction activities between the hours of 7:00 p.m. and 7:00 a.m. and on Sundays and national holidays. The Code also establishes specific noise level limits at residential receptors for different categories of construction (mobile equipment operated for short durations, and stationary equipment operated for longer durations); however, the construction noise levels of the proposed project are exempt from the noise limits of the County Noise Control Ordinance as specified in the County Noise Control Ordinance Part 5 Exemptions, H: 5, which includes all transportation, flood control, and utility company maintenance and construction operations at any time on public right of way, and those situations, which may occur on private real property deemed necessary to serve the best interest of the public and to protect the public's health and well-being (County, 2012).

Construction of the Regional Projects would occur within the hours allowed for in the applicable noise regulations, or would be exempt from the noise regulations. It should be noted that several schools (Martha Baldwin Elementary School and Emmaus Lutheran Preschool) are located close to Almansor Park, and a Head Start preschool is located at the central portion of Franklin D. Roosevelt Park, and some noise reducing measures may be prudent during construction despite compliance with noise regulations.

Some Environmental Constraints. The City of San Fernando has established construction noise controls that set limits on when construction could occur, and the noise levels at the property line. Section 34-28 (a)(10) (Specific noises prohibited) and Section 34-31(5) (Exclusions) of the San Fernando Municipal Code provide the following provisions for construction noise:

Noise sources associated with construction, repair, remodeling or grading of any real property are allowed up to 70 dB measured at the property line, provided such activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday.

Construction at Recreation Park would comply with the construction time restrictions (no construction between the hours of 6:00 p.m. to 7:00 a.m. Monday through Friday, or at any time on Saturdays and Sundays); however construction noise at the property line of the park could exceed the 70dBA restriction level established in the code. As such, construction of the water quality improvements at Recreation Park could conflict with the City’s noise regulations. This potential environmental constraint could result in increased time required for CEQA compliance for SF01.

b. Expose persons to or generate excessive groundborne vibration or groundborne noise?

No Environmental Constraints. Construction activities of the Regional Projects would generate some level of vibration. Construction equipment such as excavators, loaders, and haul trucks would generate vibrations that could result in groundborne noise or vibration that could affect nearby structures or residences. Transient vibration levels greater than 0.5 inches per second (in/sec) and continuous/frequent intermittent vibration levels greater than 0.3 in/sec have the potential to damage older residential structure. Additionally, transient vibration levels greater than 2.0 in/sec or continuous sources greater than 0.4 in/sec would be severely noticeable to a human (Caltrans, 2013b). All phases of the construction involve multiple trucks and other vibration producing equipment resulting in vibration levels approximately up to 0.02 in/sec at the closest residences. Excessive groundborne vibration and/or groundborne noise are not anticipated. Therefore, substantial vibrations are not expected to occur during construction of the Regional Projects.

Operation of the Regional Project could include changing of filters in runoff treatment units and general inspections; however, these types of maintenance activities do not produce substantive vibrations. Therefore, operation of the proposed Project would not result in impacts related to groundborne vibration or noise.

c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Environmental Constraints. Operation of the Regional Projects would include pump stations or wet wells that transfer stormwater from storm drains to the water quality improvement structures, as well as general maintenance activities. Pump stations would be underground or housed in small structures, and are not expected to produce audible

noise. Because of this, operation of the Regional Projects are not expected to result in permanent increase in ambient noise levels.

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Some Environmental Constraints. Construction of the Regional Projects would occur within the hours allowed for in the applicable local noise regulations or would be exempt from noise regulations, and although construction would result in temporary increases in noise levels compared to ambient conditions without construction, the noise levels are presumably not considered to be substantial due to consistency with noise regulations.

However, for construction projects in the City of Los Angeles that last more than 10 days within a three-month period, the City recommends using the threshold of significance of 5 dBA or more increase in noise levels over existing ambient community noise equivalent level (CNEL), which is a type of 24-hour average noise level (City of Los Angeles, 2006). Given the extent of construction, the anticipated construction durations, and the surrounding noise receptors, it is likely that construction of the Regional Projects in the City of Los Angeles (NHP) would result in temporary elevations of the CNEL in excess of the 5dBA threshold, which would have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Environmental Constraints. The Regional Project site that is closest to a public airport is SF01, which is located approximately 1.4 miles northwest of the Whiteman Airport runways. Although SF01 is located within 2 miles of an airport, the water quality improvements would be automated, and would not expose people to excessive noise related to proximity to an airport. None of the other Regional Project sites are located within an airport land use plan or within 2 miles of a public airport.

f. For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Environmental Constraints. There are numerous private airports throughout Los Angeles County, which include heliports. The proximity of the heliports to any of the Regional Projects would not result in exposure of people to excessive noise levels, as the Regional Project would have no effect on air transport activities or their flight paths, and would not cause people to move closer to a private airport.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII.	POPULATION AND HOUSING. Would the project:				
a.	Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?				X
b.	Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?				X
c.	Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?				X

Discussion:

- a. **Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and business) or indirectly (e.g., through extension of roads or other infrastructure)?**

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not result in substantive employment demand and do not have a housing component that could induce population growth.

- b. **Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

No Environmental Constraints. No housing is located on any of the Regional Project sites, and no housing displacements would occur.

- c. **Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

No Environmental Constraints. There is no housing within the Regional Project site boundaries that would be displaced. The Regional Projects would not result in the displacement of any persons, or the need for replacement housing.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV.	PUBLIC SERVICES. Would the project:				
a.	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
	i.) Fire protection?				X
	ii.) Police protection?				X
	iii.) Schools?				X
	iv.) Parks?				X
	v.) Other public facilities?				X

Discussion:

- a. **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

i.) Fire Protection

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new fire protection services. Although the Regional Projects would involve some construction within the street system to connect to storm drains, the construction is not expected to substantively increase fire protection response times because prior notifications to emergency service providers occur as a standard permit condition for in-street construction.

ii.) Police Protection

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new police protection services. Although the Regional Projects would involve some construction within the street system to connect to storm drains, the construction is not expected to substantively increase police protection response times

because prior notifications to emergency service providers occur as a standard permit condition for in-street construction.

iii) Schools

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new schools.

iv) Parks

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new parks. Environmental constraints related to impacts on existing community parks are discussed under Checklist Item XV.b. below.

v) Other Public Facilities

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new public facilities.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION.	Would the project:				
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?		X		

Discussion:

- a. **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

No Environmental Constraints. The Regional Projects would construct and operate water quality improvement facilities at specific community parks in the Cities of San Fernando, Los Angeles, Glendale, San Marino, Alhambra, and Monterey Park, and the County of Los Angeles. The water quality improvement facilities are considered to be infrastructure projects that do not increase the housing stock and do not result in the movement or relocation of people from one area to another. As a consequence, the Regional Projects would not result in increased demand for recreational facilities and would therefore not directly or indirectly result in physical deterioration of parks or other recreational facilities.

- b. **Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?**

Some Environmental Constraints. The Regional Projects would construct and operate water quality improvement facilities at specific community parks. Construction is estimated to take up to 18 months, and would result in the temporary disruption of park activities within the construction zone. The likely disruption to recreational uses at each Regional Project site are discussed below.

- **SF01 – Recreation Park.** The water quality improvement features at Recreation Park include buried storage basins and infiltration units within southern portion of the park. The improvements, depending on where they would be located, would require substantial excavation of the main park site, which could result in temporary closure of the softball field and other areas within the south end of the park. The closures would occur for the duration of construction (estimated to be 12-18 months) and the amount of time it would take to restore the fields, and other affect recreational features (estimated at 1-2 months). The temporary loss of

recreational areas of Recreation Park is likely to require close coordination between the City of San Fernando, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

- NHP – North Hollywood Park. The water quality improvements at North Hollywood Park would likely be subsurface infiltration and/or storage structures. Construction of these facilities would result in the temporary closure of some existing walking paths areas used for passive recreation. The temporary closure of a large portion of North Hollywood Park during construction is likely to require close coordination between the City of Los Angeles, local residents, and community stakeholders to develop suitable mitigation options for addressing impacts to passive recreational uses of the park. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- GL01 - Fremont Park. The water quality improvements proposed for the Fremont Park include a subsurface infiltration or storage facility within the southeastern portion of the park (beneath the active field). The improvements would require the temporary closure (up to approximately 18 months) of this portion of the park, including the active field and potentially relocation of other recreational facilities within the park. The temporary closure of a portion of Fremont Park during construction will likely to require close coordination between the City of Glendale, local residents, and community stakeholders to develop suitable mitigation options for addressing impacts to Fremont Park. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- SP01 – Arroyo Park. The water quality improvement facilities at Arroyo Park would include buried infiltration structures storage basins beneath the 3 baseball and softball fields in the northern part of the park, beneath the baseball field at the portion of the park west of the Arroyo Seco, and potential surface bio-retention improvements east of the Arroyo Seco to Stoney Drive. This latter area contains vegetation and does not appear to be used for active recreation. The improvements are likely to require substantial excavation within the park, which would result in temporary closure of multiple active areas (baseball and softball fields) and the periphery. Other park uses such as picnic areas and playgrounds may require relocation to elsewhere in the park. The closures would occur for the duration of construction (estimated to be up to 18 months) and the amount of time it would take to restore the fields and recreational areas. The temporary closure of the recreational uses within Arroyo Park is likely to require close coordination between the City of South Pasadena, City of Los Angeles (a small section of the park west of the Arroyo Seco is located within the City of Los Angeles), local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

- SM01 – Lacy Park.** The water quality improvement facilities at Lacy Park would include buried infiltration and/or storage basins in approximately the center of the park. The improvements would require substantial excavation, which could result in temporary closure of the ball field and potentially several picnic areas around the periphery of the central green space. The temporary closure would occur for the duration of construction (estimated to up to 18 months) plus the amount of time it would take to restore the central green space area (estimated at 1-2 months). The temporary closure of the central portion of Lacy Park is likely to require close coordination between the City of San Marino, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary closure. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- AL01 – Almansor Park.** The water quality improvement facilities proposed for Almansor Park include buried infiltration units and storage basins beneath the ball fields. The improvements would require substantial excavation, which would result in temporary closure of the ball fields for the duration of construction (estimated to be up to 18 months) plus the amount of time it would take to restore the fields, and other affect recreational features (estimated at 1-2 months). The temporary closure of the recreational uses within Almansor Park is likely to require close coordination between the City of Alhambra, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- MP01 – Sierra Vista Park.** The water quality improvement facilities proposed for Sierra Vista Park include buried infiltration units and/or storage basins at the southern end of the park, beneath the softball field. The improvements would require substantial excavation, which would result in temporary closure of the softball field and tennis courts. The closures would occur for the duration of construction (estimated to be up to 18 months) plus the amount of time it would take to restore the field, and other affect recreational features (estimated at approximately 1 month). The temporary closure of the recreational uses within Sierra Vista Park is likely to require close coordination between the City of Monterey Park, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- LAC01 – Franklin D. Roosevelt Park.** The water quality improvement facilities proposed for the Franklin D. Roosevelt Park would include buried infiltration units and/or storage basins beneath the northern, middle, and southern areas of the Park. The improvements are likely to require substantial excavation and result in temporary closure of these areas of the park, which include soccer fields, ball fields, basketball courts, and picnic areas. The closures would occur for the duration of construction (estimated to be up to 18 months) plus the amount of time it would take to restore the affected recreational areas (estimated at 1-2 months). The temporary closure of large portions of Franklin D. Roosevelt park will require close coordination between the County of Los Angeles, local residents, and

community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational areas. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC.	Would the project:				
a.	Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				X
c.	Result in a change in marine vessel traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d.	Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e.	Result in inadequate emergency access?				
f.	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

Discussion:

- a. **Would the project increase the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

No Environmental Constraints. The Regional Projects would involve water quality improvements at eight community parks within the Upper Los Angeles River watershed.

Although the Regional Projects would require some construction within the streets surrounding each site to make connections with storm drains, the construction would be temporary and subject to traffic control plans as required by the applicable city. Once the connections are made, the streets would be repaired and returned to service. Because the Regional projects would not make substantive changes to the circulation system or street capacities, they are not expected to pose environmental constraints in this area.

- b. Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

No Environmental Constraints. The Regional Projects are not located along a designated or interim CMP highway or arterial (Metro, 2010), and are not considered traffic generators. Therefore, the Regional Project would not conflict with the LA County Congestion Management Plan.

- c. Would the project result in a change in marine vessel traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

No Environmental Constraints. The Regional Projects are land based and are not generators of marine vessel traffic. Therefore, the Regional Project would not result in any environmental constraints related to marine vessel traffic.

- d. Would the project substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

No Environmental Constraints. The Regional Projects would involve water quality improvements at seven community parks. Although the Regional Projects would require some construction within the streets surrounding each site to make connections with storm drains, the construction would be temporary and subject to traffic control plans as required by the applicable city. Once the connections are made, the streets would be repaired and returned to service. Because no substantive changes would be made to the street system, the Regional Projects would not increase roadway hazards.

- e. Would the project result in inadequate emergency access?**

No Environmental Constraints. As discussed under Checklist Item VIII.g. above, the Regional Projects would not result in substantial interruptions to emergency access.

- f. Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?**

No Environmental Constraints. The Regional Projects proposed for the community park sites would not result in permanent changes to the street systems that could affect alternative transportation routes, such as bike lanes or bike paths.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS.	Would the project:				
a.	Exceed wastewater treatment requirements of the applicable regional water quality control board?				X
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?				X
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g.	Comply with federal, state, and local statutes and regulations related to solid waste?				X

Discussion:

- a. Would the project exceed wastewater treatment requirements of the applicable regional water quality control board?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that are not generators of wastewater. Therefore, the Regional Projects would not affect wastewater treatment requirements.

- b. **Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

No Environmental Constraints. The Regional Projects are water quality improvements projects would not consume or require potable water, and would not generate wastewater. Therefore, the Regional Projects would not increase require new potable water supplies or additional wastewater treatment capacity.

- c. **Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that would divert a portion of the runoff generated in the Upper Los Angeles River watershed, and would store, treat, and infiltrate the diverted runoff. The Regional Projects would have beneficial effects on downstream storm drain capacity.

- d. **Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that would not consume water. Therefore, the Regional Projects would not require new water supplies.

- e. **Has the wastewater treatment provider that serves or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that would not generate wastewater and would not have an effect on existing wastewater treatment capacity.

- f. **Is the project served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

No Environmental Constraints. The Regional Projects are water quality improvements projects would not generate substantial amounts of solid wastes. The Regional Projects would include a pre-treatment or filtration device that removes sediment, oils, particulates, and other contaminants from stormwater. The filters would periodically be removed and disposed of in accordance with applicable laws and regulations. Although some solid wastes would be generated by the Regional Projects, the amounts would be minimal and would not adversely affect landfill capacity. During construction, excavated soil would be hauled away and reused elsewhere in the area, or used as landfill cover, which does not contribute to reductions in landfill capacity.

- g. **Would the project comply with federal, state, and local statutes and regulations related to solid waste?**

No Environmental Constraints. As discussed above, the Regional Projects would generate minimal solid wastes, but would comply with applicable solid waste regulations.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII.	MANDATORY FINDINGS OF SIGNIFICANCE				
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?		X		
b.	Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)		X		
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Discussion:

- a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?**

Construction of the Regional Projects could affect nesting birds if tree removals are required during the nesting season. Construction of water quality improvements at the Regional Project sites has the potential to encounter archaeological and paleontological resources, which could require site-specific mitigation. These potential constraints have been identified above, and would be addressed during site-specific CEQA compliance.

- b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past**

projects, the effects of other current projects, and the effects of probable future projects.)

Construction of the Regional Projects could contribute to cumulative air quality and potentially cumulative noise impacts, as well as other resource area cumulative impacts. However, cumulative impacts would be addressed in the County's Program EIR or in site-specific CEQA documentation.

c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

The Regional Projects would result in impacts on human beings related to air quality, hazardous materials, water quality, noise, and recreation, as described above. These impacts would be addressed in future site-specific CEQA documentation.

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APPENDIX C
OPTIMIZATION RESULTS
by TetraTech

Assumptions

- BMP area was fixed at the maximum footprint; depth was varied
- Maximum BMP depth was assumed based on the assumptions below
- Each curve is cut off at the maximum BMP size, per assumptions below

Cluster ID	Site Name	Max Drainage Area ¹ (ac)	Min Drainage Area ² (ac)	BMP Footprint (ac)	Max. BMP Depth ³ (ft)	Max. Practical Active Depth (ft)	Aggregate Infiltration Rate ⁴ (in/hr)	Comment on Max Drainage Area
AL01	Almanson Park	1145	51	10.205	165	25	0.70	Max updated to now include San Pascual Wash as max.
GL01	Fremont Park	13375.7	206.2264	0.3743	50	20	0.30	Max is not applicable as it is accepting the Verdugo Wash
LAC01	Roosevelt Park	2249.62	190	9.5979	80	20	0.30	Okay as is
MP01	Sierra Vista Park	2927.7265	799.4605	0.652	80	20	0.30	Okay as is
SF01	San Fernando	4429.9353	422.2799	2.7103	50	20	0.80	Max is not applicable as this is accepting the Pacoima Wash
SM01	Lacy Park	927.52563	1067.2045	2.3892	145	20	0.39	Okay as is
SP01	Lower Arroyo Park	15380.546	145.2086	10.588	25	25	0.80	Max is not applicable as it is accepting the Arroyo Seco
NHP	North Hollywood Park	13909.873	5122.0118	7.9579	65	20	0.80	Max is not applicable as it is accepting the Tujunga Wash

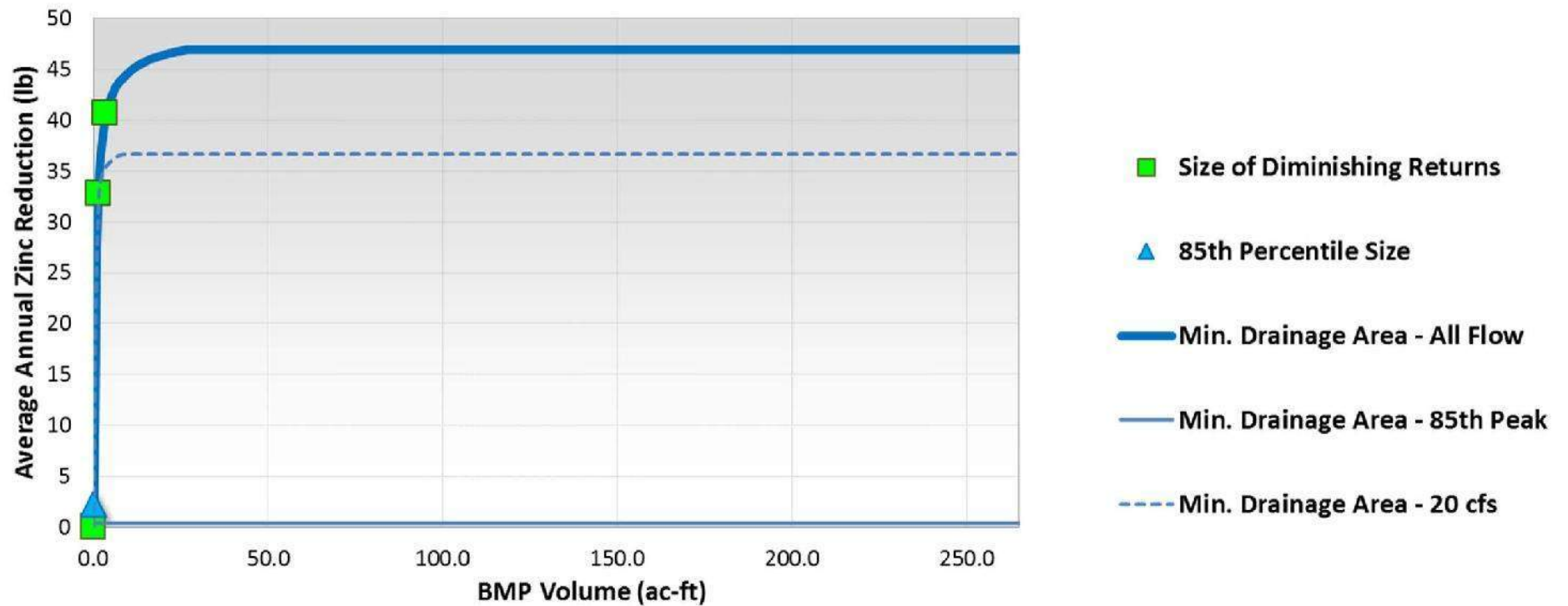
¹ Max Drainage Areas were delineated from subwatersheds from LA County GIS

² Min Drainage Areas were provided by Tetra Tech

³ BMP depth was determined using Groundwater Depth Contours provided by Tetra Tech. 10 feet of separation is a conformance with the County's LID ordinance.

⁴ Soil data was taken from LA County GIS and associated infiltration rates were provided by Eliza Jane

SP01 – Lower Arroyo Park



Small drainage area and large BMP footprint; small incremental increases in BMP size result in high pollutant load reduction



ATTACHMENTS FOR SECTION 3

Schedule

The preliminary schedule to prepare a feasibility study (1/1/2021), design and permit (1/1/2022), and construct the project (1/1/2024) will support the Upper LA River EWMP Group's effort to attain its 2024 interim compliance target.



ATTACHMENTS FOR SECTION 4

Water Quality & Water Supply



ATTACHMENTS FOR SECTION 5

Community



SAFE, CLEAN WATER PROGRAM

TECHNICAL RESOURCES SUMMARY

Regional Program Projects Module

PROJECT CONCEPT NAME	Arroyo Seco Projects Part 4 of 4: Constructed Wetlands at the Arroyo Seco Golf Course Driving Range
PROJECT CONCEPT LEAD(S)	Shahid Abbas, Director of Public Works, City of South Pasadena; Kristine Courdy, Deputy Director of Public Works, City of South Pasadena
SCW WATERSHED AREA	Upper Los Angeles River
TOTAL FUNDING REQUESTED	\$ 100,000.00

Compiled: Saturday, December 14, 2019

Created By: N/A (Kristine Courdy)

OVERVIEW

The Technical Resources Program is a part of the Safe, Clean Water Regional Program providing resources to community groups, municipalities, and individuals who need technical assistance to develop their Project concepts. Each Watershed Area Steering Committee will determine how to appropriate funds for the Technical Resources Program.

The Technical Resources Program funds the development of Project Feasibility Studies. Technical Assistance Teams will work with the necessary parties to add Projects for which there are completed Feasibility Studies to an eligible water quality plan, assist in acquiring a letter of support for non-Municipal Infrastructure Program Project Applicants, and address other prerequisites to apply to the Infrastructure Program. Upon completion, Feasibility Studies shall be submitted to the Watershed Area Steering Committees for consideration.

The Watershed Area Steering Committees will decide which Project concepts will be forwarded to the Technical Assistance Teams for development. The District will provide Technical Assistance Teams comprised of subject matter experts in Stormwater and/or Urban Runoff infrastructure design, hydrology, soils, Nature-Based Solutions, green infrastructure, Stormwater and/or Urban Runoff quality, water supply, recreation, open space, community needs, and other areas. The Technical Assistance Teams will complete Feasibility Studies in partnership with and on behalf of Municipalities, CBOs, NGOs, and others who may not have the technical resources or capabilities to develop Feasibility Studies.

This document summarizes a Project concept that is being proposed for Feasibility Study funding under the Technical Resources Program. This document is based upon inputs to and outputs from the web-based tool called the 'SCW Regional Program Projects Module' (<https://portal.safecleanwaterla.org/projects-module/>).

ORGANIZATIONAL OVERVIEW:

1 GENERAL INFORMATION

- 1.1 Overview
- 1.2 Project Location
- 1.3 Background
- 1.4 Additional Information

2 DESIGN ELEMENTS

- 2.1 Configuration
- 2.2 Capture Area
- 2.3 Site Conditions & Constraints
- 2.4 Cost
- 2.5 Operations & Maintenance
- 2.6 Additional Information

3 SCHEDULE

- 3.1 Schedule
- 3.2 Additional Information

4 WATER QUALITY & WATER SUPPLY

- 4.1 Water Quality
- 4.2 Water Supply
- 4.3 Additional Information

5 COMMUNITY

- 5.1 Community Investment
- 5.2 Community Engagement
- 5.3 Additional Information

6 NATURE-BASED SOLUTIONS

7 ATTACHMENTS

1 GENERAL INFORMATION

This section provides general information on the Project concept including location and a brief description.

1.1 Overview

The following table provides an overview of the Project concept and the proposed Lead(s):

Project concept Name:	Arroyo Seco Projects Part 4 of 4: Constructed Wetlands at the Arroyo Seco Golf Course Driving Range
Brief Project concept description:	<p>The project will direct wet and dry weather drainage from South Pasadena areas east of the Arroyo Seco Golf Course and Pasadena Ave to a constructed wetlands. The project will make use of existing unused space within the public Arroyo Seco Golf Course's driving range. The proposed design will allow it to capture dry weather and wet weather flows. The existing irrigation system and adjacent potential water storage projects (see separate applications) could be used to supply water to the wetlands during the dry season. The wetlands could also be used as a water feature for the driving range. (See the initial concept landscape plan included as an attachment to Section 1 of this application.) If water cannot be supplied to the project during the dry season, the constructed wetlands could be replaced with an extended detention basin. In either case, the solution will be nature based and will include native vegetation.</p> <p>This project possesses significant advantages over other stormwater capture projects:</p> <ul style="list-style-type: none"> • According to existing City and County storm drain maps, a county storm drain with a significant upstream drainage area runs through the driving range. The project would be placed at the location of this pipe. From the project area, the pipe flows via gravity approximately 200 feet to the Arroyo Seco. This should significantly reduce the construction costs and completion time associated with redirecting stormwater flows both to and from the project. See the site map Attachment to Section 1. • The constructed wetlands provides a nature-based solution, and is a more cost effective solution than an underground stormwater capture facility. • The project could provide a unique feature to the driving range. (A simulated water hazard.) Netting or screens will be incorporated to ensure that golf balls do to affect the operation or effectiveness of the BMP, or result in the discharge of golf balls to the Arroyo Seco. • The City owns the land and the area is currently minimally used (being open space in a driving range), which will reduce both the project costs and impact

	<p>on the public's use of the space.</p> <ul style="list-style-type: none"> • To provide an economy of scale, the project could be designed and constructed together with the other three adjacent projects that the City is submitting for Technical Resources Program funding. <p>The water within the constructed wetlands could come from a number of water re-use sources:</p> <ol style="list-style-type: none"> 1) The dry and wet weather flows captured from the upstream projects that the City is also submitting for Technical Feasibility study funding, 2) the existing dry weather flows received by the Arroyo Seco Golf course immediately to the north, and 3) wet and dry weather flows captured by this project. <p>Note that the City is submitting four project concepts for Fiscal Year 2020-2021 that are adjacent to each other as well as the Arroyo Seco. If some or all of these project concepts are accepted for Technical Resources Program funding, the feasibility study will be conducted together which will result in a lower overall cost. Should all four project concepts be approved for Technical Resources Program funding, the total funding requested for the projects will be \$200,000.</p>
SCW Watershed Area:	Upper Los Angeles River
Call for Projects year:	FY20-21
Total funding requested:	\$ 100,000.00
Project concept Lead(s):	Shahid Abbas, Director of Public Works, City of South Pasadena; Kristine Courdy, Deputy Director of Public Works, City of South Pasadena
Additional Project concept Collaborators:	N/A
Additional Project concept Collaborators:	N/A
Additional Project concept Collaborators:	N/A
LACFCD assistance for maintenance of the Project concept?	No
Is this a non-municipal project?	No

1.2 Project Location

The following table details the Project location:

Latitude:	34.112909
Longitude:	-118.172939
Street Address:	1055 Lohman Ln
City:	South Pasadena
State:	CA
Zip Code:	91030

Is the project located within or providing a benefit to a Disadvantaged Community (DAC)?

Yes

The following is a summary of how the Project concept will benefit its DAC with a discussion of measures on displacement avoidance:

The project concept will improve park space in the public Arroyo Seco Golf Course's driving range immediately east of and adjacent to the Arroyo Seco. There is a DAC tract of 4,224 people on the west side of the Arroyo Seco within a short walking distance to the project area. Existing bridges connect this community to the project. (GEOID 06037183103.) There are also two DAC block groups of 1,591 people about half a mile east of the project, and within the City of South Pasadena. (GEOIDs 060374806002, 060374806005.)

The project is on an existing public golf course driving range, so there will be no displacement.

DAC information source: <https://gis.water.ca.gov/app/dacs/>

1.3 Background

Please describe the historical background of the Project concept. Please also state which regional water management plan includes the proposed project (SWRP, E/WMP, IRWMP or other, if applicable):

The Upper La River EWMP includes a "signature" project for the City of South Pasadena that has an adjacent location and purpose as this concept. The EWMP project as proposed (referred to as the Lower Arroyo Park), however, had significant technical feasibility constraints. Through this concept planning effort, these initial constraints were resolved, and the initial EWMP concept has been improved upon. The EWMP in turn has been incorporated into the IRWMP, and the SWRP. This specific project has also been included in the Adaptive Management Section of the ULAR EWMP Group's Annual Report.

1.4 Additional Information

Additional general information regarding Project concept is provided as the following

attachments:

Attachments for this Section	
Attachment Name	Description
Constructed Wetlands at the Arroyo Seco Golf Course Driving Range - Project Drainage Area	A map of the project drainage area
Constructed Wetlands at the Arroyo Seco Golf Course Driving Range - Project Features	A map of the project features
Arroyo Seco Golf Course Projects - Initial Concept Landscape Plan	Arroyo Seco Golf Course Projects - Initial Concept Landscape Plan for the project, as well as the adjacent project (separate application) at the main golf course.
Maps combining the 4 submitted projects.pdf	Maps combining the 4 project submitted for Technical Resources Program funding.

2 DESIGN ELEMENTS

This section provides an overview of the anticipated design elements for the Project concept.

2.1 Configuration

The following is a description of the Project concept layout including its anticipated footprint and key components:

The project will consist of a constructed wetlands, constructed within an existing unused space: The public Arroyo Seco Golf Course's driving range. The wetlands will have a BMP capacity of up to approximately 6 ac-ft, and a footprint of approximately up to 37,000 sq ft. The project will direct wet and dry weather drainage from South Pasadena areas east of the Arroyo Seco Golf Course and Pasadena Ave. If water cannot be supplied to the project during the dry season, the constructed wetlands could be replaced with an extended detention basin. In either case, the solution will be nature based and will include native vegetation.

This project possesses significant advantages over other stormwater capture projects:

- According to existing City and County storm drain maps, a county storm drain with a significant upstream drainage area runs through the driving range. The project would be placed at the location of this pipe. From the project area, the pipe flows via gravity approximately 200 feet to the Arroyo Seco. This should significantly reduce the construction costs and completion time associated with redirecting stormwater flows both to and from the project. See the site map Attachment to Section 1.
- The constructed wetlands provides a nature-based solution, and is a more cost effective solution than an underground stormwater capture facility.
- The project could provide a unique feature to the driving range. (A simulated water hazard.) Netting or screens will be incorporated to ensure that golf balls do not affect the operation or effectiveness of the BMP, or result in the discharge of golf balls to the Arroyo Seco.
- The City owns the land and the area is currently minimally used (being open space in a driving range), which will reduce both the project costs and impact on the public's use of the space.
- To provide an economy of scale, the project could be designed and constructed together with the other three adjacent projects that the City is submitting for Technical Resources Program funding.

The water within the constructed wetlands could come from a number of water re-use sources: 1) The dry and wet weather flows captured from the upstream projects that the City is also submitting for Technical Feasibility study funding, 2) the existing dry weather flows received by the Arroyo Seco Golf course immediately to the north, and 3) wet and dry weather flows captured by this project.

Note that the City is submitting four project concepts for Fiscal Year 2020-2021 that are adjacent to each other as well as the Arroyo Seco. If some or all of these project concepts are accepted for Technical Resources Program funding, the feasibility study will be conducted together which will result in a lower overall cost. Should all four project concepts be approved for Technical Resources Program funding, the total funding requested for the projects will be \$200,000.

Specify whether the project is Wet or Dry:

Wet and dry

Estimated Capacity for the Project concept:

2.2 Capture Area

The size and land uses of the capture area upstream of a project plays an important role in its water quality and water supply benefits.

The following table details the capture area and its imperviousness:

Capture Area Summary	
Capture Area:	165.6 ac
Impervious Area:	75.7 ac
Pervious Area:	89.9 ac

The following table is a summary of the land use breakdown for the impervious area that drains to the project:

Breakdown of Impervious Acreage in Capture Area		
Land Use Type	Percent Impervious	Acres
Commercial	18.33 %	13.88
Institutional	5.34 %	4.04
Multi Family Residential	24.59 %	18.61
Open Space	3.11 %	2.35
Secondary Roads and Alleys	24.42 %	18.49
Single Family Residential	22.08 %	16.71
Urban Open Space	2.13 %	1.61

2.3 Site Conditions & Constraints

The following is a summary of engineering analyses performed to date, and a description of existing and / or potential constraints or limitations due to existing conditions.

Although engineering analyses have not yet been completed for this specific project, the concept for the adjacent signature project in the Upper LA River EWMP--Lower Arroyo Park--did provide desktop analyses of geotechnical conditions, environmental constraints, and project sizing optimization. These reports are included as an attachment to Section 2 of this application. Further engineering analysis will be completed as part of the feasibility study that is being requested through this Technical Resources Program application.

Known existing and potential constraints include:

- The presence of archeological or paleontological resources.
- Closing the existing parts of the existing golf course driving range during the construction phase of the project.
- Netting or screens will need to be incorporated to ensure that golf balls do not affect the operation or effectiveness of the project, or result in the discharge of golf balls to the Arroyo Seco.

2.4 Cost

The following tables provide details on the anticipated capital and annualized costs for the Project concept:

Capital Cost Breakdown	
Construction Cost:	\$ 3,500,000.00
Planning and Design Cost*	\$ 350,000.00

*Includes early concept design, pre-project monitoring, feasibility study development, site investigations, formal project design, intermediate and project completion audits, CEQA and other environmental impact studies and permitting.

Annual Cost Breakdown	
Annual Maintenance Cost:	\$ 35,000.00
Annual Operation Cost:	\$ N/A
Annual Monitoring Cost:	\$ 3,000.00
Project Life Span:	50 years

2.5 Operations & Maintenance

The following is a description of the operations and maintenance needs for the Project:

Typical maintenance activities and frequencies include:

- Schedule semiannual inspections for burrows, sediment accumulation, structural integrity of the outlet, and litter accumulation.
- Whenever possible use mechanical methods of vegetation removal (e.g mowing with tractor-type or push mowers, hand cutting with gas or electric powered weed trimmers) rather than applying herbicides. Use hand weeding where practical.
- Performing mowing at optimal times. Mowing should not be performed if significant rain events are predicted.
- Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary, and compost or dispose of at a landfill.
- Where practical, use automatic timers to minimize runoff.
- Ensure that there is no runoff from the landscaped area(s) if re-claimed water is used for irrigation.
- Apply water at rates that do not exceed the infiltration rate of the soil.
- Utilize a comprehensive management system that incorporates integrated pest management (IPM) techniques.
- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.
- Remove accumulated trash and debris in the basin at the middle and end of the wet season. The frequency of this activity may be altered to meet specific site conditions and aesthetic considerations.
- Where permitted by the Department of Fish and Wildlife or other agency regulations, stock wet ponds/constructed wetlands regularly with mosquito fish (*Gambusia* spp.) to enhance natural mosquito and midge control.
- Introduce mosquito fish and maintain vegetation to assist their movements to control mosquitoes, as well as to provide access for vector inspectors. An annual vegetation harvest in summer appears to be optimum, in that it is after the bird breeding season, mosquito fish can provide the needed control until

vegetation reaches late summer density, and there is time for re-growth for runoff treatment purposes before the wet season. In certain cases, more frequent plant harvesting may be required by local vector control agencies.

- Maintain emergent and perimeter shoreline vegetation as well as site and road access to facilitate vector surveillance and control activities.
- Remove accumulated sediment in the forebay and regrade about every 5-7 years or when the accumulated sediment volume exceeds 10 percent of the basin volume. Sediment removal may not be required in the main pool area for as long as 20 years.

The following is the agency and contact person that will be responsible for operations and maintenance of the Project:

Kristine Courdy, Deputy Director of Public Works, City of South Pasadena

The following expertise or technical training is necessary to perform basic operation and maintenance of the Project:

N/A

2.6 Additional Information

Additional information regarding design elements for the Project concept is provided as the following attachments:

Attachments for this Section	
Attachment Name	Description
CASQA BMP Fact Sheet TC-21 (Constructed Wetlands)	The CASQA BMP Fact Sheet for Constructed Wetlands, TC-21, which includes information on design and O&M.
Site Conditions and Constraints Attachment	Includes concept planning documents for a similar project (Lower Arroyo Park) located adjacent to the current concept location, and described in the Upper LA River EWMP. Also attached is the County’s “Initial Study/Environmental Constraints Evaluation For the Eight Recommended Regional Projects within the Upper Los Angeles River Watershed”, which includes the Lower Arroyo Park.

3 Schedule

This section provides an preliminary schedule required to design, construct, operate, and maintain the project.

Schedule Milestone Table	
Milestone Name	Completion Date
Feasibility Study	01/01/2021
Design and Permitting	01/01/2022
Construction	01/01/2024

3.1 Additional Information

Additional information regarding schedule for the Project concept is provided as the following attachments:

Attachments for this Section	
Attachment Name	Description
Note on Schedule	Explains connection between EWMP compliance schedule and project completion schedule.

4 WATER QUALITY & WATER SUPPLY

This section provides an overview of project elements that will provide water quality and water supply benefits.

4.1 Water Quality

The following describes how the Project concept will address primary pollutants of concern:

The project will capture the primary pollutants of bacteria, metals, toxics, and trash, in both dry and wet weather from a regional drainage area. (See CASQA Fact Sheet TC-21 for Constructed Wetlands for information on pollutant removal effectiveness. The Fact Sheet is an attachment to Section 2 of this application. See the attachment to Section 1 for a map of the upstream drainage area.)

The following describes the water quality concerns in the vicinity and downstream of the proposed Project concept area:

The project is adjacent to the Arroyo Seco. The Arroyo Seco is impaired and is under TMDLs for dry and wet weather bacteria, metals including zinc and copper, and trash. The LA River downstream shares the same impairments and TMDLs, and the harbor at the LA River estuary is impaired for toxic chemicals. The preliminary schedule to prepare a feasibility study (1/1/2021), design and permit (1/1/2022), and construct this project (1/1/2024) will support the Upper LA River EWMP Group's effort to attain its 2024 TMDL/EWMP interim compliance target.

4.2 Water Supply

The following describes and justifies the nexus between water supply and the stormwater and/or urban runoff that will be captured/infiltrated/diverted by the Project:

The stormwater and dry weather urban runoff captured by the constructed wetlands will be used to irrigate the public Arroyo Seco Golf Course's driving range, adjacent landscaping, and the downstream Nature Park. The existing golf course currently takes in dry weather flows from an existing dike to the north and delivers it to the golf course for irrigation use. Thus the area's existing water supply infrastructure can be used to divert stormwater to landscape irrigation.

If the adjacent proposed constructed wetlands to the north is constructed in tandem with this project, this basin could also hold water to augment the existing irrigation use. The project will be dry unless a piping system connects it to the golf course pond/proposed constructed wetlands. (See the City's separate Technical Resources Program application for more information on this proposed project.) Excess captured water could also potentially be diverted to the sanitary sewer for later use. Sewer lines are included in the Section 1 Attachment maps.

Currently the City's Water Division provides 30 acre-feet/year of potable water to the Arroyo Seco Golf Course, 32 acre-feet/year to Arroyo Park, and 2 acre-feet/year to the Arroyo Nature trail. Thus the dry weather flows and stormwater captured by this project and the other proposed projects submitted by the City have the potential to serve as the primary source of irrigation water.

Will this Project capture water for onsite irrigation use?

Yes

The following describes onsite use by the Project:

The stormwater and dry weather urban runoff captured by the constructed wetlands will be used to irrigate the public Arroyo Seco Golf Course, adjacent landscaping, the driving range, and Nature Park. See the SCW Technical Resources Summary

above description for additional detail.

Will this Project capture water used for water recycling by a wastewater treatment facility?

No

The following describes water recycling by the project:

N/A

Will the Project be connected to a managed water supply aquifer?

No

If Yes, managed Aquifer Name:

N/A

4.3 Additional Information

Additional information regarding water quality and water supply benefits of the Project concept is provided as the following attachments:

5 COMMUNITY

This section provides an overview of project elements related to community investment benefits and community engagement performed to date.

5.1 Community Investment

The following table details the Project’s anticipated community investment benefits:

Community Investment		
Investment Type	Applicable?	Detailed Description
Does this project improve flood management, flood conveyance, or flood risk mitigation?	Yes	The project will increase flood protection through reduced peak flow rates from peak flow attenuation in the existing storm drain system.
Does this project create, enhance, or restore park space, habitat, or wetland space?	Yes	The project will create wetland space and enhance the public Arroyo Seco Golf Course's driving range.
Does this project improve public access to waterways?	No	N/A
Does this project create or enhance new recreational opportunities?	Yes	The project will create wetland space and enhance the public Arroyo Seco Golf Course's driving range.
Does this project create or enhance green spaces at school?	No	N/A
Does this project reduce heat local island effect and increase shade?	Yes	Several species of native vegetation will be considered for planting.
Does this project increase shade or the number of trees or other vegetation at the site location?	Yes	Strategically selected native trees and vegetation will be planted to uptake pollutants and will be maintained as part of the wetland system.

5.2 Community Engagement

The following describes the effort of engagement that has occurred to date and identify (if any) agencies / municipalities / stakeholders that were involved in the development of the Project concept:

None to date, however, efforts are proposed during the development of the Project.

The following describes the plan to engage the community during the early development phase of the Project:

The City will hold community-based workshops with the general public and other stakeholders, such as local environmental groups. The City will directly contact local environmental groups involved with the Arroyo Seco--such as the South Pasadena Beautiful, Arroyo Seco Foundation and North East Trees--to ensure that they are aware of the workshops and have the ability to participate in the development of the project.

5.3 Additional Information

Additional information regarding community benefits and engagement for the Project concept is provided as the following attachments:

6 NATURE-BASED SOLUTIONS

This section provides an overview of Project elements that will leverage nature-based solutions.

Will this Project implement natural processes?

Yes

The following is a description of natural processes that will be implemented:

Comparable to natural wetlands, the constructed wetlands will implement natural processes to slow, detain, and capture water, and will incorporate native vegetation. This will protect, enhance, and restore habitat and the public Arroyo Seco Golf Course's driving range.

Will this project utilize natural materials?

Yes

The following is a description of natural materials that will be utilized:

Comparable to natural wetlands, the constructed wetlands will incorporate native vegetation. This will protect, enhance, and restore habitat and the public Arroyo Seco Golf Course's driving range.

The following describes how nature-based solutions are utilized to the maximum extent feasible. If nature-based solutions are not used, a description of what options have been considered and why they were not included is provided.

The selection of a constructed wetlands with native vegetation (versus for a example, an underground stormwater capture facility) demonstrates the use of nature-based solutions to the maximum extent feasible. Should a constructed wetlands not be feasible, the alternate concept design would be an extended detention basin, which would also be a (dry) nature-based solution/BMP.

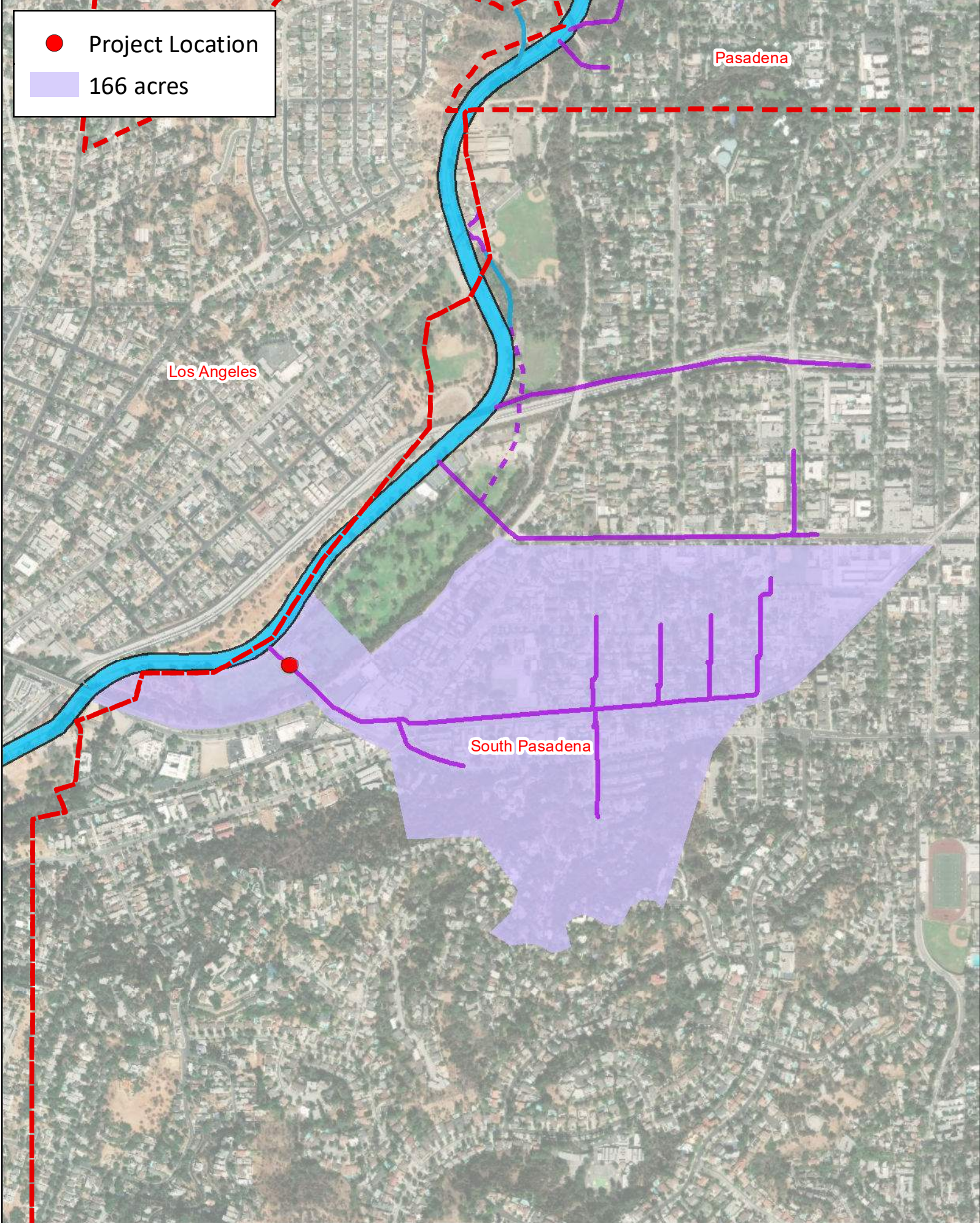
7 ATTACHMENTS

Attachments are bundled and organized in the following pages, with cover pages between each subsection.




ATTACHMENTS FOR SECTION 1

General Information




Constructed Wetlands at the Arroyo Seco Golf Course Driving Range: Project Drainage Area

SEWER SYSTEM FEATURE


 sewer lift station

STORM DRAIN FEATURE

 catch basin


 dike; diversion

 outfall (Arroyo Seco Project)

 well/city interconnection


SEWER SYSTEM LINE

 private (4" line)

 local (4"-16" line)


STORM DRAIN LINE

 channel (Arroyo Seco)

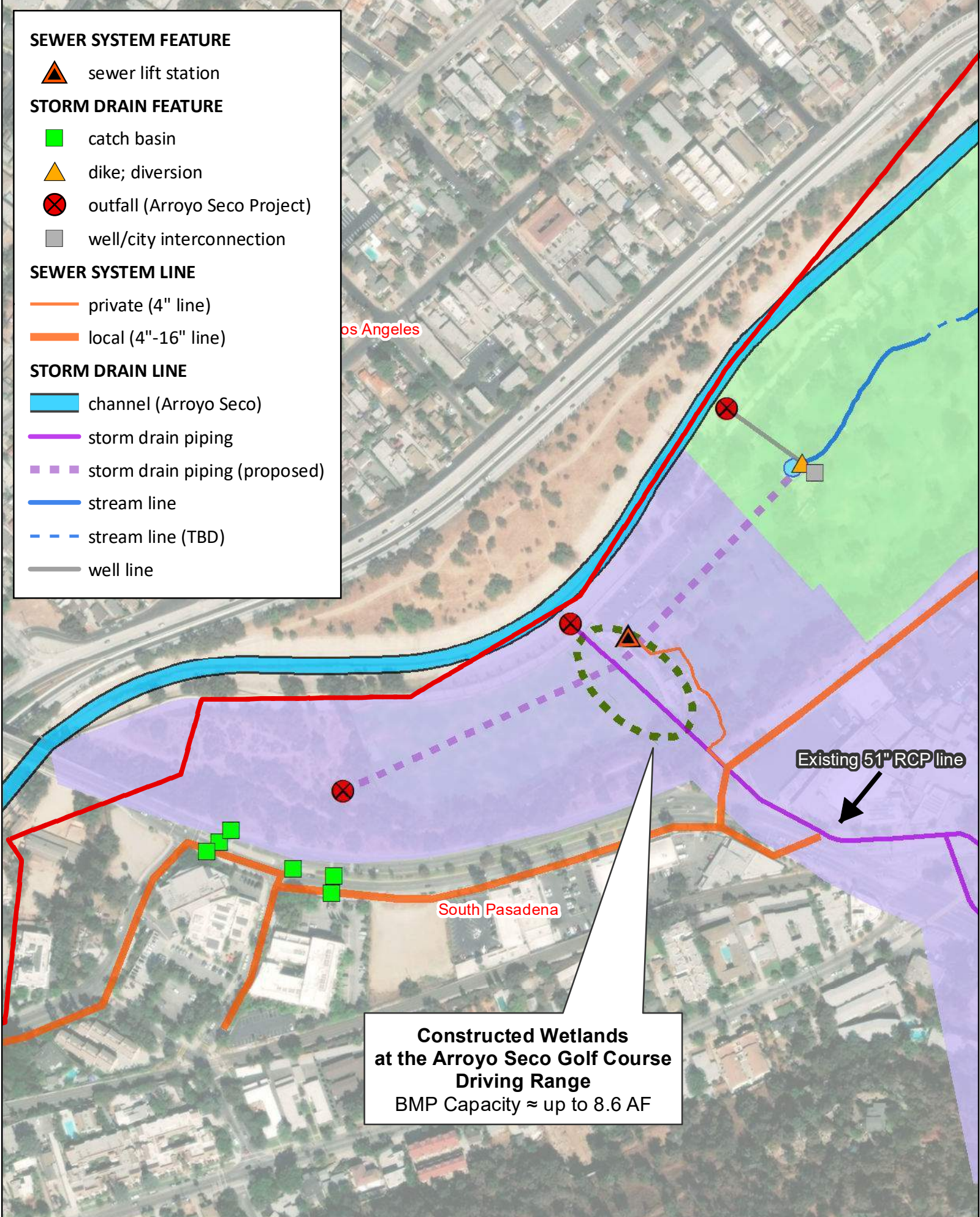
 storm drain piping

 storm drain piping (proposed)

 stream line

 stream line (TBD)

 well line



**Constructed Wetlands
at the Arroyo Seco Golf Course
Driving Range**
BMP Capacity ≈ up to 8.6 AF

Constructed Wetlands at the Arroyo Seco Golf Course Driving Range: Project Features



Arroyo Seco Project 3 (Constructed Wetlands at the Arroyo Seco Golf Course) and Project 4 (Constructed Wetlands at the Arroyo Seco Golf Course Driving Range): Initial Concept Landscape Plan


Maps Combining the Four Projects Submitted for Technical Resources Program Funding

Projects:


1. Constructed Wetlands by the Arroyo Seco
2. Stormwater Capture Basin and Park Improvements
3. Constructed Wetlands at the Arroyo Seco Golf Course
4. Constructed Wetlands at the Arroyo Seco Golf Course Driving Range **(this application)**


Note that if some or all of the following projects are funded in conjunction, the total requested funds will decrease.

SEWER SYSTEM FEATURE

 sewer lift station

STORM DRAIN FEATURE

 catch basin


 dike; diversion

 outfall (Arroyo Seco Project)

 outfall (other)


 outfall (TBD)


 tunnel entrance

 well/city interconnection


SEWER SYSTEM LINE

 private (4" line)

 local (4"-16" line)


 trunk (16"-27" line)


STORM DRAIN LINE


 channel (Arroyo Seco)

 channel


 diversion line


 storm drain piping


 storm drain piping (proposed)

 storm drain piping (TBD)

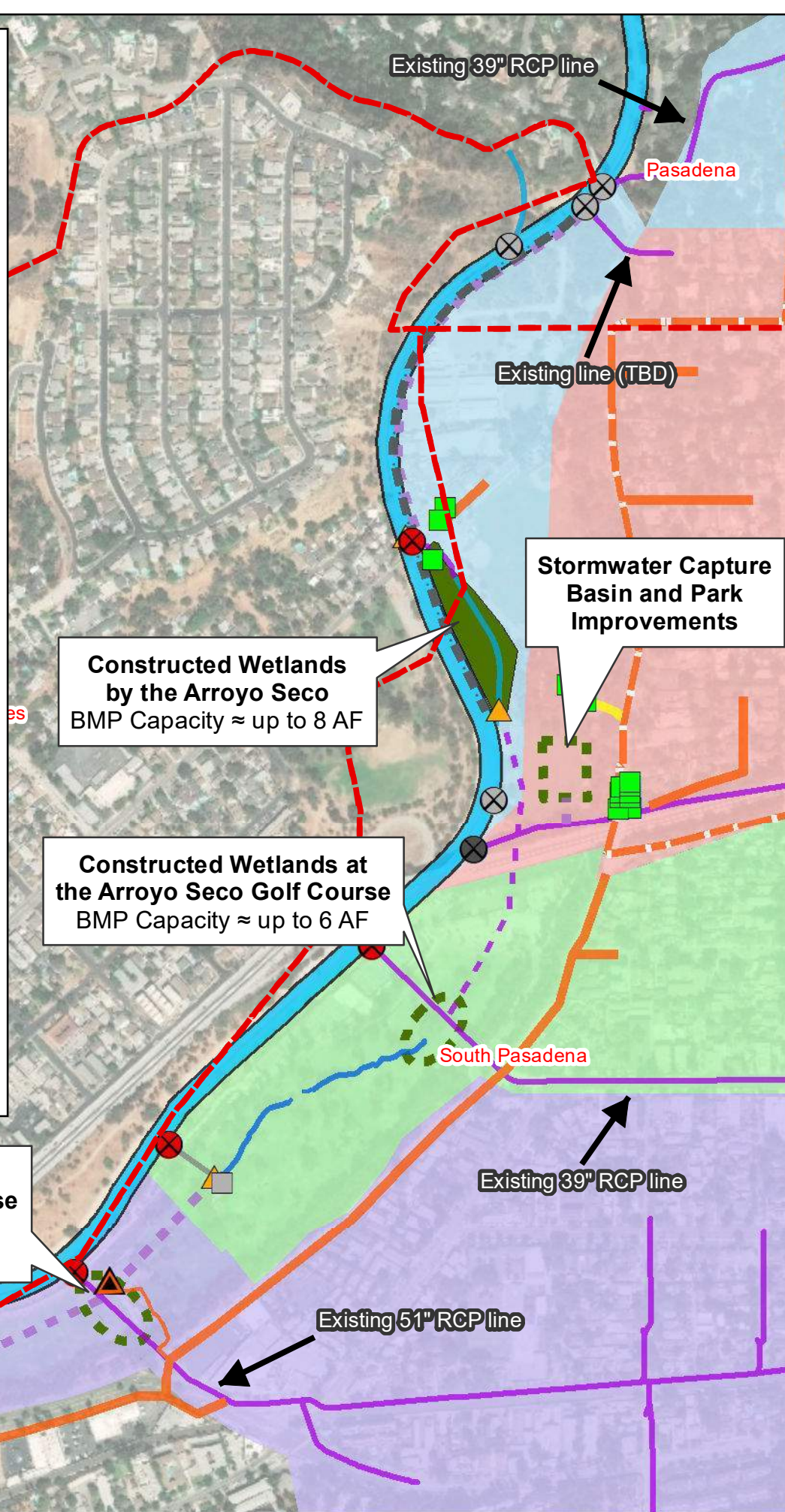
 stream line

 stream line (TBD)

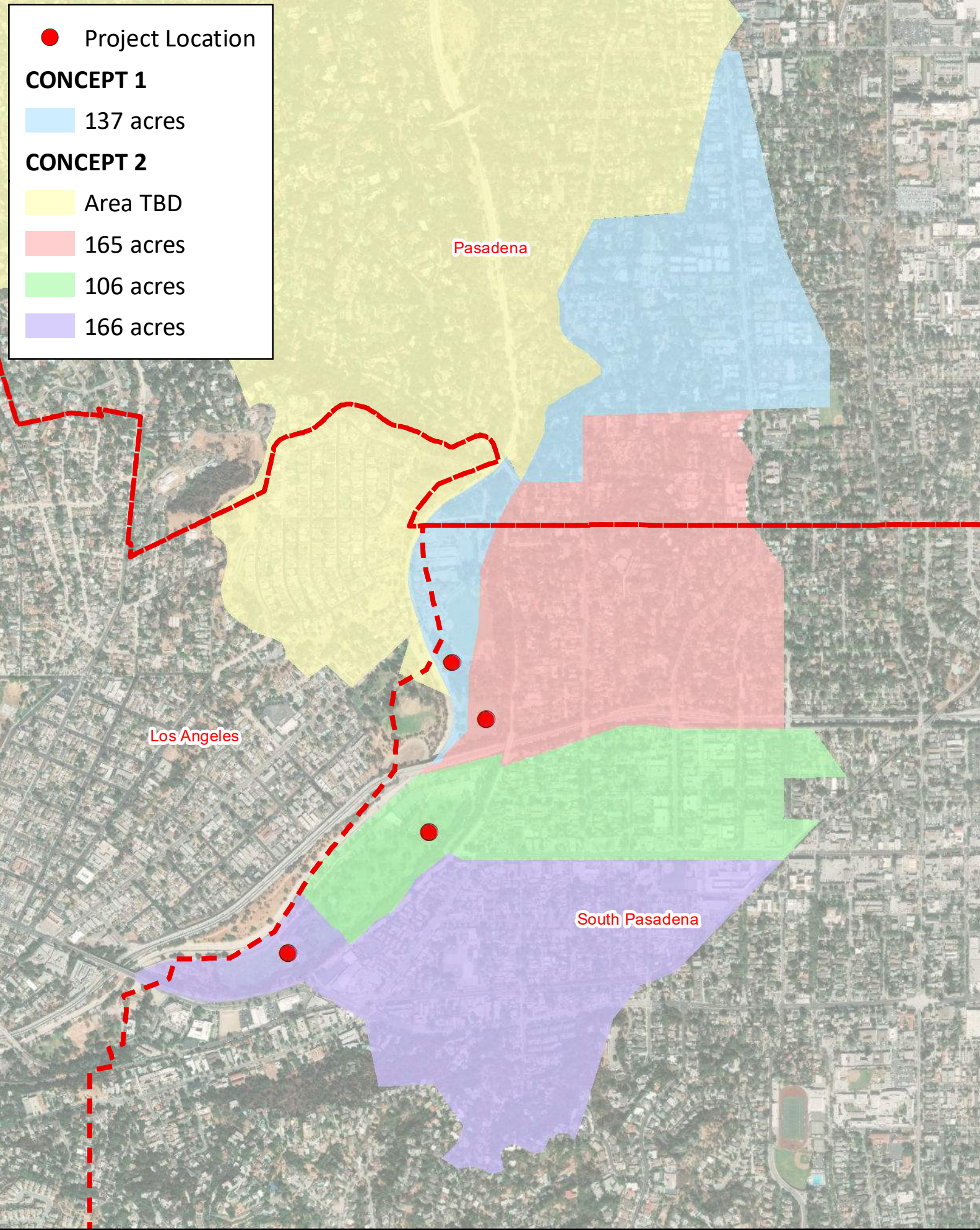
 trail (potential)

 swale

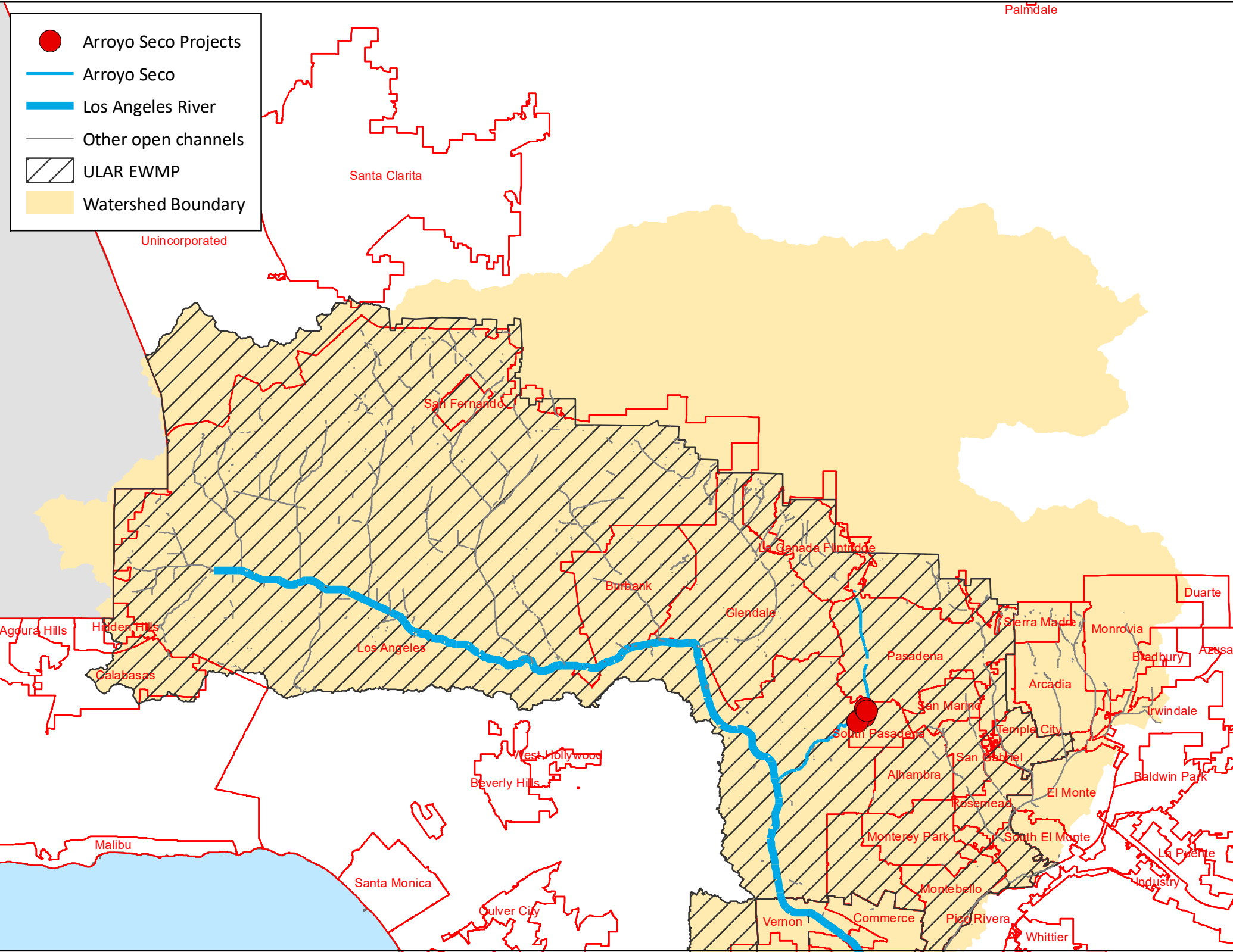
 well line



Arroyo Seco Projects: Project Features



Arroyo Seco Projects: Project Drainage Area



Arroyo Seco Projects



Arroyo Seco



Los Angeles River



Other open channels



ULAR EWMP



Watershed Boundary

Palmdale

Santa Clarita

Unincorporated

San Fernando

Burbank

Glendale

Agoura Hills

Hidden Hills

Calabasas

Los Angeles

West Hollywood

Beverly Hills

Malibu

Santa Monica

Culver City

Vernon

Commerce

Pico Rivera

Whittier

Duarte

Monrovia

Azusa

Bradbury

Irwindale

Sierra Madre

Arcadia

San Marino

Temple City

San Gabriel

Rosemead

El Monte

Monterey Park

South El Monte

Baldwin Park

La Puente

Industry



ATTACHMENTS FOR SECTION 2

Design Elements



Description

Constructed wetlands are constructed basins that have a permanent pool of water throughout the year (or at least throughout the wet season) and differ from wet ponds primarily in being shallower and having greater vegetation coverage. The schematic diagram is of an on-line pond that includes detention for larger events, but this is not required in all areas of the state.

A distinction should be made between using a constructed wetland for storm water management and diverting storm water into a natural wetland. The latter practice is not recommended and in all circumstances, natural wetlands should be protected from the adverse effects of development, including impacts from increased storm water runoff. This is especially important because natural wetlands provide storm water and flood control benefits on a regional scale.

Wetlands are among the most effective stormwater practices in terms of pollutant removal and they also offer aesthetic value. As stormwater runoff flows through the wetland, pollutant removal is achieved through settling and biological uptake within the wetland. Flow through the root systems forces the vegetation to remove nutrients and dissolved pollutants from the stormwater.

California Experience

The City of Laguna Niguel in Orange County has constructed several wetlands, primarily to reduce bacteria concentrations in dry weather flows. The wetlands have been very successful in this regard. Even though there is not enough perennial flow to maintain the permanent pool at a constant elevation, the wetland vegetation has thrived.

Design Considerations

- Area Required
- Slope
- Water Availability
- Aesthetics
- Environmental Side-effects

Targeted Constituents

<input checked="" type="checkbox"/>	Sediment	■
<input checked="" type="checkbox"/>	Nutrients	▲
<input checked="" type="checkbox"/>	Trash	■
<input checked="" type="checkbox"/>	Metals	■
<input checked="" type="checkbox"/>	Bacteria	■
<input checked="" type="checkbox"/>	Oil and Grease	■
<input checked="" type="checkbox"/>	Organics	■

Legend (Removal Effectiveness)

- Low
- ▲ Medium
- High



Advantages

- If properly designed, constructed and maintained, wet basins can provide substantial wildlife and wetlands habitat.
- Due to the presence of the permanent wet pool, properly designed and maintained wet basins can provide significant water quality improvement across a relatively broad spectrum of constituents including dissolved nutrients.
- Widespread application with sufficient capture volume can provide significant control of channel erosion and enlargement caused by changes to flow frequency relationships resulting from the increase of impervious cover in a watershed.

Limitations

- There may be some aesthetic concerns about a facility that looks swampy.
- Some concern about safety when constructed where there is public access.
- Mosquito and midge breeding is likely to occur in wetlands.
- Cannot be placed on steep unstable slopes.
- Need for base flow or supplemental water if water level is to be maintained.
- Require a relatively large footprint
- Depending on volume and depth, pond designs may require approval from the State Division of Safety of Dams

Design and Sizing Guidelines

- Capture volume determined by local requirements or sized to treat 85% of the annual runoff volume.
- Outlet designed to discharge the capture volume over a period of 24 hours.
- Permanent pool volume equal to twice the water quality volume.
- Water depth not to exceed about 4 feet.
- Wetland vegetation occupying no more than 50% of surface area.
- Include energy dissipation in the inlet design and a sediment forebay to reduce resuspension of accumulated sediment and facilitate maintenance.
- A maintenance ramp should be included in the design to facilitate access to the forebay for maintenance activities and for vector surveillance and control.
- To facilitate vector surveillance and control activities, road access should be provided along at least one side of BMPs that are seven meters or less in width. Those BMPs that have shoreline-to-shoreline distances in excess of seven meters should have perimeter road access on both sides or be designed such that no parcel of water is greater than seven meters from the road.

Construction/Inspection Considerations

- In areas with porous soils an impermeable liner may be required to maintain an adequate permanent pool level.
- Outlet structures and piping should be installed with collars to prevent water from seeping through the fill and causing structural failure.
- Inspect facility after first large storm to determine whether the desired residence time has been achieved.

Performance

The processes that impact the performance of constructed wetlands are essentially the same as those operating in wet ponds and similar pollutant reduction would be expected. One concern about the long-term performance of wetlands is associated with the vegetation density. If vegetation covers the majority of the facility, open water is confined to a few well defined channels. This can limit mixing of the stormwater runoff with the permanent pool and reduce the effectiveness as compared to a wet pond where a majority of the area is open water.

Siting Criteria

Wet ponds are a widely applicable stormwater management practice and can be used over a broad range of storm frequencies and sizes, drainage areas and land use types. Although they have limited applicability in highly urbanized settings and in arid climates, they have few other restrictions. Constructed wetlands may be constructed on- or off-line and can be sited at feasible locations along established drainage ways with consistent base flow. An off-line design is preferred. Constructed wetlands are often utilized in smaller sub-watersheds and are particularly appropriate in areas with residential land uses or other areas where high nutrient loads are considered to be potential problems (e.g., golf courses).

Wetlands generally consume a fairly large area (typically 4-6 percent of the contributing drainage area), and these facilities are generally larger than wet ponds because the average depth is less.

Wet basin application is appropriate in the following settings: (1) where there is a need to achieve a reasonably high level of dissolved contaminant removal and/or sediment capture; (2) in small to medium-sized regional tributary areas with available open space and drainage areas greater than about 10 ha (25 ac.); (3) where base flow rates or other channel flow sources are relatively consistent year-round; (4) in settings where wildlife habitat benefits can be appreciated.

Additional Design Guidelines

Constructed wetlands generally feature relatively uniformly vegetated areas with depths of one foot or less and open water areas (25-50% of the total area) no more than about 1.2 m (4 feet) deep, although design configuration options are relatively flexible. Wetland vegetation is comprised generally of a diverse, local aquatic plant species. Constructed wetlands can be designed on-line or off-line and generally serve relatively smaller drainage areas than wet ponds, although because of the shallow depths, the footprint of the facility will be larger than a wet pond serving the same tributary area.

The extended detention shallow wetland combines the treatment concepts of the dry extended detention pond and the constructed wetland. In this design, the water quality volume is detained above the permanent pool and released over 24 hours. In addition to increasing the residence time, which improves pollutant removal, this design also attenuates peak runoff rates. Consequently, this design alternative is recommended.

Pretreatment incorporates design features that help to settle out coarse sediment particles. By removing these particles from runoff before they reach the large permanent pool, the maintenance burden of the pond is reduced. In ponds, pretreatment is achieved with a sediment forebay. A sediment forebay is a small pool (typically about 10 percent of the volume of the permanent pool). Coarse particles remain trapped in the forebay, and maintenance is performed on this smaller pool, eliminating the need to dredge the entire pond.

Effective wetland design displays "complex microtopography." In other words, wetlands should have zones of both very shallow (<6 inches) and moderately shallow (<18 inches) wetlands incorporated, using underwater earth berms to create the zones. This design will provide a longer flow path through the wetland to encourage settling, and it provides two depth zones to encourage plant diversity.

There are a variety of sizing criteria for determining the volume of the permanent pool, mostly related to the water quality volume (i.e., the volume of water treated for pollutant removal) or the average storm size in a particular area. In addition, several theoretical approaches to determination of permanent pool volume have been developed. However, there is little empirical evidence to support these designs. Consequently, a simplified method (i.e., permanent pool volume equal to twice the water quality volume) is recommended.

Design features are also incorporated to ease maintenance of both the forebay and the main pool of ponds. Ponds should be designed with a maintenance access to the forebay to ease this relatively routine (every 5–7 year) maintenance activity. In addition, ponds should generally have a drain to draw down the pond for vegetation harvesting or the more infrequent dredging of the main cell of the pond.

Summary of Design Recommendations

- (1) Facility Sizing – The basin should be sized to hold the permanent pool as well as the required water quality volume. The volume of the permanent pool should equal twice the water quality volume.
- (2) Pond Configuration - The wet basin should be configured as a two stage facility with a sediment forebay and a main pool. The basins should be wedge-shaped, narrowest at the inlet and widest at the outlet. The minimum length to width ratio should be 1.5 where feasible. The depth in the center of the basin should be about 4 feet deep to prevent vegetation from encroaching on the pond open water surface.
- (3) Pond Side Slopes - Side slopes of the basin should be 3:1 (H:V) or flatter for grass stabilized slopes. Slopes steeper than 3:1 should be stabilized with an appropriate slope stabilization practice.
- (4) Sediment Forebay - A sediment forebay should be used to isolate gross sediments as they enter the facility and to simplify sediment removal. The sediment forebay

should consist of a separate cell formed by an earthen berm, gabion, or loose riprap wall. The forebay should be sized to contain 15 to 25% of the permanent pool volume and should be at least 3 feet deep. Exit velocities from the forebay should not be erosive. Direct maintenance access should be provided to the forebay. The bottom of the forebay may be hardened (concrete) to make sediment removal easier. A fixed vertical sediment depth marker should be installed in the forebay to measure sediment accumulation.

- (5) Splitter Box - When the pond is designed as an off-line facility, a splitter structure is used to isolate the water quality volume. The splitter box, or other flow diverting approach, should be designed to convey the 25-year event while providing at least 1.0 foot of freeboard along pond side slopes.
- (6) Vegetation - A plan should be prepared that indicates how aquatic and terrestrial areas will be vegetatively stabilized. Wetland vegetation elements should be placed along the aquatic bench or in the shallow portions of the permanent pool. The optimal elevation for planting of wetland vegetation is within 6 inches vertically of the normal pool elevation. A list of some wetland vegetation native to California is presented in the wet pond fact sheet.

Maintenance

The amount of maintenance required for a constructed wetland is highly dependent on local regulatory agencies, particular health and vector control agencies. These agencies are often extremely concerned about the potential for mosquito breeding that may occur in the permanent pool.

Routine harvesting of vegetation may increase nutrient removal and prevent the export of these constituents from dead and dying plants falling in the water. A previous study (Faulkner and Richardson, 1991) documented dramatic reductions in nutrient removal after the first several years of operation and related it to the vegetation achieving a maximum density. Vegetation harvesting in the summer is recommended.

Typical maintenance activities and frequencies include:

- Schedule semiannual inspections for burrows, sediment accumulation, structural integrity of the outlet, and litter accumulation.
- Remove accumulated trash and debris in the basin at the middle and end of the wet season. The frequency of this activity may be altered to meet specific site conditions and aesthetic considerations.
- Where permitted by the Department of Fish and Game or other agency regulations, stock wet ponds/constructed wetlands regularly with mosquito fish (*Gambusia spp.*) to enhance natural mosquito and midge control.
- Introduce mosquito fish and maintain vegetation to assist their movements to control mosquitoes, as well as to provide access for vector inspectors. An annual vegetation harvest in summer appears to be optimum, in that it is after the bird breeding season, mosquito fish can provide the needed control until vegetation reaches late summer density, and there is

time for re-growth for runoff treatment purposes before the wet season. In certain cases, more frequent plant harvesting may be required by local vector control agencies.

- Maintain emergent and perimeter shoreline vegetation as well as site and road access to facilitate vector surveillance and control activities.
- Remove accumulated sediment in the forebay and regrade about every 5-7 years or when the accumulated sediment volume exceeds 10 percent of the basin volume. Sediment removal may not be required in the main pool area for as long as 20 years.

Cost

Construction Cost

Wetlands are relatively inexpensive storm water practices. Construction cost data for wetlands are rare, but one simplifying assumption is that they are typically about 25 percent more expensive than storm water ponds of an equivalent volume. Using this assumption, an equation developed by Brown and Schueler (1997) to estimate the cost of wet ponds can be modified to estimate the cost of storm water wetlands using the equation:

$$C = 30.6V^{0.705}$$

where:

C = Construction, design, and permitting cost;

V = Wetland volume needed to control the 10-year storm (ft³).

Using this equation, typical construction costs are the following:

\$ 57,100 for a 1 acre-foot facility

\$ 289,000 for a 10 acre-foot facility

\$ 1,470,000 for a 100 acre-foot facility

Wetlands consume about 3 to 5 percent of the land that drains to them, which is relatively high compared with other storm water management practices. In areas where land value is high, this may make wetlands an infeasible option.

Maintenance Cost

For ponds, the annual cost of routine maintenance has typically been estimated at about 3 to 5 percent of the construction cost; however, the published literature is almost totally devoid of actual maintenance costs. Since ponds are long-lived facilities (typically longer than 20 years), major maintenance activities are unlikely to occur during a relatively short study.

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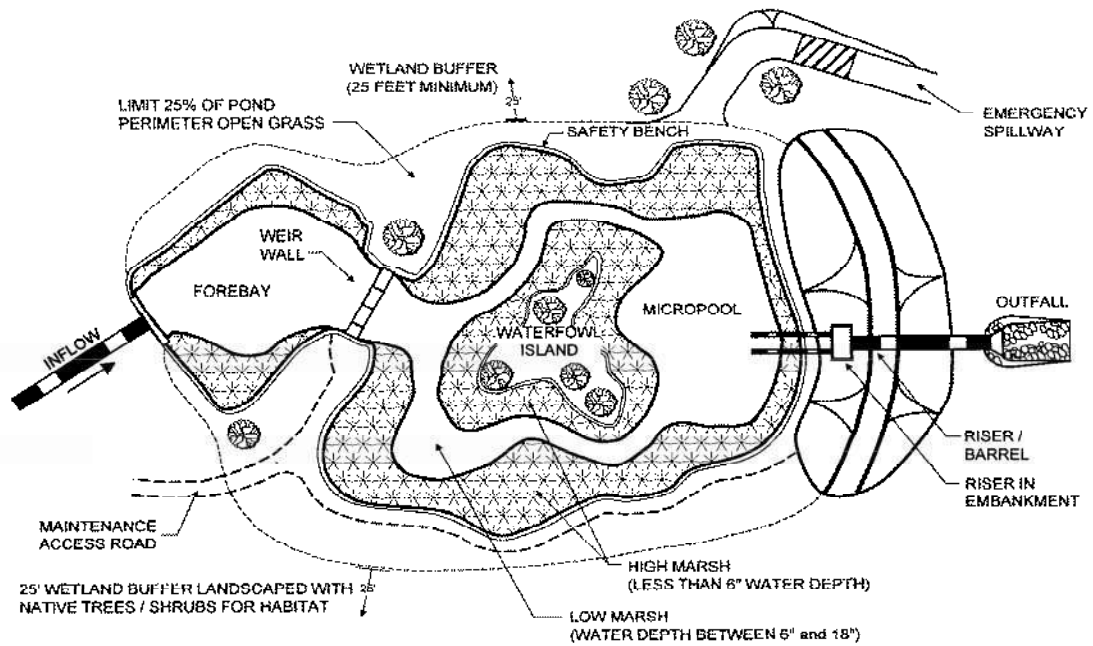
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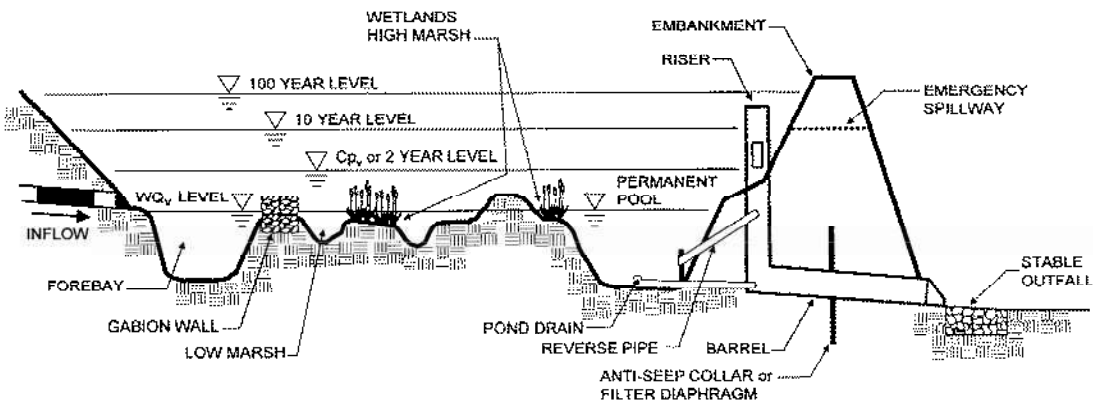
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PLAN VIEW



PROFILE

Site Conditions and Constraints

The following are concept planning documents for a similar project (Lower Arroyo Park) located adjacent to the current concept location, and described in the Upper LA River EWMP. Also attached is the County's "Initial Study/Environmental Constraints Evaluation For the Eight Recommended Regional Projects within the Upper Los Angeles River Watershed", which includes the Lower Arroyo Park.

The Lower Arroyo Park project as originally proposed had significant technical feasibility constraints. Through this most recent concept planning effort, these initial constraints were resolved, and the original EWMP concept has been improved upon. The primary modification was moving the project from the west of the Arroyo Seco to the east side, to coincide with the locations of several storm drain pipes that run underneath City park space and directly to the river. Despite the change in location, the attached EWMP concept planning documents for the Lower Arroyo Park provide useful information on the general site location, geotechnical analysis, watershed characteristics, potential retrofit characteristics, as well as environmental constraints.

4.5.8 Lower Arroyo Park

Lower Arroyo Park is located within the City of South Pasadena in an area that drains to Arroyo Seco. A channelized portion of Arroyo Seco runs through the center of the proposed site parcel. Park facilities include two baseball diamonds, open field space, and playground equipment. The potential BMP type is proposed as a below-ground retention/infiltration basin situated beneath the baseball diamonds and other open field space in the southwest corner and northern portions of the park.

No maximum drainage area was identified for this site since it is located adjacent to a receiving waterbody, Arroyo Seco. After review of available site opportunities and surrounding infrastructure, a smaller (alternative) drainage area was delineated, encompassing approximately 145 acres.

After reviewing the hydrologic model results and estimated runoff volume for the various diversion scenarios, it was determined that this project site was suitable for a retention/infiltration BMP sized to accommodate more than the 85th percentile design storm flows contributed from the smaller alternative drainage area. As a result, the recommended active volume of the BMP is 3.7 acre feet.

Table 4-10 below summarizes key conceptual design parameters of the BMP proposed at Lower Arroyo Park. **Figure 4-32** presents summary facts of the Lower Arroyo Park signature project. **Figures 4-33 to 4-35** provided on the following pages show proposed site features and the tributary drainage area(s) considered during the engineering and environmental feasibility analysis.

Table 4-10. Key Design Parameters for Lower Arroyo Park

Summary of Lower Arroyo Park (SP01)		
Project Site Parameters	Total (Maximum) Drainage Area	145 ac
	Alternative (Minimum) Drainage Area	145 ac
	Maximum Recommended BMP Volume	265 ac-ft
	Alternative Recommended BMP Volume	3.7 ac-ft
	Groundwater Depth	25 ft
	Maximum BMP Opportunity Area	10.6 ac
BMP Design Parameters		
	Recommended Maximum BMP Depth (below ground surface)	25 ft
	Available BMP Volume	265 ac-ft
	Recommended Active BMP Volume	3.7 ac-ft

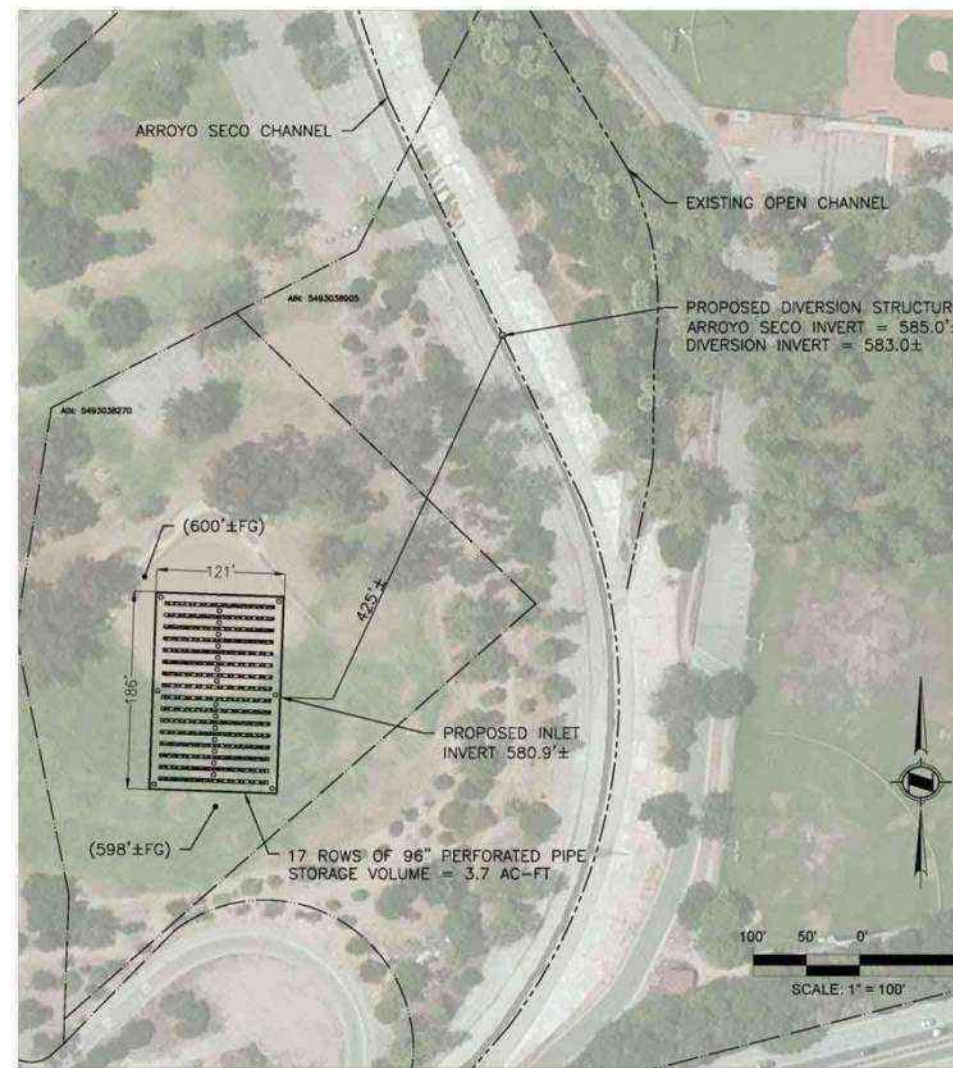
Site Location				Watershed Characteristics		Retrofit Characteristics	
Site Location, City	South Pasadena	Site Name	Lower Arroyo Park	Drainage Area Max/Min, ac	145/145	Proposed Retrofit	Subsurface Infiltration
Latitude	34° 7' 18.123" N	Longitude	118° 10' 4.0620" W	Hydrologic Soil Group	Hanford Gravelly Sandy Loam	Recommended BMP Footprint, ft ²	22506
Landuse	Open Space	Street Address	San Pasqual Avenue & Stoney Drive	Soil Infiltration Rate, in/hr	0.80	Available BMP Volume, ac-ft	265
Major Watershed	Upper Los Angeles River	Land Owner	City of South Pasadena	Manages 85th Percentile, 24 hr Design Storm Event?	Yes	BMP Water Storage Depth, ft	9
Existing Land Use of Site: Park				Recommended Active BMP Volume, ac-ft	3.7	Gravel Depth, ft	1
				Approximate Rainfall Event Depth Captured Based on Recommended Volume, inch = 0.8			
Budget- Level estimates for both soft and hard costs		\$5,132,000	Schedule	1 year design, 6 months bid, 9 months construction (2 ¼ years total)			



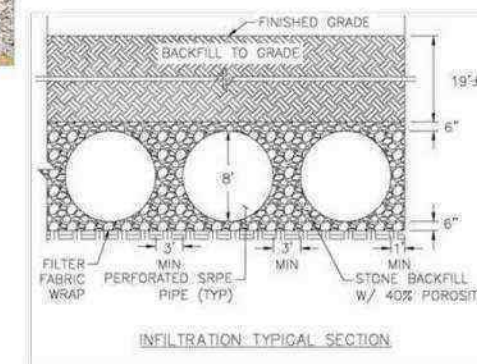
Drainage Map



Watershed and Vicinity



Rendered Improvements



Upper Los Angeles River Enhanced Management Program
Signature Project: Lower Arroyo Park
FACT SHEET PN 182198

Note: Figures are not to scale



Figure 4-32. Summary Facts: Lower Arroyo Park Signature Project



Figure 4-33. Lower Arroyo Park Subsurface Infiltration Drainage Area



Figure 4-34. Lower Arroyo Park Subsurface Infiltration Site Location

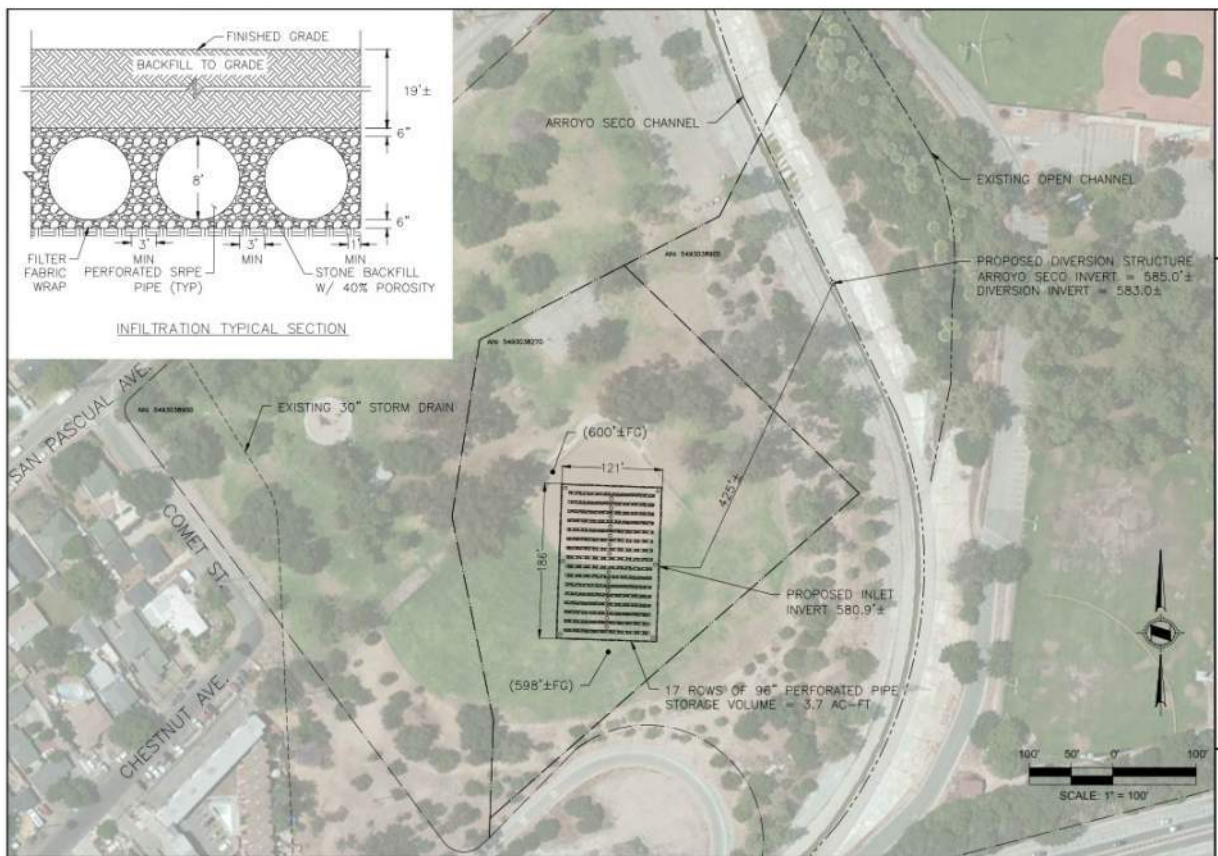


Figure 4-35. Lower Arroyo Park Subsurface Infiltration Concept

4.6 How is the EWMP Integrated with Previous, Ongoing and Future Water Quality Planning Efforts?

The EWMP includes a compilation of numerous previous stormwater compliance planning documents created for the ULAR, and the EWMP represents the “master stormwater compliance plan” moving forward. As such, it is important to recognize and, to the extent practicable, incorporate other planning efforts in the LA River watershed. This section provides a brief overview of the previous planning documents incorporated into the EWMP and considers how the EWMP will be integrated into other efforts to restore and provide access to the Los Angeles River and increase the reliability of local water supplies.

4.6.1 Previous Water Quality Planning Efforts

The process of developing a set of regional project opportunities described above included a review and analysis of many local and regional planning efforts underway by many other agencies and organizations throughout the watershed. The previously developed plans reviewed during EWMP development include the following:

- Implementation Plans for the LA River and Tributaries Metals TMDLs:
 - *City of Los Angeles Draft Implementation Plan, 2010*

3.7 LOWER ARROYO PARK

Lower Arroyo Park is located within the City of South Pasadena in an area that drains to Arroyo Seco. A channelized portion of Arroyo Seco runs through the center of the proposed site parcel. Park facilities include two baseball diamonds, open field space, and playground equipment. The potential BMP type is proposed as a below-ground retention/infiltration basin situated beneath the baseball diamonds and other open field space in the southwest corner and northern portions of the park.

No maximum drainage area was identified for this site since it is located adjacent to a receiving waterbody, Arroyo Seco. After review of available site opportunities and surrounding infrastructure, a smaller (alternative) drainage area was delineated, encompassing approximately 145 acres.

After reviewing the hydrologic model results and estimated runoff volume for the various diversion scenarios, it was determined that this project site was suitable for a retention/infiltration BMP sized to accommodate more than the 85th percentile design storm flows contributed from the smaller alternative drainage area. As a result, the recommended active volume of the BMP is 3.7 acre feet.

Table 3.7-1 summarizes key conceptual design parameters of the BMP proposed at Lower Arroyo Park. A map of the project site including key infrastructure and highlighted BMP opportunity areas is provided in Appendix D. A map of the alternative (minimum) tributary drainage area can be found in Appendix E.

Table 3.7-1 Summary of Lower Arroyo Park (SP01)

Table 3.7-1 Summary of Lower Arroyo Park (SP01)		
Project Site Parameters	Total (Maximum) Drainage Area	N/A
	Alternative (Minimum) Drainage Area	145 ac
	Maximum Required BMP Volume	N/A
	Alternative Required BMP Volume	0.06 ac-ft
	Groundwater Depth	25 ft
BMP Design Parameters	BMP Opportunity Area	10.6 ac
	Recommended Maximum BMP Depth	25 ft
	Available BMP Volume	265 ac-ft
	Recommended Active BMP Volume	3.7 ac-ft

In addition to the volumetric features summarized above, it is envisioned that this site would feature the following potential benefits:

- Drains an urbanized area
- Stormwater capture and some infiltration
- Stormwater quality improvement via pre-treatment, retention, and infiltration
- Water harvested can be utilized for a significant amount of on-site irrigation

APPENDIX A

DESKTOP GEOTECHNICAL

ANALYSIS

Cluster ID	Site Name	Total Area (ac)	Aggregate Infiltration Rate (in/hr)	Chino Silt Loam		Hanford Fine Sandy Loam		Hanford Gravelly Sandy Loam		Ramona Loam		Ramona Sandy Loam		Tujunga Fine Sandy Loam		Yolo Loam	
				Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total	Soil Area (ac)	% of Site Total
AL01	Almanson Park	133.6	0.70	0.0	0%	0.0	0%	0.0	0%	27.6	21%	92.8	69%	13.3	10%	0.0	0%
GL01	Fremont Park	9.4	0.30	0.0	0%	9.4	100%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%
LAC01	Roosevelt Park	24.3	0.30	17.3	71%	7.1	29%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%
MP01	Sierra Vista Park	2.5	0.30	0.0	0%	0.0	0%	0.0	0%	0.1	5%	0.0	0%	0.0	0%	2.3	95%
NHP	North Hollywood Park San	22.5	0.80	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	22.5	100%	0.0	0%
SF01	Fernando Regional Park	10.7	0.80	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	10.7	100%	0.0	0%
SM01	Lacy Park	26.7	0.39	0.0	0%	0.0	0%	0.0	0%	21.9	82%	4.8	18%	0.0	0%	0.0	0%
SP01	Lower Arroyo Park	25.5	0.80	0.0	0%	0.0	0%	25.5	100%	0.0	0%	0.0	0%	0.0	0%	0.0	0%

Hydrologic Soil Group	Infiltration Rate (in/hr)	Soil Textures	Corresponding Unified Soil Classification	
			Symbol	Description
A	1.63	gravel	GW	well-graded gravels, sandy gravels
	1.63	sandy gravel	GP	gap-graded or uniform gravels, sandy gravels
	1.63	silty gravels	GM	silty gravels, silty sandy gravels
	1.63		SW	well-graded gravelly sands
	0.8	sandy gravel	SP	gap-graded or uniform sands, gravelly sands
	0.8	loamy sand		
	0.8	sandy loam		
B	0.45		SM	silty sands, silty gravelly sands
	0.3	loam, silt loam	MH	micaceous silts, diatomaceous silts, volcanic ash
C	0.2	sandy clay loam	ML	silts, very fine sands, silty or clayey fine sands
D	0.06	clay loam	GC	clayey gravels, clayey sandy gravels
	0.06	silty clay loam	SC	clayey sands, clayey gravelly sands
	0.06	sandy clay	CL	low plasticity clays, sandy or silty clays
	0.06	silty clay	OL	organic silts and clays of low plasticity
	0.06	clay	CH	highly plastic clays and sandy clays
	0.06		OH	organic silts and clays of high plasticity

Summary Environmental Constraints: Upper Los Angeles River Watershed Regional Projects

SP01 – Arroyo Park

- **AQ:** Construction emissions in excess of thresholds; may increase time for site-specific CEQA compliance.
- **AQ:** Cumulative AQ impacts may increase time for site-specific CEQA compliance.
- **AQ:** Air pollutant concentrations from construction may increase time for site-specific CEQA compliance.
- **BIO:** Tree removal could disturb active nests (violation of Migratory Bird Treaty Act); may increase time for site-specific CEQA compliance.
- **BIO:** Tree removal could destroy protected trees; may increase time for site-specific CEQA compliance.
- **CUL:** Archeological resources may be present; should be addressed during site specific CEQA compliance.
- **CUL:** Paleontological resources may be present; should be addressed during site specific CEQA compliance.
- **REC:** Temporary closure of the recreational uses within Arroyo Park is likely to require close coordination between the City of South Pasadena, City of Los Angeles (a small section of the park west of the Arroyo Seco appears to be located within the City of Los Angeles), local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. Increased site-specific CEQA compliance time.

**Initial Study/
Environmental Constraints Evaluation**

For

**the Eight Recommended Regional Projects
within the Upper Los Angeles River Watershed**

February 2015



City of Los Angeles



**Bureau of Engineering
Watershed Protection
Division**

1.0 INTRODUCTION

National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit (MS4 Permit) Order No. R4-2012-0175 establishes the waste discharge requirements for stormwater and non-stormwater discharges within the watersheds of Los Angeles County. This MS4 Permit was adopted by the California Regional Water Quality Control Board, Los Angeles Region (Regional Board), on November 8, 2012, and became effective on December 28, 2012.

The MS4 Permit includes provisions that allow permittees the flexibility to customize their stormwater programs to achieve compliance with certain receiving water limitations and water quality based effluent limits over time. Specifically, permittees may voluntarily choose to develop and implement an Enhanced Watershed Management Program (Program). The Program includes prioritization of water-quality issues, identification of implementation strategies, control measures, and Best Management Practices (BMPs) sufficient to meet pertinent standards, integrated water-quality monitoring, and opportunity for stakeholder input. Through the Program, permittees will implement projects to improve water quality, and also have incentives to evaluate and, where feasible, implement regional projects that retain all non-stormwater runoff and all stormwater runoff from the 85th percentile, 24-hour storm event for the drainage area tributary to those projects.

Municipalities, non-governmental organizations and community stakeholders throughout the County of Los Angeles are working collaboratively to develop Enhanced Watershed Management Plans for each of LA's five watersheds - Ballona Creek, Dominguez Channel, Marina Del Rey, Santa Monica Bay and Upper Los Angeles River. The objectives of the Enhanced Watershed Management Plans (or EWMPs) are to comply with water quality mandates, improve the quality of our rivers, creeks and beaches, and address current and future regional water supply issues.

Each of the five watersheds has a Watershed Management Group that meets on a regular basis. The goal of each Watershed Management Group is to develop an EWMP for their specific watershed. Each EWMP will identify current and future multi-benefit projects that will improve water quality, promote water conservation, enhance recreational opportunities, manage flood risk, improve local aesthetics, and support public education opportunities. Each EWMP will include water quality priorities, watershed control measures, reasonable assurance analysis, the scheduling of projects and the monitoring, assessment and adaptive management of projects. The Upper Los Angeles River Watershed Management Group has developed a list of eight very high priority Regional Projects for implementation, which has been submitted to the Regional Water Quality Control Board for approval.

The Los Angeles County Flood Control District is in the process of preparing a Program EIR (Program EIR) to address the environmental impacts associated with implementing EWMPs within 12 watersheds in the MS4 permit coverage area. One of these watersheds is the Upper Los Angeles River Watershed. The Program EIR will focus on potential effects that could result from implementation of the projects and management actions identified in each EWMP, and would assess the physical changes to the environment that would likely result from the construction and operation of EWMP projects, including direct, indirect, and cumulative impacts.

The purpose of this environmental constraints evaluation is to identify potential site-specific environmental constraints associated with each of the recommended eight structural Regional Projects within the Upper Los Angeles River Watershed, including increased time requirements to address issues, obtain project approvals (including CEQA compliance).

Environmental Constraints of Regional Projects within the Upper Los Angeles River Watershed	1	February, 2015
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2.0 PROJECT DESCRIPTION

2.1 Project Location

2.1.1 Regional Setting

The Upper Los Angeles River Watershed is located on the Los Angeles Coastal Plain south of the San Gabriel Mountains. The watershed encompasses large portions of the San Fernando Valley; east into Pasadena, South Pasadena, San Marino, Alhambra, Monterey Park; south into Los Angeles and south Los Angeles (see Figure 1). The Upper Los Angeles River Watershed is largely urbanized.

2.1.2 Project Setting

Eight structural Regional Projects are recommended for implementation, and the general settings at each location, are as follows:

- SF01 - Recreation Park in the City of San Fernando. The site includes a multi-purpose center, indoor gymnasium, an active recreational field (softball), outdoor basketball courts, playgrounds, fitness area, and picnic areas. The San Fernando Regional Pool facility is located on the northern portion of the site. Mature trees are located along the periphery and some interior areas around the active field. Surrounding land uses include single and multi-family residential units to the west, commercial/industrial uses to the east, the Pacoima Wash to the southeast, and railroad right-of-way to the southwest. The operating hours for the park are sunrise to 9 p.m. daily.
- NHP – North Hollywood Park in the City of Los Angeles. The southern part of North Hollywood Park (located south of Magnolia Boulevard) is a landscaped area that includes mature trees, and walking paths. The trees are interspersed throughout the open space. A September 11, 2001 memorial is located near the west border in approximately the middle of the park. Commercial and multi-family uses are located to the east across Tujunga Avenue, and the Tujunga Wash and Hollywood Freeway to the west.
- GL01 - Fremont Park in the City of Glendale. The site includes tennis courts, a basketball court, playgrounds, horseshoe pits, picnic areas with barbecues, and wading pool. A field is also located along the eastern portion of the park. Mature trees are present at the site and along the periphery. Surrounding land uses include single and multi-family residential units to the west, south and east of the park, and the Verdugo Wash to the north of the park. The operating hours for the park are sunrise to sunset daily.
- SP01 - Arroyo Park in the City of South Pasadena. Arroyo Park is bisected by the Arroyo Seco. The site east of the Arroyo Seco includes multiple lighted athletic fields (baseball, softball and soccer), playground equipment, picnic areas, small amphitheater, and hiking trails. The park located west of the Arroyo Seco includes a baseball field and open space. Both sites include mature trees. Surrounding land uses are primarily single family residences (in the vicinity of the west site). The San Pascual Stables are located to the north of the park and San Pascual Avenue. The park does not have designated operating hours. (South Pasadena, 2015c).
- SM01 – Lacy Park in the City of San Marino. The site includes a central landscaped green space with an inner and outer walkway around the perimeter. The perimeter of the green space has been planted with trees of varying species, and most are mature. Site uses include tennis courts, picnic areas, playground, and small field. Surrounding land uses are primarily single-family homes. The operating hours for the park is Monday - Friday: 6:30 a.m. to Sunset, and Saturday -

Sunday: 8:00 a.m. to 8:00 p.m. (March 13–November 5) or 8:00 a.m. to 6:00 p.m. (November 6–March 12).

- AL01 – Almansor Park in the City of Alhambra. The site includes open space areas, picnic tables with covered shelters, playground equipment, barbecues, restrooms, ball fields, tennis courts, horseshoe pits, exercise par course, meeting room, activity room, gymnasium, outdoor basketball court, a small lake, and a jogging course. Mature trees are located along the periphery. Surrounding land uses include single-family residences to the south and west, Alhambra Golf Course to the immediate east, and the Alhambra Fire Training Facility and Alhambra Wash farther to the east. In addition, the Martha Baldwin Elementary School, Emmaus Lutheran School, and Emmaus Lutheran Church are contiguous to the park. The operating hours for the park are 5:00 a.m. to 10:30 p.m. daily. .
- MP01 - Sierra Vista Park in the City of Monterey Park. The site includes a softball field, outdoor basketball and paddle tennis court, children's play area, picnic area, and community center. Mature trees are located along the periphery. Surrounding land uses include single- and multi-family residences. The operating hours for the park are 6:00a.m. - 10:00 p.m. daily.
- LAC01 – Franklin D. Roosevelt Park in the County of Los Angeles. The site includes basketball courts, children’s play areas, soccer fields, ball fields, a community center, computer center, fitness zone, gymnasium, skate park, picnic areas with barbecue grills, and senior center. In addition, a Head Start preschool operated by the Mexican American Opportunity Foundation is located at the park. The operating hours for the park are sunrise to sunset, daily. Surrounding land uses include single-family residences to the north and east of the park, commercial and residential to the south, and railroad right-of-way to the west.

2.2 Goals and Objectives

The purpose of the Regional Projects is to improve water quality and help the Cities and County comply with the MS4 permit discharge requirements for stormwater and non-stormwater discharges within the Upper Los Angeles River Watershed.

2.3 Description of Proposed Project

The Regional Projects are defined by the MS4 Permit as multi-benefit regional projects that, wherever feasible, retain all non-stormwater runoff and all stormwater runoff from the 85th percentile, 24-hour storm event for the contributing drainage area, while also achieving other benefits such as flood control and/or water supply. The proposed eight Regional Project sites within the Upper Los Angeles River Watershed would include one or more of the following at each site:

- Infiltration Projects, that could include surface infiltration devices (infiltration basins, infiltration trenches, infiltration galleries, and bio-retention approaches.
- Multi-Directional Infiltration Projects that could include devices such as dry wells, and/or hybrid bio-retention and dry wells.
- Detention Basins that promote settling out of larger particles.
- Capture and Use Projects such as underground cisterns, storage facilities to make captured water available for uses such as irrigation.

The Regional Projects would install and operate infiltrations structures, detention basins, and/or capture and use structures at eight locations (eight parks) within the Upper Los Angeles River Watershed, as described above. The infiltrations structures, detention basins, and/or capture and use structures would likely be located underground at each of the park sites, with possible bio-retention approaches in select areas.

Environmental Constraints of Regional Projects within the Upper Los Angeles River Watershed	3	February , 2015
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The water quality improvements proposed at each of the Regional Project sites within the Upper Los Angeles River Watershed are as follows:

- SF01-Recreation Park: Buried Infiltration structure, capture and use facility, or detention basin.
- NHP-North Hollywood Park: Buried Infiltration structure, capture and use facility, or detention basin.
- GL01-Fremont Park: Buried Infiltration structure, capture and use facility, or detention basin.
- SP01-Arroyo Park: Buried Infiltration structure, capture and use facility, or detention basin, with possible bio-retention in suitable areas.
- SM01-Lacy Park: Buried Infiltration structure, capture and use facility, or detention basin.
- AL01 – Almansor Park: Buried Infiltration structure, capture and use facility, or detention basin.
- MP01 – Sierra Vista Park: Buried Infiltration structure, capture and use facility, or detention basin.
- LAC01-Franklin D. Roosevelt Park: Buried Infiltration structure, capture and use facility, or detention basin.

In addition, accessory improvements would be required at each Regional Project site to make connections with nearby storm drains, as well as other improvement such as wells, pump stations, and electrical connections and controls.

2.4 Regional Project Construction

Construction of each of the Regional Projects is expected to take between 12-18 months, and would involve mobilization (of materials and equipment), excavation and shoring, haul away of soils, construction of the infiltration, detention, or capture and use structure (likely to be cast-in-place concrete), accessory improvements such as storm drain connections, equipment installation, backfilling, and surface restoration. Because the project sites are all park areas, the construction areas would have to be physically separated from the remaining park areas and screened. Due to the large quantities of runoff that would be infiltrated, detained, or captured, the subsurface structures would likely occupy substantial subsurface portions of the identified sites. Following construction of the facilities, surface features at each location would be restored to existing conditions or better.

2.5 Regional Project Operations

Once the Regional Projects are completed and commissioned, they would operate automatically, although their operation would be monitored and adjustments made on an as-needed basis, including during wet weather. The majority of the Regional Project would have subsurface components and their operation would not be detectible or apparent at the site surface. Small above-ground structures that house control equipment may be required.

Regional Projects that utilize approaches at the site surfaces (such as bio-retention) could periodically fill with retained runoff, and preclude other uses of those areas until percolation has been completed and the areas dry enough to support other uses.

2.6 Anticipated Permits and Approvals

Approvals or permits from the following agencies are expected to be required:

- City of Alhambra
- City of Glendale
- City of Los Angeles
- City of Monterey Park
- City of San Marino

- City of South Pasadena
- City of San Fernando
- County of Los Angeles
- State and Regional Water Quality Control Boards
- Others?

3.0 Initial Study Checklist

Potential environmental constraints associated with the Regional Projects are addressed in the Initial Study Checklist and detailed discussions are provided below.

Environmental Checklist Form

1. Project Title:	Upper Los Angeles River Regional Projects
2. Lead Agency Name and Address:	Varies depending on jurisdiction of each Regional Project (City of Alhambra, City of Glendale, City of Los Angeles, City of Monterey Park, City of San Marino, City of South Pasadena, City of San Fernando, and County of Los Angeles)
3. Contact Person and Phone Number:	Jim Rasmus, Black and Veatch (858) 945-8675
4. Project Location:	City of Alhambra, City of Glendale, City of Los Angeles, City of Monterey Park, City of San Marino, City of South Pasadena, City of San Fernando, and County of Los Angeles
5. Project Sponsor's Name and Address:	Bureau of Sanitation Watershed Protection Division 1149 S. Broadway, 10th Floor Los Angeles, CA 90015
6. General Plan Designations:	Varies (Open Space)
7. Zoning:	Varies (includes OS, OS-1XL, SR – special recreation)
8. Description of Project:	The proposed Project consists of installation and operation of runoff infiltration and/or capture and use facilities at eight (8) locations within the Upper Los Angeles River Watershed. Facility options include underground stormwater and runoff detention facilities, underground infiltration facilities, and surface treatment features. Ancillary improvements, including connector pipelines to nearby storm drains, and/or pump stations or wet wells would be included.

Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by the Regional Projects (i.e., the proposed Project would involve environmental constraints, as indicated by the checklist on the following pages).

	Aesthetics		Agriculture and Forest Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources		Geology/Soils
	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials	X	Hydrology/Water Quality
	Land Use/Planning		Mineral Resources	X	Noise
	Population/Housing		Public Services	X	Recreation
	Transportation/Traffic		Utilities/Service Systems	X	Mandatory Findings of Significance

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS.	Would the project:				
a.	Have a substantial adverse effect on a scenic vista?			X	
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?			X	
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?			X	

Discussion:

a. Would the project have a substantial adverse effect on a scenic vista?

A scenic vista generally provides focal views of objects, settings, or features of visual interest; or panoramic views of large geographic areas of scenic quality, primarily from a given vantage point. Substantial constraints occur if the Regional Projects introduce incompatible visual elements within a field of view containing a scenic vista or substantially alters a view of a scenic vista.

No Environmental Constraints.

- SF01 - Recreation Park. Recreation Park is located in an urbanized portion of the City of San Fernando and is not located within a Scenic Vista. Further, the improvements at this site would likely be buried features with the park surface restored to the same or better condition than currently exists.
- NHP – North Hollywood Park. North Hollywood Park is located in the City of Los Angeles’ North Hollywood Community in an urbanized area, and is not located within a Scenic Vista. The improvements at this site would occur underground, and the park surface restored to the same or better condition than currently exists.
- GL01 – Fremont Park. Fremont Park, located in the City of Glendale just north of SR134 and south of the Verdugo Wash, is not located within a Scenic Vista. The improvements would place subsurface structures at this site, with the park surface restored to the same or better condition than currently exists.

- SP01 – Arroyo Park. Arroyo Park is located in South Pasadena along the Arroyo Seco north of the Pasadena Freeway. Although a ridgeline is present along the east side of Arroyo Park, the future improvements at this site would likely be buried and surface features restored to the same or better condition than currently exists. A small area of surface bio-treatment features could be added between the wash and San Ramon Drive. None of the proposed improvements would block views of the surrounding hillside, and no scenic vistas would be adversely affected.
- SM01 – Lacy Park. Lacy Park is located within a residential neighborhood in the City of San Marino. There are no designated scenic vistas in Lacy Park. The improvements would place subsurface structures at this site, with the park surface restored to the same or better condition than currently exists.
- AL01 – Almansor Park. Almansor Park is located adjacent to a single-family residential area and the Alhambra Golf Course in the City of Alhambra. This park is not located within a Scenic Vista. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists.
- MP01 – Sierra Vista Park. Sierra Vista Park is located in a mixed residential area in the City of Monterey Park. This park is not located within a Scenic Vista. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists.
- LAC01 – Franklin D. Roosevelt Park. Franklin D. Roosevelt Park is located in a mixed residential and urbanized area in the southern portion of the County of Los Angeles. This park is not located within a Scenic Vista. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists.

b./c. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

No Environmental Constraints. The Regional Project improvements would not have the potential to damage scenic resources within a state scenic highway because none of the activities would be located near an eligible or designated state scenic highway. The California Department of Transportation (Caltrans) is responsible for the official nomination and designation of eligible scenic highways. The nearest officially designated state scenic highway (State Highway 2, from approximately three miles north of Interstate [I]-210 in La Cañada to the San Bernardino County Line) (California Department of Transportation, 2013) is located approximately 6 miles northeast of the nearest Regional Project (GL01 – Fremont Park).

The nearest eligible state scenic highway (State Highway 1, from State Highway 19 near Long Beach to I-5 south of San Juan Capistrano) (California Department of Transportation, 2013) is approximately 14 miles southeast of the nearest Regional Project (LAC01 – Franklin D. Roosevelt Park). None of the Regional Projects are visible from either of these State Scenic Highways; therefore, the Regional Projects would not adversely affect the quality of the scenic views from these locations.

In addition, the following summarizes specific details regarding scenic resources at each Regional Project site:

- SF01 - Recreation Park. Recreation Park is located between industrial development to the east and residential structures along to the west. The buried water quality improvement structures Recreation Park would not be visible, and the surface would be restored to the same or better condition than currently exists following construction. As such, the improvements at Recreation Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- NHP – North Hollywood Park. The area of North Hollywood Park proposed for the water quality improvement facilities is a well-used landscaped open space with various mature and less mature trees. The water quality improvements at this site would likely be subsurface facilities that would not be visible. Further, the park surface would be restored to the same or better condition than currently exists following construction. As such, the improvements at North Hollywood Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- GL01 – Fremont Park. Fremont Park is landscaped and includes various active and passive recreational uses. There are no designated scenic highways in the City of Glendale. The Open Space and Conservation Element of the General Plan identify several “urban hikeways” in an effort to provide opportunities for citizens and visitors to discover Glendale’s unique urban form. Three self-guided routes cross through downtown Glendale, highlighting the Financial/Fremont Park District, the Brand Shopping District, and the Civic Center District. Although Fremont Park is located along one of the hikeways, the water quality improvements at this site would likely be subsurface facilities that would not be visible, once completed. Further, the park surface would be restored to the same or better condition than currently exists following construction. As such, the improvements at Fremont Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- SP01 – Arroyo Park. Arroyo Park is landscaped, and contains active and passive recreational uses. Trees are located throughout the park. This park is not located along a locally designated scenic highway; however, as stated in the City’s Open Space and Resource Conservation element of the General Plan, it is considered a valued resource by the City of South Pasadena. The subsurface water quality improvements at this site would not be visible. There is the potential for surface bio retention improvements to be added between the wash and Stoney Drive; however, these improvements are expected to be consistent with the open space setting of the park and would not introduce incompatible structures. Further, the park surfaces would be restored to the same or better condition than currently exists following construction. As such, the improvements at Arroyo Park are not expected to result in adverse effects to scenic resources or result in significant adverse impacts to visual character of the area.
- SM01 – Lacy Park. Lacy Park is located within a residential neighborhood in the City of San Marino. The center of Lacy Park serves as an open expanse which is highlighted as a resource in the City’s General Plan. The proposed improvements

would be located beneath the ground surface in the central area of lacy park; however, because the improvements would be subsurface and the park surfaces restored to existing conditions or better, the improvements are not expected to adversely affect the central area as a scenic resource.

- AL01 – Almansor Park. Almansor Park is located adjacent to a single-family residential area and the Alhambra Golf Course in the City of Alhambra. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists, and are not anticipated to result in significant impacts to scenic resources or the visual character of the project area.
- MP01 – Sierra Vista Park. Sierra Vista Park is located in a mixed residential area in the City of Monterey Park. Because the improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists, significant impacts to scenic resources or visual character of the project area are not anticipated.
- LAC01 – Franklin D. Roosevelt Park. Franklin D. Roosevelt Park is located in a mixed residential and urbanized area in the southern portion of the County of Los Angeles. The improvements at this site would likely be buried and surface features would be restored to the same or better condition than currently exists, and are not anticipated to result in significant impacts to scenic resources or the visual character of the project area.

d. affect day or nighttime views in the area?

No Environmental Constraints. The Regional Projects would involve the placement of buried infiltration or storage structures, with surface features restored. Exterior lighting of such structures are not anticipated. Water quality improvements such as bio-retention of runoff and stormwater could be placed at ground level in one area of Arroyo Park in South Pasadena; however, lighting, if any, is not expected to be substantial. Some low intensity security lighting could be included; however, such lighting would not be intrusive and would not represent a substantial source of new lighting. As a consequence, adverse impacts related to new lighting sources are not anticipated.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES.	In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:				
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b.	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?				X
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)) or timberland (as defined in PRC Section 4526)?				X
d.	Result in the loss of forest land or conversion of forest land to non-forest use?				X

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e.	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				X

Discussion:

- a. **Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

No Environmental Constraints. The California Department of Conservation, as part of its Farmland Mapping and Monitoring Program (FMMP), develops maps and statistical data to be used for analyzing impacts on California’s agricultural resources. The FMMP categorizes agricultural land according to soil quality and irrigation status; the best quality agricultural land is identified as Prime Farmland. According to the FMMP, the proposed Regional Project sites are located in areas designated as Urban and Built-Up Land, which is described as land occupied by structures that has a variety of uses including industrial, commercial, institutional facilities, railroad or other transportation yards (California Department of Conservation, 2010 and 2011b). There is no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance in the vicinity of the Regional Project sites. Therefore, there would be no impact to designated farmland.

- b. **Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?**

No Environmental Constraints. The Regional Project sites are zoned for open space or developed as existing parks, and there are no agricultural zoning designations or agricultural uses within the Project limits or adjacent areas. The Williamson Act applies to parcels consisting of at least 20 acres of Prime Farmland or at least 40 acres of land not designated as Prime Farmland. None of the Regional Project sites are located within a Prime Farmland designation, or on areas consisting of more than 40 acres of farmland (California Department of Conservation, 2010 and 2011b). No Williamson Act contracts apply to the Regional Project sites. Therefore, the Regional Projects would not have an impact on agricultural zoning or a Williamson Act contract.

- c. **Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)) or timberland (as defined in PRC Section 4526)?**

No Environmental Constraints. The Regional Project sites are zoned for open space or used for parks, and therefore would not conflict with existing zoning for, or require rezoning

of forest land or timberland. Therefore, the Regional Projects would have no impact on land zoned for forest land.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Environmental Constraints. The Regional Projects would occur at existing park sites, which are not designated as forest lands. The Regional Projects would not result in the loss of forest land or conversion of forest land to non-forest use.

e. Would the project involve other changes in the existing environment that, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Environmental Constraints. As discussed above, no farmland or forest land is located on the Regional Project sites. Therefore, the Regional Projects would not involve the disruption or damage of the existing environment that would result in the loss of farmland to non-agricultural use or conversion of forest land to non-forest use.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	AIR QUALITY. When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a.	Conflict with or obstruct implementation of the applicable air quality plan?			X	
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X			
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	X			
d.	Expose sensitive receptors to substantial pollutant concentrations?	X			
e.	Create objectionable odors affecting a substantial number of people?			X	

Discussion:

a. Would the project conflict with or obstruct implementation of the applicable air quality plans?

No Environmental Constraints. The Regional Project sites are located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for administering the Air Quality Management Plan (AQMP) for the Basin, which is a comprehensive air pollution control program for attaining state and federal ambient air quality standards. The Cities in which the Regional Project sites would occur have each adopted an Air Quality Element as part of their General Plan. The Air Quality Elements contains policies and goals for attaining state and federal air quality standards, while continuing economic growth, and includes implementation strategies for local programs contained in the AQMP. A significant impact could occur if the proposed project is inconsistent with the AQMP or the applicable General Plan.

The Regional Projects would place water quality improvements below each of the sites or at their surface, and would not require permanent changes in uses of the parks (or median). Rather, the Regional projects are deemed to be consistent with the planned and existing uses at each site and with the applicable general plan. Therefore, the Regional Projects are not expected to conflict with or obstruct implementation of the applicable air quality plan and no impact is anticipated.

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Some Environmental Constraints. Construction of the Regional Projects would require excavation of portions of each site for either the placement of subsurface storage and infiltration structures, or surface improvements. In addition, construction would be required to make connections with existing storm drains, and could require construction of accessory facilities such as subsurface pump stations or wet wells. The South Coast Air Quality Management District (SCAQMD) has established thresholds of significance for criteria pollutants generated during construction and operation, and a significant impact would occur if the Regional Projects result in construction or operational emissions that exceed the thresholds. Construction is likely to require heavy equipment such as loaders, and excavators, and substantial amounts of soil would require export from the sites. As a consequence, there is a possibility for construction emissions to exceed the SCAQMD significance thresholds, even with mitigation, depending on the construction phasing and schedule. Although such exceedances would not represent a substantial environmental constraint to the project, they would likely have the effect of increasing the length of time required for individual project approvals by requiring Mitigated Negative Declarations or Environmental Impact Reports for CEQA compliance. There is also the potential for the applicable decision-making body to determine that the benefits of an individual Regional Project do not override any associated significant impacts (including impacts to air quality), and therefore do not approve the project. However, this potential is considered to be minimal given the need for the Regional Projects in order to comply with the MS4 permit requirements.

Operation of the proposed Project would occur either passively, or if pumping is required, would not likely utilize a substantial amount of energy or require more than nominal operational activities, and therefore, are not likely to result in emission in excess of the SCAQMD significance thresholds for operation. Therefore, operation of the Regional Projects would not likely pose environmental constraints.

c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Some Environmental Constraints. Construction of the Regional projects could result in emissions that exceed SCAQMD significance thresholds, and pose constraints related to individual Regional Project approval, as discussed above. Construction of the Regional Projects, in conjunction with construction of other water quality and related improvements, could result in cumulative air quality impacts. Cumulative impacts would be addressed as part of the County's Program EIR or in site specific environmental compliance documentation (under the California Quality Act) and would pose the same environmental constraint as described above under Checklist Item III.b.

d. Would the project expose sensitive receptors to substantial pollutant concentrations?

Some Environmental Constraints. As discussed above, construction of the Regional projects could result in emissions that exceeds SCAQMD significance thresholds. Many of the Regional Projects are located in close proximity to residences, which are considered to be sensitive receptors. The SCAQMD has established localized significance thresholds (LST) to address the impacts that pollutant concentrations could have on nearby receptors. There is a potential for construction to result in emissions in excess of the applicable LSTs, which would have the effect of increasing the length of time required for individual project approvals for CEQA compliance.

e. Would the project create objectionable odors affecting a substantial number of people?

No Environmental Constraints. Construction of the Regional Projects would result in some odors associated with diesel emissions from construction equipment. Diesel odors are common in urbanized environments, and during project construction, would be temporary and localized, and not expected to result in substantial odor impacts.

Air emissions, including odors, during operation are anticipated to be absent or minimal, as surface water would not be stagnant, and storage and infiltration units would be located underground. Therefore, operation of the Regional Projects are not expected to result in substantial odors.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.	Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?				X

Discussion:

- a. **Would the project have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

No Environmental Constraints. No candidate, sensitive, or special-status species are known to occur on the Regional Project sites. Sites SF01 is located within the USGS San Fernando quadrangle; NHP within the Van Nuys quadrangle; GL01 within the Burbank quadrangle; SP01 within the Los Angeles quadrangle; SM01, AL01, and MP01 within the El Monte quadrangle; and LAC01 within the South Gate quadrangle. Federal and state listed threatened and endangered species have been found in each of the quadrangles in the past (CNDDDB, 2015); however it is very unlikely that such habitat existing at any of the Regional Project sites, as those sites are all developed and actively used urban recreational areas. In addition, there are no Significant Ecological Areas (SEAs) in the vicinity of the Regional Project sites (LA County, 2014).

- b. **Would the project have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

No Environmental Constraints. There is no riparian habitat or wetlands located at any of the Regional Project sites or the immediate vicinity, as all of the sites are developed are recreational areas. Open drainage channels that are concrete lined are located adjacent to NHP (Tujunga Wash), GL01 (Verdugo Wash), and SP01 (Arroyo Seco); however, these drainages are devoid of riparian habitat and are not expected to be physically modified. Each Regional Project site is designated in its respective general plan as recreation, open space, or other public use. In addition, no SEAs are located in the vicinity of the Regional Project sites.

- c. **Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?**

No Environmental Constraints. There is no riparian habitat or wetlands located at any of the Regional Project sites or the immediate vicinity, as all of the sites are developed are recreational areas (see discussion above for Checklist Item IV.b.), and adjacent washes are lined with concrete.

- d. **Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?**

Some Environmental Constraints. There are no known terrestrial migration corridors within the vicinities of the Regional Project sites. The sites are located in urban areas, and are not connected with other open space areas via undeveloped or natural corridors. Although wildlife may visit the Regional Project sites, introduction of subsurface facilities at the Regional Project sites would not otherwise impede migration. None of the Regional Project sites have water courses that can be used by migratory fish. Therefore, the Regional Projects would not interfere with wildlife migration.

The Regional Project sites include landscaped open space areas, which include trees that could be used as nesting sites. Impacts to migratory birds and active nests are prohibited under the Federal Migratory Bird Treaty Act (MBTA), 50 C.F.R. Part 10, and Sections 3500 through 3705 of the California Fish and Game Code protect most migratory bird species and active nests from harm or destruction. Nearly all native North American bird species are on the MBTA list. The nesting season varies according to species, but is generally February 15th through August 15th for most birds and January 31st through September 1st for raptors. If tree and vegetation removal would occur during nesting months at any Regional Project site, a confirmation bird survey at each of the sites should be performed to prevent disturbance of active nests. Such surveys are standard mitigation applied during site specific environmental documentation. The requirements for bird surveys are not expected to result in substantial environmental constraints, but could result in additional time requirements for CEQA compliance.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Some Environmental Constraints. The Regional Projects would be located in the City of San Fernando (SF01), City of Los Angeles (NHP), City of Glendale (GL01), City of South Pasadena (SP01), City of San Marino (SM01), City of Alhambra (AL01), City of Monterey Park (MP01), and the County of Los Angeles LAC01).

The City of San Fernando does not currently have any locally-designated tree species, and existing vegetation is limited to introduced species used for landscaping (i.e. lawn area, bushes, and trees) (City of San Fernando, 2008).

The City of San Marino has established an Oak Tree Preservation Program that assists property owners on the proper care of oak trees. San Marino has established tree removal regulations for private property, which would not apply to Lacy Park. The City however does prohibit tree removal in Lacy Park unless authorized by the City Manager.

The City of Alhambra has established tree removal requirements and allows trees to be removed at city-owned facilities only after a review by the department head having jurisdiction. Any removed trees must be replaced as soon as practicable.

The City of Monterey Park allows the removal of trees from public property provided the owner of adjacent private property receives approval from the recreation and parks director. It is assumed that the director would also have to approve any tree removals from Sierra Vista Park or public areas, if required for the water quality improvements.

The County of Los Angeles protects oak trees and requires a permit prior to any oak tree removals.

Other municipalities have established various requirements for tree protection.

The City of Los Angeles protects the following trees within its jurisdiction:

- Oak tree including valley oak
- California Live Oak
- Southern California Black Walnut
- Western Sycamore

- Any other oak genus indigenous to California but excluding the scrub oak,
- California Bay

The City of Glendale protects the following trees, regardless of their location (public or private property):

- Coast Live Oak
- Mesa Oak
- Valley Oak
- Scrub Oak
- California Sycamore
- California Bay

The City of South Pasadena has established regulations governing tree removals within its jurisdiction. A permit is required for trimming or removing the following tree types:

- Oak trees of all varieties
- Coast Redwood
- Dawn Redwood
- Sycamore
- Blue Elderberry
- Heritage trees
- Giant Redwood
- California Walnut
- Christmas Berry
- Mexican Elderberry

There is a potential for the Regional Projects to result in some tree removal, depending on the specific locations and parameters of the water quality improvements, which would require permits or other approvals from the respective jurisdiction. The jurisdictions could apply conditions of approval, including tree replacements, or other measure that mitigate the removals. There tree removals would likely have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

f. Would the project conflict with the provisions of an adopted habitat conservation plan, natural communities conservation plan, or any other approved local, regional, or state habitat conservation plan?

No Environmental Constraint. The Regional Project sites are located within urbanized areas and are developed as parks and recreational facilities. The sites are not located within an adopted Natural Communities Conservation Plan (NCCP) or Habitat Conservation Plan (HCP). In addition, the sites are not located in or near any SEA.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES.	Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?			X	
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
d.	Disturb any human remains, including those interred outside of formal cemeteries?			X	

Discussion:

a. Would the project cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines §15064.5?

No Environmental Constraints. The Regional Projects would be located at community parks, or on a center median. None of the locations where water quality improvements would occur at the Regional Project sites are developed with structures over the age of 50-years that would be directly affected, and therefore, none of the Regional Projects would result in demolition or relocation of any historic structure. However, there is one historic resource north of GL01, Fremont Park, and one historic structure located at the east end of Lacy Park (SM01) in San Marino.

SM01 – Lacy Park. Lacy Park was originally Wilson Lake in 1875, and the land was purchased by the city in 1925 and dedicated as a park. Many of the tree species, planted nearly 100 years ago, are the result of the designer, Mr. William Hertrich and its first Park Superintendent, Mr. Armin Thurnher. The City considers the Thurnher house, located at the east end of the Park, to be a historic resource. In addition, the San Marino War Memorial is located at the east end of the Park. The water quality improvements would be subsurface and confined to center area of the Park and are not expected to not result in physical changes to the Thurnher house or the War memorial.

GL01 – Fremont Park. Fremont Park is bounded by Kenilworth Avenue on its east boundary. Approximately 200 feet to the north of the northern boundary of Fremont Park, the Kenilworth Avenue Bridge crosses over the Verdugo Wash. This bridge is listed as a historic resource in the City of Glendale’s Register of Historic Resources. The water quality improvements would be confined to Fremont Park and would not result in physical changes to the bridge, or its context.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines §15064.5?

Some Environmental Constraints. The Regional Project site would be constructed within the boundaries of community parks and recreation sites. The surfaces of these sites are developed for active recreational uses (fields and courts) and passive recreational uses (picnic areas, etc.), and are not intensively developed. Because the development history of these sites is unknown and the onsite development is low intensity, there could be undisturbed soils below the sites which contain archaeological resources. Based on this, site-specific cultural resource investigations, including a cultural resources records search and field survey by a qualified archaeologist) should be conducted, either prior to or as part of the site-specific environmental documentation for each Regional Project. Mitigation that may be applied in the site-specific environmental document may include monitoring of excavation work by a qualified archaeologist with the authority to halt construction, and the subsequent evaluation and curation of any discovered resources. This potential constraint could have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Some Environmental Constraints. Similar to the discussion under archaeological resources, the development history of the Regional Project sites is unknown and the onsite development is low intensity. There could be undisturbed subsurface geological units suitable for containing paleontological resources. A site-specific paleontological records search should be conducted by the County's Natural History Museum to determine whether paleontological resources can be present at the depths that would occur at each site, either prior to or as part of the site-specific environmental documentation for each Regional Project. Mitigation that may be applied in the site-specific environmental document may include monitoring of excavation work by a qualified paleontologist with the authority to halt construction, and the subsequent evaluation and curation of any discovered resources. This potential constraint could have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

d. Disturb any human remains, including those interred outside of formal cemeteries?

No Environmental Constraint. No cemeteries or burial sites are known to have occurred at the Regional Project site; however, it is still possible that human remains exist in the subsurface. California Health and Safety Code Section 7050.5 requires that in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbances must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. Sections 5097.94 and 5097.98 of the Public Resources Code specify a protocol to be followed when the Native American Heritage Commission receives notification of a discovery of Native American human remains from a county coroner. Compliance with existing laws regarding the handling of human remains discovered outside of formal cemeteries are expected to address any issues associated with the unanticipated discovery of human remains during project construction, and no environmental constraints are anticipated.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI.	GEOLOGY AND SOILS. Would the project:				
a.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
	ii.) Strong seismic ground shaking?			X	
	iii.) Seismic-related ground failure, including liquefaction?			X	
	iv.) Landslides?				X
b.	Result in substantial soil erosion or the loss of topsoil?				X
c.	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			X	
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?				X

Discussion:

a. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

(i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Environmental Constraints. Southern California is one of the most seismically active areas in the U.S. Numerous active faults and fault zones are located within the general region, including the Whittier, Hollywood-Raymond, and Newport Inglewood faults. The Regional Projects would include subsurface storage basins and structures, and potentially some surface improvements. As a standard practice during the design process for any structure or facility, a geotechnical study is performed of each site that evaluates and identifies faults and fault zones that could affect the project, and that would make recommendations regarding project design based on the geotechnical considerations. Because geotechnical considerations are addressed during the design phase, the Regional Projects would not result in exposure of people or structures to substantial geotechnical hazards.

(ii.) Strong seismic ground shaking?

No Environmental Constraints. As discussed above, the Los Angeles Basin is an area of known seismic activity. The risk of seismic hazards such as ground shaking cannot be avoided. Similar to the earthquake fault hazards described above, geotechnical evaluations would be performed as a standard practice as part of the design phase, and the recommendations would be incorporated into project design to keep the Regional Projects from resulting in exposure of people or structures to substantial geotechnical hazards, including to ground shaking.

(iii.) Seismic-related ground failure, including liquefaction?

No Environmental Constraints. Similar to the earthquake hazards described above, a geotechnical study for each Regional Project would be prepared as a standard practice to address geotechnical considerations, including liquefaction, during the Project design phase, which would keep the Regional projects from resulting in exposure of people or structures to geotechnical hazards related to liquefaction.

(iv.) Landslides?

No Environmental Constraints. The Regional Projects would be constructed and operated on various community park sites and a center median. The project sites are relatively flat with no substantial natural or graded slopes. The Regional Projects are not located near any landslide hazard areas; therefore, there would be no environmental constraints.

b. Would the project result in substantial soil erosion or the loss of topsoil?

No Environmental Constraints. The majority of Regional Projects would involve storage structures beneath community recreation areas, and would not result in erosion. The

Regional Projects at Arroyo Park (SM01) could place bio-retention features at the ground surface; however, these improvements would be engineered and constructed in a manner that infiltrates captured stormwater, rather than conveys it offsite. These design features would limit the potential for erosion, and would not represent an environmental constraint.

- c. **Is the project located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?**

No Environmental Constraints. Although no unstable geologic conditions are known to occur at the Regional Project sites, a geotechnical study for each Regional Project would be prepared as a standard practice to address geotechnical considerations during the Project design phase. Recommendations would be incorporated into the project design, which would keep the Regional Projects from resulting in substantive geotechnical hazards or risk exposure.

- d. **Is the project located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

No Environmental Constraints Expansive soils generally result from specific clay minerals that expand when saturated and shrink when dry. Expansive clay minerals are common in the geologic deposits throughout the Southern California region, and there is the potential that expansive soils could be present at the Regional Project sites. As discussed above, a geotechnical study for each Regional Project would be prepared to address geotechnical considerations (including expansive soils) as a standard practice during the Project design phase, and recommendations would be incorporated into Project designs to keep the Regional Projects from resulting in substantial risks to life or property.

- e. **Would the project have soils that are incapable of supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

No Environmental Constraints. The Regional Projects are water quality improvement projects that do not generate wastewater. Therefore, the Regional Projects would not result in environmental constraints related to alternative wastewater disposal methods.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS.	Would the project:				
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b.	Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?			X	

Discussion;

- a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

No Environmental Constraints. The Regional Projects would generate criteria pollutant emissions during construction, including CO2 and equivalents. Construction emissions are amortized over 30-years, and are not likely to result in substantive annual greenhouse gas emissions. In addition, operation of the Regional Projects would consist of the pumping of stormwater to the treatment devices, and are not expected to generate substantial levels of greenhouse gasses.

- b. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?**

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not generate substantial greenhouse gas emissions. Because of this, the Regional Projects are not expected to not conflict with any applicable plans, policies, or regulations adopted by the state and local jurisdictions for the purposes of reducing GHG emissions.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school?				X
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?				X
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?				X
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Discussion:

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Environmental Constraint. Construction activities associated with the Regional Projects are not likely to involve the use of substantial quantities of hazardous materials and the most likely source of hazardous materials would be from vehicles and construction equipment at the site. However, there could be small amounts of hazardous materials, including solvents and lubricants used to maintain construction equipment. These materials would be confined and located at the applicable staging areas. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials), secondary confinement requirements, and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity and a Project-specific SWPPP, standard BMPs would be used during construction activities to minimize runoff of contaminants and clean-up any spills. Applicable BMPs include, but are not limited to controls for: vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; and waste management. Therefore, implementation of construction standards would minimize the potential for an accidental release of petroleum products, hazardous materials, and/or explosion during construction activities at the Project site. As a consequence, construction would not create an environmental constraint related to potential hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Operation of the Regional Projects would be automated (with minimal electrical consumption for pumping) and would not require hazardous materials. The infiltration units would filter incoming stormwater to remove oil, grease, metals, and trash; however, the filters would be routinely replaced, and disposed of in accordance with applicable laws and regulations. Based on the above, the Regional projects are not expected to create a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b. Would the project create a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

Some Environmental Constraints. The Regional Projects would be located on or beneath community parks within in residential or mixed commercial residential areas, Various hazardous materials and contamination databases were reviewed (Geotracker and Envirostor), and several sites were identified near two Regional Project sites (SF01 and AL01) that have indications of past contamination.

None of the other Regional Project sites were documented to have been subject to past contamination, leaks, or remediation efforts. Based on this, Regional Projects NHP, GL01, SP01, SM01, MP01, and LAC01 are not expected to create a hazard to the public or environment during construction.

- SF01 – Recreation Park. The water quality improvement are within Recreation Park is located about 350 feet west of a site (located just east of Parkside Drive) potentially contaminated with lead. The Envirostor database identifies this site as “San Fernando Playground” and as in need of evaluation. Because this site is in need of evaluation, the extent of contamination present is unknown, and due to its proximity to SF01, further due diligence may be required during the Project planning and design phase. This potential constraint could also have the effect of

increasing the length of time required for individual project approvals and CEQA compliance.

AL01 – Almansor Park. Geotracker identifies a leaking underground fuel tank located at 900 New Avenue that is owned by the City of Alhambra. Although Geotracker displayed the site location at the intersection of New Avenue and East Adams Avenue, the actual location of the tank may be at the City’s Fire Training Facility approximately 900 feet east of the area of Almansor Park where the water quality improvements would occur. Due to the distance of the leaking underground fuel tank from this Regional Project site and given that the tank location is at a lower elevation than Almansor Park, it is unlikely that leaked fuel has traveled to the Project site. In addition, Geotracker has identified several reported leaks from auto repair facilities (in 2000). Geotracker shows these sites located at the north end of Almansor Street (extended) and the railroad right-of-way; however, Geotracker appears to be displaying these locations incorrectly, and the actual locations of these facilities are north of the railroad right-of-way and west of the project site. Because of this, these facilities are not likely to have contaminated the project site or potential storm drain tie-in locations near the railroad right-of-way.

Based on the above, there appears to be a low potential for contaminated soils or groundwater to be present beneath the Project site, and no additional constraints related to hazardous materials are anticipated.

c. Would the project emit hazardous emissions or handle hazardous materials or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school?

No Environmental Constraint. None of the Regional Projects would utilize processes that could emit hazardous emissions or otherwise release hazardous substances or wastes. Infiltration devices would contain filtration systems designed to remove oils, metals, and other pollutants from storm water; however, the filters would be removed and disposed of in accordance with manufacturers’ recommendations and would not be released to the environment. Because of this, no environmental constraint associated with the Regional Projects are expected.

d. Is the project located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Environmental Constraint. The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the Legislator who authored the legislation that enacted it). Because this statute was enacted over twenty years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information to be included in the Cortese List does not exist. While Government Code Section 65962.5 makes reference to the preparation of a "list," many changes have occurred related to web-based information access since 1992 and this information is now largely available on the Internet sites of the responsible organizations (CalEPA, 2015). The California Environmental Protection Agency (CalEPA) has identified the data resources that provide information regarding the facilities or sites identified as meeting the "Cortese List" requirements (Cal EPA, 2014b), which are as follows:

- List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database,
- List of Leaking Underground Storage Tank Sites by County and Fiscal Year from State Water Board GeoTracker database,
- List of solid waste disposal sites identified by the State Water Board with waste constituents above hazardous waste levels outside the waste management unit,
- List of "active" Cease and Desist Orders (CDO) and Cleanup and Abatement Order (CAO) from the State Water Board¹, and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

The Hazardous Waste and Substance Site List maintained by the DTSC Information was downloaded from the DTSC EnviroStor website (DTSC, 2015), and reviewed. The Regional Project sites are not listed in the Hazardous Waste and Substance Site.

The Leaking Underground Storage Tank (LUST) Cleanup Sites contained in the State Water Resources Control Board (SWRCB) GeoTracker database was queried (February, 2015), and the Regional Project sites are not contained in the LUST Cleanup Site list.

The list of solid waste disposal sites identified by the SWRCB with waste constituents above hazardous waste levels outside the waste management unit (CalEPA, 2015c) was reviewed, and the Project site was not contained in the list.

The list of "active" CDOs and CAOs from the SWRCB (SWRCB, 2015b) was downloaded in February, 2015 and reviewed (sorted and searched). The Regional Project sites are not contained in the list of "active" CDO and CAO.

The DTSC list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code (DTSC, 2015b) was reviewed and the Regional Project sites are not included in this list.

Based on the reviews of the specific lists that currently comprise the Cortese List, none of the Regional Project sites are contained on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Environmental Constraints. The Regional Project site that is closest to a public airport is SF01, which is located approximately 1.4 miles northwest of the Whiteman Airport runway. None of the other Regional Project are located within 2 miles of a public use airport. Although SF01 is located within 2 miles of an airport, neither it nor the other Regional Project sites are located within an airport land use plan; therefore, there would be no environmental constraints.

¹ This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the State Water Boards' database does not distinguish between these types of orders.

- f. **For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

No Environmental Constraints. There are numerous private airports throughout Los Angeles County, which include heliports. The proximity of the heliports to any of the Regional Projects would not result in a safety hazard for people working in the Project area, as the Regional Project would have no effect on air transport activities or their flight paths. The Regional Projects would therefore not result in any safety hazards for people in the vicinity of the sites.

- g. **Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

No Environmental Constraint. The Regional Project sites are currently used for recreational activities (active and passive). Although the Regional Projects would place water quality improvement infrastructure within the park and recreational sites, additional construction would be required at each site to connect with the existing storm drain system, which are located within the streets surrounding each site. The storm drain connections would involve excavations into the streets to make the tie-ins with the storm drains, and would require the temporary closure of one or more lanes while street work is occurring. However, street work would occur under permit from the applicable City or County, and appropriate notifications would be made to local emergency providers so that alternative routes can be planned for in the event of an emergency. As a standard practice, street work would be subject to the requirements of a Traffic Control Plan approved by the local transportation agency, or would comply with applicable work area traffic control requirements. In addition, contractors would have steel plating available in the event excavations need to be quickly spanned. Aside from the temporary street work, no other disruptions to the local transportation system would occur, and substantial interruptions to emergency access are not anticipated.

- h. **Would the project expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

No Environmental Constraint. The Regional Project sites are developed as community parks and recreations areas, or landscaped center median, and no wildlands are present at the Regional Project sites. The areas immediately surrounding the Regional Project sites are urbanized, and no increased wildland fire hazard is expected as a result of the water quality improvements at each site.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	HYDROLOGY AND WATER QUALITY. Would the project:				
a.	Violate any water quality standards or waste discharge requirements?		X		
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?				X
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?				X
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?			X	
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f.	Otherwise substantially degrade water quality?				X
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?				X
h.	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
j.	Contribute to inundation by seiche, tsunami, or mudflow?			X	

Discussion:

- a. Would the project violate any water quality standards or waste discharge requirements?**

Some Environmental Constraints. The Regional Projects would install and operate water quality improvement facilities at eight parks Upper Los Angeles River watershed, which would divert, treat, and infiltrate stormwater in order to meet the requirements of the MS4 permits. The Regional Projects would generally result in beneficial impacts to water quality.

However, for SF01, there is a remote potential for subsurface contamination to be present at portions of SF01 if contamination from the sites west of Parkside Drive (see Checklist Item VIII.b. above) has migrated westward. If such subsurface contamination is present and infiltration would occur in areas where the contamination is present, then there is a potential for adverse water quality impacts to groundwater. This potential environmental constraint is considered remote but could result in increased time for the planning and design of these three Regional Projects, and could also have the effect of increasing the length of time required for individual project approvals, design and CEQA compliance.

- b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?**

No Environmental Constraints. The Regional Projects would not be located in areas used for groundwater recharge and therefore would not interfere with groundwater recharge. The Regional Projects would divert runoff and stormwater from the storm drain system in the Upper Los Angeles River watershed, and treat and infiltrate some of the diverted stormwater. As a consequence, the Regional Projects are considered to provide beneficial effects to groundwater by increasing infiltration above baseline conditions.

- c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?**

No Environmental Constraints. The Regional Projects would be located within community parks or a center median, and would not result in physical changes to a stream

or river. All Regional Project sites would be restored following construction. Infiltration would occur subsurface and would not result in erosion. Bio-retention features would be designed to properly manage the diverted runoff and storm water, and would not result in erosion.

- d. **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?**

No Environmental Constraints. The Regional Projects would divert and store or divert and treat/infiltrate a portion of the stormwater generated within the Upper Los Angeles River watershed, and would have the effect of decreasing the amount and slowing runoff generated in the watershed, which are considered to be beneficial effects. In addition, the stormwater diversions would decrease the potential for flooding downstream.

- e. **Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

No Environmental Constraints. The Regional Projects would divert and store or treat/infiltrate a portion of the stormwater generated within the Upper Los Angeles River watershed, and would have the effect of improving runoff quality and decreasing the potential for flooding downstream.

- f. **Would the project otherwise substantially degrade water quality?**

No Environmental Constraints. No constraints regarding water quality are anticipated beyond those discussed under Checklist Item IX.a. above.

- g. **Would the project place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?**

No Environmental Constraints. No housing is proposed under any of the Regional Projects.

- h. **Would the project place within a 100-year floodplain structures that would impede or redirect flood flows?**

No Environmental Constraints. The water quality improvements under the Regional Projects would be either buried infiltration or storage units, or surface bio-retention features, neither of which would impede site runoff or flood flows.

- i. **Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?**

No Environmental Constraints. Based on a review of the safety elements of the general plans of the Cities of Glendale, Los Angeles, Monterey Park, Pasadena, and South Pasadena, Regional Project sites SF01, NHP, SP01, and LAC01 appear to be within potential inundation or flood areas, including areas subject to flooding in the event of a dam failure. However, the Regional Projects would not house people or otherwise increase the risk of exposure to risks related to potential flooding. In addition, the Regional

Projects are stormwater management projects that are expected to result in beneficial effects to downstream conveyance capacity in the event of a flood.

j. Would the project contribute to inundation by seiche, tsunami, or mudflow?

No Environmental Constraints. The Regional Project sites are not located within a tsunami hazard zone, or near inland water bodies that could be subject to a seiche. In addition, the sites are relatively flat and are not subject to mudflows.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	LAND USE AND PLANNING. Would the project:				
a.	Physically divide an established community?				X
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Discussion:

a. Would the project physically divide an established community?

No Environmental Constraints. The Regional Projects would be located within existing community parks, and would not physically divide the surrounding communities.

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

No Environmental Constraints. The Regional Projects would be placed within community parks that are designated as open space or public facilities, and are considered to be consistent with planned and existing uses. It should be noted that for the water quality improvements under SP01, part of the site located west of Arroyo Seco appears to fall within the City of Los Angeles, and another portion within the City of South Pasadena. Regardless, the improvements at SP01 are not expected to conflict with either jurisdiction's applicable land use plan.

c. Would the project conflict with any applicable habitat conservation plan or natural communities conservation plan?

No Environmental Constraints. The Regional Project sites do not fall within or near an area covered by a habitat conservation plan or natural communities conservation plan. In addition, there are no Significant Ecological Areas in the vicinity of the Regional Projects.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES.	Would the project:				
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X

Discussion:

- a. **Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

No Environmental Constraints. The Regional Projects would be located within existing community parks or a center median, and none of the sites are designated as containing important mineral resources.

- b. **Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

No Environmental Constraints. The Regional Project sites are designated in the applicable general plan as open space or parks. Therefore, the Regional Projects would not result in the loss of availability of mineral resources.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE.	Would the project:				
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?		X		
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?			X	
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?				X
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?				X

Discussion:

- a. Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?**

No Environmental Constraints. The Regional Projects would be located beneath the surface as the eight respective sites and the surface restored such that existing activities could resume following completion of construction. Operation of the water quality improvements would be automated and pump systems required to convey stormwater to the buried facilities would either be subsurface or placed in small housing units. Noise from operations is not expected to be noticeable, and would not result in elevations in ambient noise levels at the Regional Project sites or vicinities. The water quality improvements would require periodic maintenance; however, maintenance activities would not result in substantial elevation in ambient noise.

Construction of the water quality improvement facilities would result in noise associated with construction equipment and haul trip activities. Construction noise is typically governed by ordinance in each jurisdiction, and the following summarizes the construction noise regulations (the City of San Fernando construction noise regulations are discussed below).

- City of Los Angeles Noise Regulations. The City of Los Angeles (municipal Code, Chapter IV, Article 1, Section 41.40) allows construction Monday through Friday between 7:00 a.m. to 9:00 p.m., Saturdays and National Holidays between 8:00 a.m. to 6:00 p.m., and prohibits construction on Sundays (except for residents). The noise regulations also prohibit night construction if related noise can disturb persons occupying sleeping quarters in any dwelling, hotel, or residence. Major public works projects conducted by the City are exempt from this weekend and holiday restriction.
- City of Glendale Construction Noise Regulations. The City of Glendale (Municipal Code section 8.36.080) prohibits construction for projects within 500 feet of a residential zone between the hours of 7:00 p.m. one day and 7:00 a.m. the next day; 7:00 p.m. Saturday to 7:00 a.m. Monday; and from 7:00 p.m. preceding a holiday to 7:00 a.m. following such holiday.
- City of South Pasadena Noise Regulations. The City of South Pasadena (Municipal Code 19A.13) prohibits construction within or within 500 feet of a residential before 8:00 a.m. and after 7:00 p.m. on Monday through Friday, on Saturday before 9:00 a.m. and after 7:00 p.m., and Sunday before 10 a.m. and after 6:00 p.m.
- City of San Marino Noise Regulations. The City of San Marino (Municipal Code Section 25.01.02) prohibits construction between the hours of 6:00 p.m. and 7:00 a.m. Monday through Friday, on Saturdays, before 9:00 a.m. and after 4:00 p.m., and on Sunday and National holidays. City of Alhambra. The City of Alhambra regulates noise sources in its jurisdiction (Municipal Code Chapter 18.02), but exempts construction on public property or by public entities or their authorized representatives from the noise regulations.
- City of Monterey Park. The City of Monterey Park regulate noise sources in its jurisdiction (Municipal Code 9.53.010 - 9.53.070), but exempts construction conducted between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and the hours of 9:00 a.m. and 6:00 p.m. on Saturdays, Sundays and holidays.
- County of Los Angeles. The County of Los Angeles regulates noise within its jurisdiction (Code section 12.08.440) and prohibits construction activities between the hours of 7:00 p.m. and 7:00 a.m. and on Sundays and national holidays. The Code also establishes specific noise level limits at residential receptors for different categories of construction (mobile equipment operated for short durations, and stationary equipment operated for longer durations); however, the construction noise levels of the proposed project are exempt from the noise limits of the County Noise Control Ordinance as specified in the County Noise Control Ordinance Part 5 Exemptions, H: 5, which includes all transportation, flood control, and utility company maintenance and construction operations at any time on public right of way, and those situations, which may occur on private real property deemed necessary to serve the best interest of the public and to protect the public's health and well-being (County, 2012).

Construction of the Regional Projects would occur within the hours allowed for in the applicable noise regulations, or would be exempt from the noise regulations. It should be noted that several schools (Martha Baldwin Elementary School and Emmaus Lutheran Preschool) are located close to Almansor Park, and a Head Start preschool is located at the central portion of Franklin D. Roosevelt Park, and some noise reducing measures may be prudent during construction despite compliance with noise regulations.

Some Environmental Constraints. The City of San Fernando has established construction noise controls that set limits on when construction could occur, and the noise levels at the property line. Section 34-28 (a)(10) (Specific noises prohibited) and Section 34-31(5) (Exclusions) of the San Fernando Municipal Code provide the following provisions for construction noise:

Noise sources associated with construction, repair, remodeling or grading of any real property are allowed up to 70 dB measured at the property line, provided such activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday.

Construction at Recreation Park would comply with the construction time restrictions (no construction between the hours of 6:00 p.m. to 7:00 a.m. Monday through Friday, or at any time on Saturdays and Sundays); however construction noise at the property line of the park could exceed the 70dBA restriction level established in the code. As such, construction of the water quality improvements at Recreation Park could conflict with the City's noise regulations. This potential environmental constraint could result in increased time required for CEQA compliance for SF01.

b. Expose persons to or generate excessive groundborne vibration or groundborne noise?

No Environmental Constraints. Construction activities of the Regional Projects would generate some level of vibration. Construction equipment such as excavators, loaders, and haul trucks would generate vibrations that could result in groundborne noise or vibration that could affect nearby structures or residences. Transient vibration levels greater than 0.5 inches per second (in/sec) and continuous/frequent intermittent vibration levels greater than 0.3 in/sec have the potential to damage older residential structure. Additionally, transient vibration levels greater than 2.0 in/sec or continuous sources greater than 0.4 in/sec would be severely noticeable to a human (Caltrans, 2013b). All phases of the construction involve multiple trucks and other vibration producing equipment resulting in vibration levels approximately up to 0.02 in/sec at the closest residences. Excessive groundborne vibration and/or groundborne noise are not anticipated. Therefore, substantial vibrations are not expected to occur during construction of the Regional Projects.

Operation of the Regional Project could include changing of filters in runoff treatment units and general inspections; however, these types of maintenance activities do not produce substantive vibrations. Therefore, operation of the proposed Project would not result in impacts related to groundborne vibration or noise.

c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Environmental Constraints. Operation of the Regional Projects would include pump stations or wet wells that transfer stormwater from storm drains to the water quality improvement structures, as well as general maintenance activities. Pump stations would be underground or housed in small structures, and are not expected to produce audible

noise. Because of this, operation of the Regional Projects are not expected to result in permanent increase in ambient noise levels.

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Some Environmental Constraints. Construction of the Regional Projects would occur within the hours allowed for in the applicable local noise regulations or would be exempt from noise regulations, and although construction would result in temporary increases in noise levels compared to ambient conditions without construction, the noise levels are presumably not considered to be substantial due to consistency with noise regulations.

However, for construction projects in the City of Los Angeles that last more than 10 days within a three-month period, the City recommends using the threshold of significance of 5 dBA or more increase in noise levels over existing ambient community noise equivalent level (CNEL), which is a type of 24-hour average noise level (City of Los Angeles, 2006). Given the extent of construction, the anticipated construction durations, and the surrounding noise receptors, it is likely that construction of the Regional Projects in the City of Los Angeles (NHP) would result in temporary elevations of the CNEL in excess of the 5dBA threshold, which would have the effect of increasing the length of time required for individual project approvals and CEQA compliance.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Environmental Constraints. The Regional Project site that is closest to a public airport is SF01, which is located approximately 1.4 miles northwest of the Whiteman Airport runways. Although SF01 is located within 2 miles of an airport, the water quality improvements would be automated, and would not expose people to excessive noise related to proximity to an airport. None of the other Regional Project sites are located within an airport land use plan or within 2 miles of a public airport.

f. For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Environmental Constraints. There are numerous private airports throughout Los Angeles County, which include heliports. The proximity of the heliports to any of the Regional Projects would not result in exposure of people to excessive noise levels, as the Regional Project would have no effect on air transport activities or their flight paths, and would not cause people to move closer to a private airport.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII.	POPULATION AND HOUSING. Would the project:				
a.	Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?				X
b.	Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?				X
c.	Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?				X

Discussion:

- a. **Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and business) or indirectly (e.g., through extension of roads or other infrastructure)?**

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not result in substantive employment demand and do not have a housing component that could induce population growth.

- b. **Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

No Environmental Constraints. No housing is located on any of the Regional Project sites, and no housing displacements would occur.

- c. **Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

No Environmental Constraints. There is no housing within the Regional Project site boundaries that would be displaced. The Regional Projects would not result in the displacement of any persons, or the need for replacement housing.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV.	PUBLIC SERVICES. Would the project:				
a.	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
	i.) Fire protection?				X
	ii.) Police protection?				X
	iii.) Schools?				X
	iv.) Parks?				X
	v.) Other public facilities?				X

Discussion:

- a. **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

i.) Fire Protection

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new fire protection services. Although the Regional Projects would involve some construction within the street system to connect to storm drains, the construction is not expected to substantively increase fire protection response times because prior notifications to emergency service providers occur as a standard permit condition for in-street construction.

ii.) Police Protection

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new police protection services. Although the Regional Projects would involve some construction within the street system to connect to storm drains, the construction is not expected to substantively increase police protection response times

because prior notifications to emergency service providers occur as a standard permit condition for in-street construction.

iii) Schools

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new schools.

iv) Parks

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new parks. Environmental constraints related to impacts on existing community parks are discussed under Checklist Item XV.b. below.

v) Other Public Facilities

No Environmental Constraints. The Regional Projects are water quality improvement projects that would not increase housing or induce population growth that could in turn increase the need for new public facilities.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION.	Would the project:				
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?		X		

Discussion:

- a. **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

No Environmental Constraints. The Regional Projects would construct and operate water quality improvement facilities at specific community parks in the Cities of San Fernando, Los Angeles, Glendale, San Marino, Alhambra, and Monterey Park, and the County of Los Angeles. The water quality improvement facilities are considered to be infrastructure projects that do not increase the housing stock and do not result in the movement or relocation of people from one area to another. As a consequence, the Regional Projects would not result in increased demand for recreational facilities and would therefore not directly or indirectly result in physical deterioration of parks or other recreational facilities.

- b. **Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?**

Some Environmental Constraints. The Regional Projects would construct and operate water quality improvement facilities at specific community parks. Construction is estimated to take up to 18 months, and would result in the temporary disruption of park activities within the construction zone. The likely disruption to recreational uses at each Regional Project site are discussed below.

- **SF01 – Recreation Park.** The water quality improvement features at Recreation Park include buried storage basins and infiltration units within southern portion of the park. The improvements, depending on where they would be located, would require substantial excavation of the main park site, which could result in temporary closure of the softball field and other areas within the south end of the park. The closures would occur for the duration of construction (estimated to be 12-18 months) and the amount of time it would take to restore the fields, and other affect recreational features (estimated at 1-2 months). The temporary loss of

recreational areas of Recreation Park is likely to require close coordination between the City of San Fernando, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

- NHP – North Hollywood Park. The water quality improvements at North Hollywood Park would likely be subsurface infiltration and/or storage structures. Construction of these facilities would result in the temporary closure of some existing walking paths areas used for passive recreation. The temporary closure of a large portion of North Hollywood Park during construction is likely to require close coordination between the City of Los Angeles, local residents, and community stakeholders to develop suitable mitigation options for addressing impacts to passive recreational uses of the park. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- GL01 - Fremont Park. The water quality improvements proposed for the Fremont Park include a subsurface infiltration or storage facility within the southeastern portion of the park (beneath the active field). The improvements would require the temporary closure (up to approximately 18 months) of this portion of the park, including the active field and potentially relocation of other recreational facilities within the park. The temporary closure of a portion of Fremont Park during construction will likely to require close coordination between the City of Glendale, local residents, and community stakeholders to develop suitable mitigation options for addressing impacts to Fremont Park. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- SP01 – Arroyo Park. The water quality improvement facilities at Arroyo Park would include buried infiltration structures storage basins beneath the 3 baseball and softball fields in the northern part of the park, beneath the baseball field at the portion of the park west of the Arroyo Seco, and potential surface bio-retention improvements east of the Arroyo Seco to Stoney Drive. This latter area contains vegetation and does not appear to be used for active recreation. The improvements are likely to require substantial excavation within the park, which would result in temporary closure of multiple active areas (baseball and softball fields) and the periphery. Other park uses such as picnic areas and playgrounds may require relocation to elsewhere in the park. The closures would occur for the duration of construction (estimated to be up to 18 months) and the amount of time it would take to restore the fields and recreational areas. The temporary closure of the recreational uses within Arroyo Park is likely to require close coordination between the City of South Pasadena, City of Los Angeles (a small section of the park west of the Arroyo Seco is located within the City of Los Angeles), local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

- SM01 – Lacy Park.** The water quality improvement facilities at Lacy Park would include buried infiltration and/or storage basins in approximately the center of the park. The improvements would require substantial excavation, which could result in temporary closure of the ball field and potentially several picnic areas around the periphery of the central green space. The temporary closure would occur for the duration of construction (estimated to up to 18 months) plus the amount of time it would take to restore the central green space area (estimated at 1-2 months). The temporary closure of the central portion of Lacy Park is likely to require close coordination between the City of San Marino, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary closure. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- AL01 – Almansor Park.** The water quality improvement facilities proposed for Almansor Park include buried infiltration units and storage basins beneath the ball fields. The improvements would require substantial excavation, which would result in temporary closure of the ball fields for the duration of construction (estimated to be up to 18 months) plus the amount of time it would take to restore the fields, and other affect recreational features (estimated at 1-2 months). The temporary closure of the recreational uses within Almansor Park is likely to require close coordination between the City of Alhambra, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- MP01 – Sierra Vista Park.** The water quality improvement facilities proposed for Sierra Vista Park include buried infiltration units and/or storage basins at the southern end of the park, beneath the softball field. The improvements would require substantial excavation, which would result in temporary closure of the softball field and tennis courts. The closures would occur for the duration of construction (estimated to be up to 18 months) plus the amount of time it would take to restore the field, and other affect recreational features (estimated at approximately 1 month). The temporary closure of the recreational uses within Sierra Vista Park is likely to require close coordination between the City of Monterey Park, local residents, and community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational uses. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.
- LAC01 – Franklin D. Roosevelt Park.** The water quality improvement facilities proposed for the Franklin D. Roosevelt Park would include buried infiltration units and/or storage basins beneath the northern, middle, and southern areas of the Park. The improvements are likely to require substantial excavation and result in temporary closure of these areas of the park, which include soccer fields, ball fields, basketball courts, and picnic areas. The closures would occur for the duration of construction (estimated to be up to 18 months) plus the amount of time it would take to restore the affected recreational areas (estimated at 1-2 months). The temporary closure of large portions of Franklin D. Roosevelt park will require close coordination between the County of Los Angeles, local residents, and

community stakeholders to develop suitable mitigation options for addressing the temporary loss of recreational areas. This represents an environmental constraint which would have the effect of increasing the length of time required for project approval and CEQA compliance.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC.	Would the project:				
a.	Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				X
c.	Result in a change in marine vessel traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d.	Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e.	Result in inadequate emergency access?				
f.	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

Discussion:

- a. **Would the project increase the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

No Environmental Constraints. The Regional Projects would involve water quality improvements at eight community parks within the Upper Los Angeles River watershed.

Although the Regional Projects would require some construction within the streets surrounding each site to make connections with storm drains, the construction would be temporary and subject to traffic control plans as required by the applicable city. Once the connections are made, the streets would be repaired and returned to service. Because the Regional projects would not make substantive changes to the circulation system or street capacities, they are not expected to pose environmental constraints in this area.

- b. Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

No Environmental Constraints. The Regional Projects are not located along a designated or interim CMP highway or arterial (Metro, 2010), and are not considered traffic generators. Therefore, the Regional Project would not conflict with the LA County Congestion Management Plan.

- c. Would the project result in a change in marine vessel traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

No Environmental Constraints. The Regional Projects are land based and are not generators of marine vessel traffic. Therefore, the Regional Project would not result in any environmental constraints related to marine vessel traffic.

- d. Would the project substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

No Environmental Constraints. The Regional Projects would involve water quality improvements at seven community parks. Although the Regional Projects would require some construction within the streets surrounding each site to make connections with storm drains, the construction would be temporary and subject to traffic control plans as required by the applicable city. Once the connections are made, the streets would be repaired and returned to service. Because no substantive changes would be made to the street system, the Regional Projects would not increase roadway hazards.

- e. Would the project result in inadequate emergency access?**

No Environmental Constraints. As discussed under Checklist Item VIII.g. above, the Regional Projects would not result in substantial interruptions to emergency access.

- f. Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?**

No Environmental Constraints. The Regional Projects proposed for the community park sites would not result in permanent changes to the street systems that could affect alternative transportation routes, such as bike lanes or bike paths.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS.	Would the project:				
a.	Exceed wastewater treatment requirements of the applicable regional water quality control board?				X
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?				X
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g.	Comply with federal, state, and local statutes and regulations related to solid waste?				X

Discussion:

- a. Would the project exceed wastewater treatment requirements of the applicable regional water quality control board?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that are not generators of wastewater. Therefore, the Regional Projects would not affect wastewater treatment requirements.

- b. **Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

No Environmental Constraints. The Regional Projects are water quality improvements projects would not consume or require potable water, and would not generate wastewater. Therefore, the Regional Projects would not increase require new potable water supplies or additional wastewater treatment capacity.

- c. **Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that would divert a portion of the runoff generated in the Upper Los Angeles River watershed, and would store, treat, and infiltrate the diverted runoff. The Regional Projects would have beneficial effects on downstream storm drain capacity.

- d. **Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that would not consume water. Therefore, the Regional Projects would not require new water supplies.

- e. **Has the wastewater treatment provider that serves or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

No Environmental Constraints. The Regional Projects are water quality improvements projects that would not generate wastewater and would not have an effect on existing wastewater treatment capacity.

- f. **Is the project served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

No Environmental Constraints. The Regional Projects are water quality improvements projects would not generate substantial amounts of solid wastes. The Regional Projects would include a pre-treatment or filtration device that removes sediment, oils, particulates, and other contaminants from stormwater. The filters would periodically be removed and disposed of in accordance with applicable laws and regulations. Although some solid wastes would be generated by the Regional Projects, the amounts would be minimal and would not adversely affect landfill capacity. During construction, excavated soil would be hauled away and reused elsewhere in the area, or used as landfill cover, which does not contribute to reductions in landfill capacity.

- g. **Would the project comply with federal, state, and local statutes and regulations related to solid waste?**

No Environmental Constraints. As discussed above, the Regional Projects would generate minimal solid wastes, but would comply with applicable solid waste regulations.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII.	MANDATORY FINDINGS OF SIGNIFICANCE				
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?		X		
b.	Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)		X		
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Discussion:

- a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?**

Construction of the Regional Projects could affect nesting birds if tree removals are required during the nesting season. Construction of water quality improvements at the Regional Project sites has the potential to encounter archaeological and paleontological resources, which could require site-specific mitigation. These potential constraints have been identified above, and would be addressed during site-specific CEQA compliance.

- b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past**

projects, the effects of other current projects, and the effects of probable future projects.)

Construction of the Regional Projects could contribute to cumulative air quality and potentially cumulative noise impacts, as well as other resource area cumulative impacts. However, cumulative impacts would be addressed in the County's Program EIR or in site-specific CEQA documentation.

c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

The Regional Projects would result in impacts on human beings related to air quality, hazardous materials, water quality, noise, and recreation, as described above. These impacts would be addressed in future site-specific CEQA documentation.

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Los Angeles County Flood Control District. 2014. Notice of Preparation of a Draft Program Environmental Impact Report - Project: Enhanced Watershed Management Programs. August 29.

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Environmental Constraints of Regional Projects within the Upper Los Angeles River Watershed	60	February , 2015
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APPENDIX C
OPTIMIZATION RESULTS
by TetraTech

Assumptions

- BMP area was fixed at the maximum footprint; depth was varied
- Maximum BMP depth was assumed based on the assumptions below
- Each curve is cut off at the maximum BMP size, per assumptions below

Cluster ID	Site Name	Max Drainage Area ¹ (ac)	Min Drainage Area ² (ac)	BMP Footprint (ac)	Max. BMP Depth ³ (ft)	Max. Practical Active Depth (ft)	Aggregate Infiltration Rate ⁴ (in/hr)	Comment on Max Drainage Area
AL01	Almanson Park	1145	51	10.205	165	25	0.70	Max updated to now include San Pascual Wash as max.
GL01	Fremont Park	13375.7	206.2264	0.3743	50	20	0.30	Max is not applicable as it is accepting the Verdugo Wash
LAC01	Roosevelt Park	2249.62	190	9.5979	80	20	0.30	Okay as is
MP01	Sierra Vista Park	2927.7265	799.4605	0.652	80	20	0.30	Okay as is
SF01	San Fernando	4429.9353	422.2799	2.7103	50	20	0.80	Max is not applicable as this is accepting the Pacoima Wash
SM01	Lacy Park	927.52563	1067.2045	2.3892	145	20	0.39	Okay as is
SP01	Lower Arroyo Park	15380.546	145.2086	10.588	25	25	0.80	Max is not applicable as it is accepting the Arroyo Seco
NHP	North Hollywood Park	13909.873	5122.0118	7.9579	65	20	0.80	Max is not applicable as it is accepting the Tujunga Wash

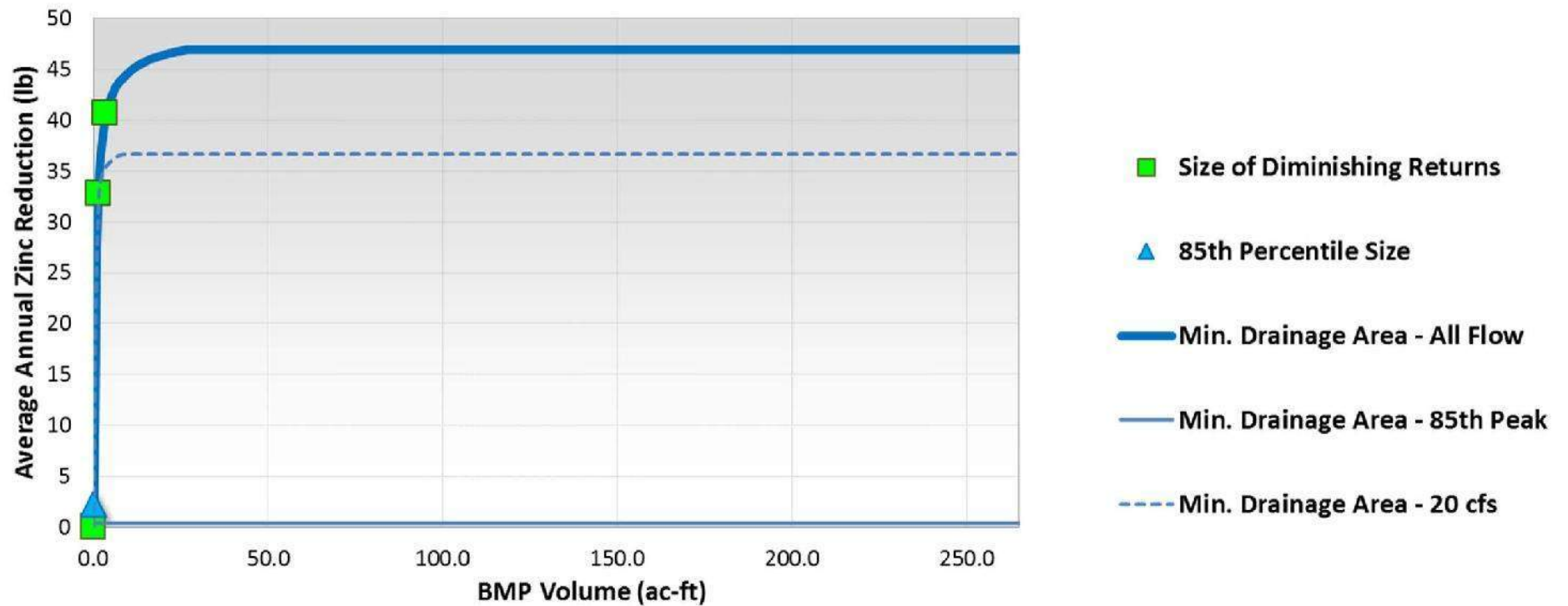
¹ Max Drainage Areas were delineated from subwatersheds from LA County GIS

² Min Drainage Areas were provided by Tetra Tech

³ BMP depth was determined using Groundwater Depth Contours provided by Tetra Tech. 10 feet of separation is a conformance with the County's LID ordinance.

⁴ Soil data was taken from LA County GIS and associated infiltration rates were provided by Eliza Jane

SP01 – Lower Arroyo Park



Small drainage area and large BMP footprint; small incremental increases in BMP size result in high pollutant load reduction



ATTACHMENTS FOR SECTION 3

Schedule

The preliminary schedule to prepare a feasibility study (1/1/2021), design and permit (1/1/2022), and construct the project (1/1/2024) will support the Upper LA River EWMP Group's effort to attain its 2024 interim compliance target.



ATTACHMENTS FOR SECTION 4

Water Quality & Water Supply



ATTACHMENTS FOR SECTION 5

Community



SAFE, CLEAN WATER PROGRAM

FEASIBILITY STUDY REPORT

Regional Program Projects Module

PROJECT NAME	Arroyo Seco-San Rafael Treatment Wetlands
PROJECT LEAD(S)	City of Pasadena
SCW WATERSHED AREA	Upper Los Angeles River
PRELIMINARY SCORE	74
TOTAL SCW FUNDING REQUESTED	\$ 4,771,357.00
YEAR 1 FUNDING REQUESTED	\$ 1,194,953.00

Submitted On: Thursday, October 15, 2020

Created By: City of Pasadena (Sean Singletary)

OVERVIEW

The objective of the Regional Infrastructure Program under the Safe, Clean Water (SCW) Program is to plan, build, and maintain multi-benefit watershed-based projects that improve water quality and increase water supply and/or enhance communities. A Feasibility Study is required before a project can be submitted for consideration and scoring for funding through the Los Angeles Region Safe, Clean Water (SCW) Program's Regional Infrastructure Program. Each Feasibility Study should provide enough information about a potential project to allow the Watershed Area Steering Committee members to make an informed decision for as to which projects should move forward for consideration for funding. The Minimum Feasibility Study Requirements for the Scoring and Consideration of Regional Infrastructure Program Projects is available at: <https://portal.safecleanwaterla.org/projects-module/>.

This document is based upon an output from the web-based tool called the 'SCW Regional Projects Module' (<https://portal.safecleanwaterla.org/projects-module/>). This output summarizes the information and data provided to Regional Projects Module, and also provides an initial estimate of project scoring per the SCW Infrastructure Program Project Scoring Criteria.

IMPORTANT: ALL SCORING ESTIMATES GENERATED BY THE PROJECTS MODULE ARE PRELIMINARY AND SUBJECT TO REVIEW AND REVISION BY THE SCORING COMMITTEE.

ORGANIZATIONAL OVERVIEW:

1 GENERAL INFORMATION

- 1.1 Overview
- 1.2 Project Location
- 1.3 Project Description

2 DESIGN ELEMENTS

- 2.1 Configuration
- 2.2 Capture Area
- 2.3 Diversion
- 2.4 Site Conditions & Constraints
- 2.5 Monitoring
- 2.6 O & M

3 WATER QUALITY

- 3.1 MS4 Compliance
- 3.2 24-hour Storm Capacity
- 3.3 Event-based Design Details
- 3.4 Long-term Performance

4 WATER SUPPLY

- 4.1 Nexus
- 4.2 Benefit Magnitude
- 4.3 Cost Effectiveness

5 COMMUNITY INVESTMENT

- 5.1 Community Investment
- 5.2 Local Support

6 NATURE-BASED SOLUTIONS

7 COST & SCHEDULE

- 7.1 Cost & Schedule
- 7.2 Cost Share
- 7.3 Funding Request

8 ADDITIONAL FEASIBILITY INFO

- 8.1 Environmental Documents and Permits
- 8.2 Vector Minimization
- 8.3 Alternatives Studied (optional)
- 8.4 Effectiveness
- 8.5 Legal Requirements and Obligations
- 8.6 Technical Reports
- 8.7 Other

9 SCORING

10 ATTACHMENTS

1 GENERAL INFORMATION

This section provides general information on the project including location and project description.

1.1 Overview

The following table provides an overview of the project and the Project Developer(s):

Project Name:	Arroyo Seco-San Rafael Treatment Wetlands
Project Description:	Two regional stormwater capture & treatment facilities located within open space near the Arroyo Seco Channel in Pasadena & South Pasadena.
SCW Watershed Area:	Upper Los Angeles River
Call for Projects year:	FY21-22
Total SCW Funding Requested:	\$ 4,771,357.00
Phase(s) this application is requesting SCW funding for:	Design, Construction
Project Weather Type:	Wet
Project Lead(s):	City of Pasadena
Additional Project Collaborators:	City of South Pasadena
Additional Project Collaborators:	City of Los Angeles
Additional Project Collaborators:	N/A
Anticipated IPPD:	City of Pasadena and City of South Pasadena
Is this a non-municipal project?	No
Primary Contact (if differs from submitter):	Sean Singletary, Principal Engineer, City of Pasadena
Primary Contact Email (if differs from submitter):	ssingletary@cityofpasadena.net
Secondary Contact (if differs from submitter):	Brent Maue, Assistant City Engineer, City of Pasadena
Secondary Contact Email (if differs from submitter):	bmaue@cityofpasadena.net

1.2 Project Location

The following table summarizes the project location:

Latitude:	34.125321
Longitude:	-118.166416
Street Address:	N/A
City:	Pasadena
State:	CA
Zip Code:	91106
Municipality:	Pasadena

Please see the following attachment(s) for a project location map.

Attachments for this Section	
Attachment Name	Description
Arroyo Seco-San Rafael_Parcel Map.pdf	Land Ownership Map

Will the project provide benefit to a Disadvantaged Community (DAC)?

Yes

If Yes, Distance to nearest DAC.

0.3

If Yes, Describe how the project will provide benefits to a DAC.

The project concept will improve park space immediately adjacent to the Arroyo Seco channel. A walking trail will be incorporated around the BMP facilities. The existing trail along the Arroyo Seco will be rehabilitated in the vicinity of the project limits. Natural vegetation and new trees will provide gathering spaces and areas for rest. As shown in the DAC Map in Attachment A, there is a DAC tract on the west side of the Arroyo Seco within short walking distance to the project area. Existing bridges connect this community to the project.

If Yes, Describe how the project will provide water quality benefits to a DAC.

The proposed diversion will help remove floatables, sediment, and nutrient laden water from the San Rafael Creek and Arroyo Seco creating a more pleasing natural look to the built channel infrastructure in the region. The natural treatment provided in the wetland and natural stream along with the series of treatment filters will discharge treated, cleaner water to the Arroyo Seco.

If Yes, Describe how the project will provide water supply benefits to a DAC.

Water percolating down into soils within the proposed infiltration basin at the San Rafael site will help recharge groundwater. Additionally, reuse of water stored in the wetland at the San Pascual site for park irrigation helps reduce potable water use

If Yes, Describe how the project will provide community investment benefits to a DAC.

This project will contribute to the enhancement and restoration of the existing unused areas along the channel. Providing points of interest and rest areas along the Arroyo Seco trail will encourage more use. In addition, the project proposes the planting of additional trees which will lead to more carbon sequestration within the area.

If Yes, Describe how the project engaged the benefitting DAC(s) to date.

No outreach has been performed to date.

Does this project comply with the anti-displacement policies of the Feasibility Study Requirements?

Yes

If Yes, Describe how anti-displacement policies were considered.

The design will comply with displacement avoidance measures to ensure local community development. This project will promote a healthy neighborhood by providing refreshed green space, recreation, and an improved environment. During this project, there is not any anticipated potential to increase gentrification as the project is contained within the existing public space and does not impact existing affordable housing, real estate, or increase the surrounding property value in any substantial way.

1.3 Project Description

Attachments for this Section	
Attachment Name	Description
Attachment A San Rafael-San Pascual SCW Fact Sheet.pdf	Fact Sheet
Attachment 3 ULAR WMP Support Letter 10 13 2020.pdf	
Attachment 2 ULAR EWMP Lower Arroyo Park Project Page 4-48.pdf	

Which regional water management plan includes the proposed project (SWRP, E/WMP, IRWMP, or other [must identify and justify as equivalent per 18.07.B.1.c.3]):

The Upper Los Angeles River Watershed is a largely built-out, urbanized watershed of approximately 485 square miles, or 310,400 acres, in the Upper Los Angeles River Watershed Management Area and over 50 miles of the main line of the LA River. The development of the Arroyo Seco/San Pascual Treatment Wetlands and San Rafael Infiltration Basin is another major opportunity to continue the regional scale progress to achieve pollutant load reductions for the Upper Los Angeles River Watershed Management Program.

The Upper LA River EWMP included a project for the City of South Pasadena (Lower Arroyo Park) that is similar in location and purpose as the one proposed herein. Further analysis of that project determined there were significant technical feasibility constraints. The initial EWMP has since been improved upon and has been incorporated into the IRWMP and the SWRP. The San Pascual Treatment Wetland site proposed in this report was included in the Adaptive Management Section of the ULAR EWMP Group’s Annual Report. The addition of the San Rafael Infiltration Basin site discussed in this report provides additional treatment in the Arroyo Seco watershed and ultimately supports the goals described in the Upper LA River EWMP and the Load Reduction Strategy (LRS). This combined project system will go even further than the original concepts proposed in the EWMP and may help offset other needed stormwater BMPs elsewhere in the watershed.

In summary, the Arroyo Seco-San Rafael Project was identified in the Upper LA River EWMP as the Lower Arroyo Park Project (See Attachment: Page 4-48, ULAR EWMP, January 2016). The attached support letter from the Upper LA River Watershed Lead (See Attachment: Support Letter) and acknowledges that this project resurrects the Lower Arroyo Park Project to address the tributary watersheds (Subwatershed ID Nos. 641561 and 641580).

Provide a detailed description and historical background of the project. Please also state which regional water management plan includes the proposed project (SWRP, E/WMP, IRWMP, or other [must identify and justify as equivalent per 18.07.B.1.c.3]):

The San Rafael site is located at the confluence of the San Rafael Creek and the Arroyo Seco channel just south of San Rafael Ave in Pasadena, CA. The proposed infiltration basin will intercept some wet weather flows from the San Rafael Creek which conveys runoff primarily from Los Angeles and Pasadena to the Arroyo Seco Channel. All dry weather flows will be directed to a natural stream constructed above the San Rafael Creek concrete channel. The San Pascual site is located further downstream along the Arroyo Seco channel where wet and dry weather runoff will be directed from Pasadena, and South Pasadena areas north of Arroyo Park and San Pascual Stables. The San Pascual site is bounded by the Arroyo Seco channel to the south and San Pascual Ave to the north and the

proposed treatment wetlands will reutilize and expand the capacity of an existing dike and existing irrigation system.

The project has the potential to provide significant water quality benefits for multiple jurisdictions due to the significant drainage area size (5,005 acres), location of the adjacent creek and channel, and available development space. The project will capture and treat 100% of the dry-weather flows in accordance with the ULAR LRS.

The San Rafael & San Pascual Project objectives include:

- Primary

- o Improve the water quality within Arroyo Seco Channel as outlined in the EWMP and LRS

- o Enhance the existing sites by installing nature based, natural treatment wetland and groundwater recharge basins

- o Rehabilitate San Rafael Creek by providing a natural creek bed for low flow events.

- Secondary

- o Provide treated stormwater to offset the potable water demand required to irrigate nearby Arroyo Park

- o Provide habitat, educational opportunities, and diverse vegetation to the existing space

- o Educate the public on integrated systems and sustainable resources practices

- o Improve public access and use

The major mechanisms by which the Project will achieve the primary objectives are through diversion, runoff/pollutant capture, filtration, recharge, and release. The treatment wetland systems will provide natural filtration and capture. The San Rafael will infiltration basin will provide groundwater recharge and the San Pascual wetland will reuse the treated water for park irrigation. Native, natural landscaping will improve aesthetics of the spaces and provide habitat for wildlife and recreational use.

2 DESIGN ELEMENTS

This section provides an overview of the project design details.

2.1 Configuration

The following table is a summary of the project configuration:

Project Configuration Summary	
BMP Type:	Treatment Facility
Infiltration Footprint Area:	1.82 ac
Ponding Depth:	5 ft
Media Layer Depth:	0 ft
Media Layer Porosity:	0 ft
Underdrain Layer Depth:	0 ft
Underdrain Layer Porosity:	0 ft

Calculated Storage Volume	
Module-generated Storage Volume:	9.1000 ac-ft

Please upload a description and detailed schematic of the project layout including its anticipated footprint and key components such as, but not limited to: inlets, outlets, diversion point, recreational components, nature-based components, pumps, treatment facilities, underdrains, conveyance, above ground improvements, and other project components.

Attachments for this Section	
Attachment Name	Description
SanRafael&SanPascual_SCW_ProjectDescription_Section-FINAL.pdf	Project Description and Design Layout

2.2 Capture Area

The size and land uses of the capture area upstream of a project plays an important role in its water quality and water supply benefits. The capture area information here is used by the Module for scoring:

Capture Area Summary	
Capture Area:	5005.5 ac
Impervious Area:	1200.3 ac
Pervious Area:	3805.2 ac

The following table is a summary of the land use breakdown for the area that drains to the project:

Breakdown of Impervious Acreage in Capture Area		
Land Use Type	Percent Impervious	Acres
Single Family Residential	43.8 %	525.7313999999999
Multi Family Residential	10.8 %	129.63240000000002
Commercial	6.7 %	80.4201
Institutional	7.3 %	87.6219
Industrial	4.3 %	51.612899999999996
Highways and Interstates	6.5 %	78.0195
Secondary Roads and Alleys	20.6 %	247.26180000000002

The following table is a breakdown of the municipal jurisdictional areas within the project capture area:

Breakdown of the Municipal Jurisdictional Areas within the Project Capture Area		
Municipal	Tributary Percent	Acres
Pasadena	82.4 %	4124.53
Unincorporated (Los Angeles County)	15.1 %	755.83
Los Angeles	1.1 %	55.06
La Canada Flintridge	0.7 %	35.04
South Pasadena	0.6 %	30.03
Glendale	0.05 %	2.5

Attachments for this Section	
Attachment Name	Description
Arroyo Seco-San Rafael_Land Use Maps.pdf	Drainage Area Jurisdiction Map, Land Use Map, and DAC Map

Has a shapefile of the project capture area has been uploaded to the project?

Yes

2.3 Diversion

Diversion Structures generally apply to ‘off-line’ regional projects where stormwater is diverted from a major water conveyance (e.g., gravity main) and directed to the project at a predetermined maximum rate. Smaller distributed projects, like bioretention, do not normally utilize these devices.

Does the project have a diversion structure?

Yes

The following table provides details on the diversion type and maximum diversion rate:

Diversion Details	
Type of Diversion	Typical Max Diversion Rate (cfs)
Gravity Flow	50 cfs

Estimated Average Inflow Captured by Project:

0.437 cfs

Description of Diversion:

Drop-inlet structures are proposed along the BI0562-Line F concrete channel (San Rafael Creek) and the Arroyo Seco Channel to divert stormwater during low-flow and storm events to the pretreatment device and eventually the stormwater treatment basins.

San Rafael Creek Channel Diversion

At the proposed flow rate of 25 cfs, the structure will require a 1.5-foot drop below the existing invert and a 30-inch diameter diversion pipe at a 0.5% slope. The drop inlet structure will have dimensions of approximately 12.0-feet wide and 3-feet long. A schematic of the structure is shown in the Design Layout Drawings attached under the Configuration tab.

Arroyo Seco Channel Diversion

At the proposed flow rate of 25 cfs, the structure will require a 1.5-foot drop below the existing invert and a 30-inch diameter diversion pipe at a 0.5% slope. The drop inlet structure will have dimensions of approximately 30.0-feet wide and 3-feet long. A schematic of the structure is shown in Design Layout Drawings attached under the Configuration tab.

Pretreatment System

Stormwater runoff transports sediment, metals, nutrients, trash, and debris that can compromise the performance of the stormwater facility and pollute downstream receiving waters. Pretreatment will be an integral component of the treatment train strategy to extend the life of the system. It is prescribed to reduce the long-term maintenance burden of the facilities, focus maintenance efforts to a concentration and accessible area, and bolster watershed compliance.

For this project, a hydrodynamic separator is proposed to be installed at the diversion points. One hundred percent of floatables and neutrally buoyant debris larger than the screen aperture (2400 microns or 2.4 mm) is collected and settle in the isolated sump of the system, eliminating scour potential. In addition to the screen aperture filtration, at least 80% of particles that are 130 microns or larger in size are removed for the proposed diversion flow. With the chambered system, hydrocarbons float to the top of the water surface and are prevented from being transported downstream. A target flow rate for the device will be based on the final design of the diversion structure. It will be designed to have the capacity to treat the maximum flow diverted to the unit. The size of the unit will also be based on the estimated sediment that will be collected in the sump to maximize sediment removal while balancing the routine maintenance required.

2.4 Site Conditions & Constraints

Please provide an upload for each of the attachments below that describes the methods, outcomes and how the information will be incorporated into the project design.:

2.4.1 Site History

The San Rafael and San Pascual sites are undeveloped spaces created during the channelization of the Arroyo Seco in the 1930s. The San Pascual site has an existing dike that currently receives dry weather flows and is closed off with limited access due to dense vegetation. The dike was historically used to provide irrigation water to the nearby park but has since been abandoned due to pollutants fouling the distribution system.

2.4.2 Geotechnical Investigation

Borings and infiltration tests are expected to take place during the Design Phase of the project.

While the full geotechnical investigation has not occurred yet at these sites, infiltration rate estimates are

necessary to perform the modeling analysis. For these purposes, an estimate of 0.89 in/hr was used at the San Rafael Project site based on results of prior estimates at a site just adjacent to this one across Arroyo Seco where soils and conditions are very similar. There is no known infiltration testing for the San Pascual Project site, so the most conservative estimate of 0.3 in/hr was used. This is the minimum value accepted in LA County for infiltration practices. Modeling performance results will be refined once geotechnical investigations are complete, but they should not greatly impact the recommended project sizing or configuration substantially as this uncertainty was accounted for in determining the ultimate recommendations.

2.4.3 Hydrology, Hydraulics, and Water Quality

For this project, the Los Angeles County Watershed Management Modeling System (WMMS) was used within the Loading Simulation Program C++ (LSPC) to simulate the contaminant loading, runoff volume, and flow rates associated with a long-term, 10-year continuous time series (Water Year 2002 to Water Year 2011). LSPC was also used to estimate runoff volume and peak flow for the 85th percentile storm to each diversion point. Table 2-6 summarizes the existing baseline hydrology and water quality for the primary pollutant of concern. The full stormwater capture memorandums are attached.

Table 2-6

Diverted Pipe ID	Average Annual Runoff (ac-ft)	Average Annual Zinc Loading (lbs)	85th Percentile Surface Runoff (ac-ft)	85th Percentile Peak Flow (cfs)
Arroyo Seco	4,583	1,289	232	305

2.4.4 Utility Data Review

Review of the LACFCD storm drain as-builts did not reveal any nearby utilities. The remote location of the projects and their proximity to the Arroyo Seco are unlikely to conflict with existing major utilities. Nonetheless, existing utility as-builts will be requested from utility companies during the Design phase to ensure no conflicts are present. Existing utilities associated with the existing irrigation system located south of the dike will be reviewed and replaced as needed to accommodate the new project design.

2.4.5 Site Access & Right-of-way

The project requires access to the sites and the channel. An existing traffic-rated bridge crossing south of San Rafael Avenue will provide access to the San Rafael BMP where the proposed parking lot at the north end of the San Pascual site will provide access to that BMP. Existing paths along the edge of the channels will be rehabilitated and expanded as needed to provide access to the diversion structures. A request for a Conceptual Review was sent to the LACFCD Upper LA River Watershed Manager on 10/6/20. The LACFCD will continue to be consulted following the completion of this feasibility report as part of the design process. This will require a more rigorous hydraulic study and analysis that will be performed to demonstrate that the proposed diversion system will not have any effect to the existing drainage capacity of the existing storm drains. In addition, an LACFCD permit will be obtained and the City will also be required to enter into a Use and Maintenance Agreement with the LACFCD.

Does the project involve LACFCD infrastructure, facilities, or right-of-way?

Yes

Please see the following attachments for additional details on geotechnical, hydrology, right-of-way and/or LACFCD, and utility conditions.

Attachments for this Section	
Attachment Name	Description

Attachment E ULAR_San_Pascual_Stormwater_Capture_Tech_Memo_09-22-2020.pdf	San Pascual Stormwater Capture Memo
Attachment F ULAR_San_Rafael_Stormwater_Capture_Tech_Memo_09-22-2020.pdf	San Rafael Stormwater Capture Memo

Attachments for this Section	
Attachment Name	Description
Attachment D LACFCD Conceptual Review Email.pdf	LACFCD Conceptual Review Correspondence
GO.Arroyo Seco- San Rafael Conceptual Approval1 (002).pdf	

2.5 Monitoring

This section provides an overview of monitoring data related to the project.

Has any monitoring data been compiled related to the project?

Yes

Please provide an overview of the monitoring performed to date:

2.5.1 Historic Monitoring

There are historic monitoring water quality sites extending back into 2015 for Arroyo Seco as part of the Upper LA River Watershed Coordinated Integrated Monitoring Program. These two sites are in the lower reach of the Arroyo Seco and monitor three water quality analytes (Total Suspended Solids, E coli and bis Phthalate) slightly upstream from the San Rafael site.

Over 6 screening events conducted during dry weather in 2015, the ARS-152 outfall was only flowing in one instance, at a very low trickle flow around 0.0001 cfs and sampling for fecal indicator bacteria found no detectable Enterococcus and only 30 cfu/100mL E. Coli. Additionally, a dry weather water quality measurement was completed at five sites between Johnston Creek and San Rafael Creek with the following results by Kinnetic Laboratories Incorporated for the City of Pasadena.

2.5.2 Project Monitoring Plan

A full monitoring plan will be developed as a part of the 100% final design documentation. The preliminary identified constituents of concern are metals (copper, lead, and zinc), bacteria, nitrogen compounds, and trash. Flow, pH, and temperature should also be monitored.

Please upload a monitoring plan to measure the effectiveness of the proposed project once completed, including metrics specific to the identified benefits. Also attach supplemental information on monitoring conducted to date, if applicable.

2.6 O & M

Provide an overview of the plan for how operations and maintenance of the Project will be carried out. Identify the responsible party and describe any technical expertise required for O&M.

Long-term maintenance of the system is vital to its continued operation. The responsible party for the operation and maintenance of the completed project will be the City of Pasadena.

Attached is the summary of the operations and maintenance efforts required including tasks, technical expertise, hours, and costs.

A full draft maintenance plan will be developed as a part of the 100% final design. The maintenance plan will include details on equipment needed and standard practices and procedures. The final maintenance plan will be completed at the end of construction when actual brands and part information is made available.

Attachments for this Section	
Attachment Name	Description
Arroyo Seco-San Rafael_O&M.pdf	Operations and Maintenance Summary

3 WATER QUALITY BENEFITS

This section provides an overview of project elements related to water quality benefits, including calculations used for Section A (Water Quality Benefits) of SCW Project Scoring Criteria.

3.1 MS4 Compliance

Please describe in detail how the project will support achievement of compliance with MS4 Permit including applicable TMDLs, role with Watershed Management Program, etc. Please clearly specify if this project is being developed as part of a Time Schedule Order for the MS4 Permit. SCW funds may be used for projects implemented pursuant to a TSO issued by the LA Regional Water Quality Control Board provided that, at the time the TSO is issued, the project is included in an approved watershed management program developed pursuant to the MS4 Permit:

3.1 MS4 COMPLIANCE

The Municipal Separate Storm Sewer System (MS4) Permit Order No. R4-2012-0175 (Permit) for Los Angeles County allows for permit compliance to be accomplished through development of Enhanced Watershed Management Programs (EWMP). These plans involve an extensive inventory of stormwater management in each watershed, modeling to establish baseline understanding of hydrology and water quality dynamics, and planning around a Reasonable Assurance Analysis (RAA) to demonstrate that planning will result in adequate receiving water protections to meet the requirements of the MS4 permit and all relevant deadlines for compliance. The Upper Los Angeles River (ULAR) EWMP Group was formed by member jurisdictions in the ULAR Watershed Management Area, and the Group is comprised of the cities of Alhambra, Burbank, Calabasas, Glendale, Hidden Hills, La Cañada Flintridge, Los Angeles, Montebello, Monterey Park, Pasadena, Rosemead, San Fernando, San Gabriel, San Marino, South El Monte, South Pasadena, Temple City, the County of Los Angeles (Unincorporated County), and the Los Angeles County Flood Control District (LACFCD). The Group has designed the ULAR EWMP with the intent to facilitate a robust, comprehensive approach to stormwater management for the Los Angeles River watershed to address the priority water quality conditions in the EWMP area. The ULAR EWMP builds upon the planning efforts of the past and provides additional projects to address water quality issues in the Upper LA River. One of the identified opportunities in the ULAR EWMP and the LRS was a project at Lower Arroyo Park. This project has been more fully developed with detailed modeling and engineering design to form the combined project system presented herein as the Arroyo Seco – San Rafael Treatment Wetlands Project.

The combined treatment wetlands of the Arroyo Seco – San Rafael Treatment Wetlands Project are located on the Arroyo Seco at the bottom of a 5,005-acre drainage area consisting of residential, commercial, industrial, and transportation land uses. Stormwater runoff is conveyed through the storm drain network, along San Rafael Creek, and along Arroyo Seco to the project site. The drainage area encompasses various jurisdictions providing benefit to multiple watershed partners.

Previous recommendations for structural BMP volumes and critical year runoff capture were made in the ULAR EWMP at the jurisdictional scale based on modeling and assumptions from the Reasonable Assurance Analysis. Table 3 1 summarizes statistics for the recommended Arroyo Seco – San Rafael Treatment Wetlands Project compared to EWMP compliance recommendations at the jurisdictional scale for greater context of how this project contributes to broader watershed goals. These recommended storage and capture volumes for the City of Pasadena are shown in Figure 8 and compared to statistics for the full cost-effective size for the Arroyo Seco – San Rafael Treatment Wetlands Project. This plot demonstrates that the storage size for the optimized BMP contributes substantially to the EWMP and LRS recommendations for Pasadena and South Pasadena. Additionally, because this project was optimized and engineered to contribute the most cost-effective water quality benefits possible, the amount of managed volume exceeds the proportion of bulk storage volume alone for these jurisdictions. What this means is that ultimately these jurisdictions may not need the full

storage volume recommended by the EWMP due to the outstanding performance of projects like the one detailed herein.

Table 3-1: Placing the Arroyo Seco – San Rafael Treatment Wetlands Project in the context of the ULAR EWMP

Recommended BMP Storage	24-Hr Volume Managed
EWMP Recommendation –	
Pasadena/South Pasadena	39.8 ac-ft 60.3 ac-ft
Project Contribution –	
Arroyo Seco/San Rafael Treatment Wetlands	22.9% 46.3%
Remaining Requirement - ULAR EWMP	30.7 ac-ft 32.4 ac-ft

3.2 24-hour Storm Capacity

Please enter information below regarding key parameters of the project's capacity. The Module will use those values to estimate the 24-hour capacity:

24-hour Storm Capacity Breakdown	
Effective Draw Down Rate:	5.18 in/hr
Stormwater Use During 24-hr Design Event:	0 gal

Calculated 24-hour Storm Capacity	
Module-generated 24-hr Capacity:	27.9552 ac-ft
Use Project Developer estimate instead?	No
Custom Value specified by User:	N/A
Please provide a description of methods used to calculate 24-hour capacity, and attach supplemental information with details of the methodology, assumptions and calculations.	N/A

3.3 Event-based Design Details

In this section, details regarding the project inlets and outlets are provided, along with estimates generated for the project design event. The event-based information is envisioned as basic estimates that would be generated during the project design, and will support review of the project details.

Estimated Total Inflow Volume during Design Event:

231.7 ac-ft

Describe the event used for project design. Describe the portion of the peak inflow that would be retained by the project through infiltration, capture, diversion, use, or other means. Tooltip for ‘Treatment Description’ under outlets:

A 1.05 inch 85th percentile LA County hyetograph was modeled to determine flows to the site through the WMMS model. Flows were developed for this rain event to the points of diversion for the project. As currently designed, the gravity-fed diversions would catch as much of the event as possible given the maximum diversion rates and the capacity and throughflow of the regional project. Real-time controls could be added for better peak management given the limited size of the diversions and large drainage area producing an event that is impractical to capture by a single practice. Inflows could be delayed until flows were high enough to target the peak of the storm event to accomplish this.

Describe whether and how the 85th percentile is being captured/diverted. If not, is there opportunity to do so? If feasible but not incorporated, explain why. If not feasible, explain why.

A portion of 85th percentile storm is being captured by the unit though the entire event cannot be managed due to storage and throughput limitations. This could be overcome by the addition of real-time controls if desired and/or if other stormwater capture practices are added within the drainage area that would work in conjunction with the one proposed herein to enable its full capture. Project inlet flows are based on a water budget calculation over 24 hours for the unit taking into account hourly flows to the diversion point on an hourly basis and subject to storage capacity.

The following tables detail inflow and outflow from the project during the design event:

Inlets	
Estimated Max Inflow Rate (cfs)	Total Inflow (ac-ft)
50 cfs	27.17 ac-ft

Outlets			
Estimated Max Outflow Rate (cfs)	Treated?	Treatment Description	Percent of Volume Treated (%)
17.14 cfs	Yes	Proprietary filtration device	100 %

Describe the methods used to generate estimates:

The WMMS modeled 85th percentile storm was routed through the proposed diversion and subject to proposed storage and outlet filtration capacities.

3.4 Long-term Performance

This section present details of the calculation of long term (10-year) water quality benefit for Section A.1.2 (Water Quality Benefit) of SCW Project Scoring Criteria. These estimates were either generated by the Module using a 10-year hourly simulation with the Watershed Management Modeling System (WMMS), or generated by the Project Developer.

The following tables present selected primary and secondary pollutants and calculated reductions for water quality benefit per Section A.1.2 (Water Quality Benefit) of SCW Project Scoring Criteria.

Note: these estimates are based on the hourly 10-year WMMS simulation performed by the Module, or as estimated by the Project Developer.

Primary Pollutant	
Primary Pollutant	Total Zinc
Reduction Method used for Scoring	Method 2 (% Load Reduction)
Justification for selecting Primary Pollutant	Limiting pollutant in the ULAR EWMP
Calculated 10-year Pollutant Reduction	N/A
Use Project Developer estimate instead?	Yes
Own Value	67.7 %
Justification for using own value	The system contains different surface elements, BMP types and different filtration rates. The different filtration rate and BMP types within the treatment chain required custom model representation. Pollutant reduction values were developed using the baseline modeling in LSPC and BMP modeling in SUSTAIN. Further details of the methods, assumptions, and results can be found in the attached modeling details documentation.
Secondary Pollutant	
Secondary Pollutant	Total Copper
Reduction Method used for Scoring	Method 2 (% Load Reduction)
Justification for selecting Secondary Pollutant	Category 1A pollutant in the ULAR EWMP

Calculated 10-year Pollutant Reduction	N/A
Use Project Developer estimate instead?	Yes
Own Value	68.2 %
Justification for using own value	The system contains different surface elements, BMP types and different filtration rates. The different filtration rate and BMP types within the treatment chain required custom model representation. Pollutant reduction values were developed using the baseline modeling in LSPC and BMP modeling in SUSTAIN. Further details of the methods, assumptions, and results can be found in the document attached to the Primary Pollutant section.

The following table presents calculated water quality benefit achieved by the project based on the hourly 10-year WMMS simulation performed by the Module, for all the simulated pollutants.

Note: this output includes all pollutants and methods, including those not selected as Primary or Secondary for scoring.

Pollutant Name	Method 1 (% Concentration Reduction)	Method 2 (% Load Reduction)	Method 3 (% Exceedance Reduction)
Total Zinc	0.0 %	0.0 %	N/A
Total Copper	0.0 %	0.0 %	N/A
Total Lead	0.0 %	0.0 %	N/A
Total Nitrogen	0.0 %	0.0 %	N/A
Total Phosphorous	0.0 %	0.0 %	N/A
<i>E.coli</i>	0.0 %	0.0 %	N/A
Toxics	N/A	N/A	N/A
Chloride	N/A	N/A	N/A
Trash	N/A	N/A	N/A
N/A = Modeling results not available from Projects Module, must be manually generated by user			

The following table presents inflow and outflow details for calculated water quality benefit achieved by the project based on the hourly 10-year WMMS simulation performed by the Module, for all the simulated pollutants.

Note: this output includes pollutants not selected as Primary or Secondary for scoring, and reduction methods not selected for scoring.

Metric	Runoff from Capture Area	Minimally Treated Outflow from Project	Inflow into Project Inlet	Outflow from Project Outlet	Reduction by Project	% Reduction by Project
Runoff Volume (ac-ft)	N/A	N/A	N/A	N/A	N/A	N/A %
Total Zinc (ug/L)	N/A	N/A	N/A	N/A	N/A	N/A %
Total Zinc (lbs)	N/A	N/A	N/A	N/A	N/A	N/A %
Total Copper (ug/L)	N/A	N/A	N/A	N/A	N/A	N/A %
Total Copper (lbs)	N/A	N/A	N/A	N/A	N/A	N/A %
Total Lead (ug/L)	N/A	N/A	N/A	N/A	N/A	N/A %
Total Lead (lbs)	N/A	N/A	N/A	N/A	N/A	N/A %
Total Nitrogen (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A %
Total Nitrogen (lbs)	N/A	N/A	N/A	N/A	N/A	N/A %
Total Phosphorous (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A %
Total Phosphorous (lbs)	N/A	N/A	N/A	N/A	N/A	N/A %
E.coli (#/100mL)	N/A	N/A	N/A	N/A	N/A	N/A %
E.coli (#)	N/A	N/A	N/A	N/A	N/A	N/A %
Toxics	N/A	N/A	N/A	N/A	N/A	N/A
Chloride	N/A	N/A	N/A	N/A	N/A	N/A
Trash	N/A	N/A	N/A	N/A	N/A	N/A
N/A Modeling results not available from Projects Module, must be manually generated by user						

Attachments for this Section

Attachment Name	Description
SCW Modeling Details - ArroyoSecoSanRafael.pdf	Modeling Details

4 WATER SUPPLY BENEFITS

This section provides an overview of project elements related to water supply benefits, including calculations used for Section B (Significant Water Supply Benefits) of SCW Project Scoring Criteria.

4.1 Water Supply Nexus

Please describe and clearly justify the nexus between water supply and the stormwater and/or urban runoff that is captured/infiltrated/diverted by the Project:

There is some potential for this project to provide multiple benefits at the nexus of water supply and stormwater.

Does this project capture water for onsite irrigation use?

Yes

Description of onsite use by the project:

This project could utilize captured flows to offset onsite irrigation needs at the nearby Arroyo Park and Arroyo Seco Golf Course. Dry weather flows require additional studies during design development, but dry weather flow on the Arroyo Seco should be non-trivial since the drainage area is large. Modeled dry weather flows are not a reliable substitute for monitoring, which should be first conducted to assess the potential supply at the site. This can then be weighed against irrigation demand to determine if these flows would be a consistent enough source for water that would justify the cost of filtration equipment and accompanying irrigation system components.

Does this project capture water used for water recycling by a wastewater treatment facility?

No

Description of water recycling by the project:

N/A

Is the project connected to a managed water supply aquifer?

Yes

If Yes, managed Aquifer Name:

The project will be infiltrating some of the runoff captured, and it is located right near the boundary for the Raymond Groundwater Basin. Therefore, infiltrated water will contribute to water supply for this regional resource.

If this project is augmenting groundwater supply, please provide confirmation that the agency managing the groundwater basin concurs with the added benefit.

4.2 Benefit Magnitude

Project Scoring Criteria Section B is based upon estimates of annual average water supply benefit. Water supply benefit can include, but is not limited to, water diverted to a separate groundwater recharge facility, into a water treatment plant, to a sanitary sewer to be converted into recycled water, etc. This section provides documentation of estimates of annual average water supply benefit.

Average dry weather inflow to project:

0.437 cfs

Describe the methods used to estimate average dry weather inflow to the project:

Flows from the WMMS model were averaged during dry weather. Wet weather was defined as any time period where rainfall was at least 0.1 in/hr and 24-hours after such timesteps.

The following tables present calculated annual inflow the project.

Note these estimates are based on an hourly 20-year hourly WMMS simulation performed by the Module, or as estimated by the Project Developer.

Module-generated annual average <u>inflow</u> to project:	N/A ac-ft
Use Project Developer estimate instead?	Yes
Custom Value specified by User:	4246 ac-ft
Please provide a description of methods used to calculate water supply inflow values	This is the baseline runoff to the project from WMMS for water years 1992 – 2011.
Supporting PDF	See attached PDF if applicable.

The following tables present calculated annual average capture by the project, which is used for the Section B2 scoring calculation (Benefit Magnitude of SCW Scoring Criteria).

Note these estimates are based on an hourly 20-year hourly WMMS simulation performed by the Module, or as estimated by the Project Developer.

Module-generated annual average <u>capture</u> for water supply:	N/A ac-ft
Use Project Developer estimate instead?	Yes
Custom Value specified by User:	134 ac-ft

Please provide a description of methods used to calculate water supply benefit	This is the portion of annual stormwater capture from WMMS that will be infiltrated.
Supporting PDF	See attached PDF if applicable.

4.3 Cost Effectiveness

Project Scoring Criteria Section B2 incorporates life-cycle costs. The cost-effectiveness for water supply benefit is calculated from other sections in the Module. The calculation for B2 scoring is based on a numerator of life-cycle cost (from Design Elements > Cost) and a denominator of annual average benefit magnitude (from Water Supply > Benefit Magnitude).

Module-generated water supply cost-effectiveness:	\$ 4,497.97 per ac-ft
Use Project Developer estimate instead?	No
Custom Value specified by User:	\$ N/A
Justification	N/A
Supporting PDF	See attached PDF if applicable.

5 COMMUNITY INVESTMENT & LOCAL SUPPORT BENEFITS

5.1 Community Investment

This section provides an overview of project elements related to community investment benefits, which are used in calculations for Section C (Community Investment Benefits) of SCW Project Scoring Criteria.

The following table details the project’s community investment benefits:

Community Investment		
Investment Type	Applicable?	Detailed Description
Does this project improve flood management, flood conveyance, or flood risk mitigation?	Yes	The system has detention capabilities that could contribute towards enhanced flood retention capabilities of the whole storm drain system. To contribute meaningfully to flood protection, stormwater BMPs must utilize a combination of volume capture and peak flow reduction. Analysis indicated that a diversion rate of 50 cfs was ideal for this project, and this diversion rate would not fully capture the 85th percentile storm event peak. The volume detention does contribute to flood management, and because this project site is in the upland areas of the greater watershed, it offers distributed volume control that is needed across the watershed to mitigate flooding from the largest rain events.
Does this project create, enhance, or restore park space, habitat, or wetland space?	Yes	The use of two different BMP types allows for a diverse habitat for plants, animals, and insects. The proposed wetland areas will introduce more aquatic plant and animal species to this area of the Arroyo Seco that currently features more species that prefer dry conditions. The infiltration areas placed along side the wetlands will act as a transition between the wet and dry.

Does this project improve public access to waterways?	Yes	The construction of a new treatment wetland and natural stream will provide the local community with access to these waterways as well as the existing Arroyo Seco channel. The project also creates a watershed education opportunity regarding the contributions of this project towards protecting the water quality in the Arroyo Seco River.
Does this project create or enhance new recreational opportunities?	Yes	The project proposes a wetland and infiltration basin BMP system that will create passive recreational opportunities for the visitors including aquatic life and butterfly observation. Improved hiking and equestrian trails will enhance access to this area along the Arroyo Seco channel. Interpretive signage will help educate on the waterways, habitat created, and local fauna and flora.
Does this project create or enhance green spaces at school?	No	N/A
Does this project reduce heat local island effect and increase shade?	Yes	The addition of several species of native trees at the San Rafael site will provide shade and cooling effects at a location that is currently mostly barren and empty. The natural stream proposed to cover the existing San Rafael Creek channel will also provide soil cover of a previous impervious surface further reducing heat absorption. Enhanced vegetation and minimal impervious surfaces for this project will contribute to reductions in the heat island effect.
Does this project increase shade or the number of trees or other vegetation at the site location?	Yes	Native trees that are part of the post-construction landscape plan will contribute to increased tree count and shade for the area. Special consideration will be made for the infiltration basin area to increase the total tree count at the site.

5.2 Local Support

Please describe any prior outreach and engagement conducted for this project:

Both cities have reached out to several area stakeholders to relay information about this project's intent. After meetings and conversations with these stakeholders, each has provided a letter of support for the project and the funding being requested. One of these stakeholders is the Arroyo Seco Foundation (ASF) a longtime advocate for the Arroyo Seco. The ASF has committed to being a project partner and will lead the outreach efforts for this project if funded.

Please describe the Outreach Plan for this project moving forward:

The Cities of Pasadena and South Pasadena will conduct an active Public Outreach effort. The cities will host and conduct community outreach meetings with the local community concurrent with the implementation of this project.

The following Outreach Plan will be conducted and further details by the ASF:

1. General Goal: Create opportunities for local community participation and feedback.
2. Target Audience: Area residents, youth, environmental groups, and local businesses.
3. Initial Design Phase, Site Visit, and Introduction to the Community. During the initial design phase, a community meeting and site visit will be conducted to discuss the regulatory drivers, share the project objectives, present the major design components, and solicit feedback regarding the proposed improvements. Input will be reviewed and considered into the design process.
4. Design Plan Development, Community Follow-up. A subsequent community meeting will be conducted to summarize the progress of the project, list the feedback received from the prior community meeting, and present how the community response was incorporated into the design approach. Additional feedback will also be requested from the community participants.
5. Design Documents, Community Presentation. A final design meeting will be conducted to present the final version of the proposed project. Additional comments and feedback will be requested and discussed with the City representatives.
6. Pre-Construction Community Meeting. Prior to the start of construction, a Pre-Construction Community Meeting will be conducted to inform the residents of the construction activities including the schedule, haul routes, traffic controls, and other potential community impacts. Construction signage will be on-site with the appropriate City representatives.

Does this demonstrate strong local, community-based support?

Yes

The following table details the support by local, community-based organizations for the project (also see attachments):

Local Support		
Organization Name	Description	PDF
Arroyo Seco Foundation	ASF has a thirty-year record of working to restore and enhance stream and habitat conditions in the Arroyo Seco. They recognize this project as being an important in restoring a key reach of the stream and floodplain in the Arroyo Seco Watershed.	ASF Arroyo Seco San Rafael Project Support Letter 20201014.pdf
Upper Los Angeles River Watershed Management Group	The Group recognizes the importance of the projects to meet and exceed required capture volumes and pollutant load reductions as well as creating vital aquatic habitat, community enhancement, and public outreach and educational opportunities. The Group recommends the project obtain Measure W Round 2 grant funding.	ULAR WMP Support Letter 10 13 2020.pdf
West Pasadena Residents Association	The Association of over 7,000 households in Southwest Pasadena supports the project plans to restore San Rafael Creek and the Arroyo Seco to a healthy condition.	WPRA Letter - Support San Rafael Creek Project.pdf
Sierra Club Pasadena Group	Supports the project for opportunities to lead hikes and educational opportunities. Also, thinks the project will contribute to regional positive efforts underway by several agencies for the ULAR.	Sierra Club Pasadena Support Letter.pdf
San Pascual Stables	As a direct neighbor to the project, the San Pascual Stables in South Pasadena welcomes the opportunity to participate in this project that will connect the community with the natural environment and the historic Arroyo Seco Channel.	San Pascual Stables Support Letter.pdf

6 NATURE-BASED SOLUTIONS

This section provides an overview of project elements that leverage nature-based solutions, which are used in calculations for Section D (Nature-Based Solutions) of SCW Project Scoring Criteria.

Does this project implement natural processes?

Yes

Natural Processes Description:

A naturally vegetated wetland/infiltration BMP will be installed. A naturally lined stream will replace the concrete channel during low flow events.

Does this project utilize natural materials?

Yes

Natural Materials Description:

Landscape plans post construction include additional native trees, shrubs, and grasses to be installed throughout the project sites. Also included is native compacted soil and decomposed granite for trail restoration.

Description of how nature-based solutions are utilized to the maximum extent feasible. If nature-based solutions are not used, include a description of what options were considered and why they were not included.

The proposed project uses nature-based solutions for several components of the BMP treatment train. Proprietary pretreatment structures were selected in lieu of a sediment forebay due to maintenance and space concerns. However, a natural stream downstream of the pretreatment unit at San Rafael will provide conveyance, energy dissipation, and facilitate infiltration. Two different types of natural BMPs are proposed to help provide stormwater treatment and storage during wet- and dry-weather flows.

The following table details the impermeable area removed by the project:

Removed Impermeable Area by Project	
Pre-Project Impervious Area:	Post-Project Impervious Area:
0.04 ac	0.02 ac

7 COST & SCHEDULE

This section provides an overview of the project’s funding and community support, which are used in calculations for Section E (Leverage Funds and Community Support) of SCW Project Scoring Criteria.

7.1 Cost & Schedule

Attachments for this Section	
Attachment Name	Description
Attachment C Cost Estimate_San RafaelSanpascual_SCW_v2.pdf	San Rafael & San Pascual Engineer's Cost Estimate (10%)

The following tables provide details on the project’s phase and annualized costs:

Phase Costs			
Phase	Description	Cost	Completion Date
Design	Final Design (30/60/90/100)	\$ 949,964.00	06/2022
Design	Environmental Planning (CEQA) and Permitting	\$ 126,662.00	06/2022
Design	Community Outreach during Design	\$ 50,000.00	06/2022
Design	Agency Management (Design)	\$ 68,327.00	06/2022
Construction	Construction Cost	\$ 6,333,095.00	06/2024
Construction	Construction Survey	\$ 20,000.00	06/2024
Construction	Agency Management (Construction)	\$ 90,000.00	06/2024
Construction	Construction Administration and Design Support	\$ 633,309.00	06/2024
Total Funding:		\$ 8,271,357.00	

Annual Cost Breakdown	
Annual Maintenance Cost:	\$ 218,000.00
Annual Operation Cost:	\$ 25,000.00
Annual Monitoring Cost:	\$ 15,000.00
Project Life Span:	50 years

The following table provide details on calculated life-cycle costs for the project (either calculated
SCW Feasibility Study Report

the Module, or estimated by the Project Developer).

Note: these life-cycle costs are used in Section 4.3 of this output for Water Supply Benefit scoring.

Module-generated Life-Cycle Cost for Project*	\$ 14,461,783.38
Module-generated Annualized Cost for Project*	\$ 602,727.48
Use Project Developer estimate instead?	No
Custom Value specified by User:	N/A
Please provide a description of methods used to calculate Life Cycle costs, and attach supplemental information with details of the methodology, assumptions and calculations:	N/A
Supporting PDF	See attachment if applicable.

*Applies an annual discount rate as a static rate equal to 3.375%. The only costs not included in total life-cycle cost are the dismantling and replacement costs at the end of life.

7.2 Cost Share

Is additional funding being provided as a Cost Share for this project?

Yes

The following is a summary of what other sources of funding were explored and/or why funding could not be secured through these other sources:

The City of Pasadena acknowledges that eligible expenditures are only those incurred after November 7, 2018 for this project. The Project will be fully subject to and comply with any County-wide displacement policies and specific anti-displacement requirements associated with other funding sources.

The following table details the additional funding attained for the project:

Additional Funding				
Type of Cost Share	Sub-Phase Description	Funding Amount	Funding Status	PDF

Grant Awards	<p>The City of Pasadena and South Pasadena were awarded funds from Proposition 68 Urban Counties Per Capita Program for the Arroyo Seco Water Reuse and Natural Stream Restoration project. The entirety of this grant is going towards planning, design, and construction of the project described herein.</p> <p>Date Received: 08/2019</p> <p>Expenditure Deadline: 03/31/2024</p> <p>Conditions: 20% match for no DAC</p> <p>Projects must be at the Arroyo Seco and be for the purposes of water reuse or natural stream restoration</p> <p>Multiple projects may be completed under one contract; each project requires a separate application packet.</p> <p>A project can only have one location. One project serving several parks is not permitted.</p>	\$ 3,500,000.00	Commitment Received	Attachment G OGALs Proposition 68 Grant Correspondence.pdf
Total Funding:		\$ 3,500,000.00		

7.3 Funding Request

Total funding requested

\$ 4,771,357.00

The following table shows the requested schedule of funding (by Year and Phase) to create a summary table. A breakdown for the first five years must be provided. The schedule of funding must also match the Requested Funding. In most cases, the entries will not add up to the estimated Life-Cycle cost, as Applicants are discouraged from including long-term O&M costs beyond five years in the funding request.

Funding Requested by Year & Phase			
Year	SCW Funding Requested	Phase	Efforts during Phase and Year
Year 1	\$ 1,194,953.00	Design	Environmental Planning (CEQA) and Permitting, Professional Design Services (30/60/90/100), Community Outreach during Design, and Agency Project Management (Design Phase)
Total Year 1	\$ 1,194,953.00		
Year 2	\$ 1,205,468.00	Construction	Construction Contract Budget (Year 2), Agency Project Management (Year 2), Construction Administration (Year 2), Construction Survey and Staking
Total Year 2	\$ 1,205,468.00		
Year 3	\$ 1,185,468.00	Construction	Construction Contract Budget (Year 3), Agency Project Management (Year 3), Construction Administration (Year 3)

Total Year 3	\$ 1,185,468.00		
Year 4	\$ 1,185,468.00	Construction	Construction Contract Budget (Year 4), Agency Project Management (Year 4), Construction Administration (Year 4)
Total Year 4	\$ 1,185,468.00		
Total Funding:	\$ 4,771,357.00		

The Life-cycle costs do not match Total Funding Requested + Cost Share. For many projects this is acceptable because funding requests for O&M and monitoring funding are typically included for first 5-years only (rather than entire life cycle).

8 ADDITIONAL FEASIBILITY INFORMATION

This section presents additional information regarding project feasibility and technical details gathered during project design and feasibility assessment.

8.1 Environmental Documents and Permits

Environmental Documentation:

- 1. Identify the lead agency for the Project per CEQA.**
- 2. Identify environmental documentation (e.g. EIR, MND, ND, Exemption) that has been completed or will be prepared for the Project.**
- 3. Discuss the current status and schedule for preparation and notification of environmental documentation.**
- 4. State if NEPA is required and identify the lead agency under NEPA, and environmental document (e.g. EIS, FONSI, Categorical Exclusion) that has been completed or will be prepared for the Project.**

1. The lead agency for the Project per CEQA is the Cities of Pasadena and South Pasadena
2. A Mitigated Negative Declaration is anticipated
3. The preparation of the Initial Study and the anticipated Mitigated Negative Declaration are proposed as a part of the development of the 30% design. The CEQA documentation will be completed with the full design anticipated to be June 2022.
4. NEPA is not required.

Past project experience has shown that the Initial Study most often identifies a Mitigated Negative Declaration for projects that are constructed in similar locations. The most significant impacts are temporary during the construction period and once construction is complete, will be gone entirely. Upon project completion, the project will ultimately provide a net benefit to the water quality and natural environment.

For cost estimating purposes only, a MND is indicated. Once an Initial Study is completed the appropriate environmental review will be determined.

The CEQA Initial Study and associated Mitigated Negative Declaration are anticipated to take up to one year and will occur simultaneously with the design phase.

Permitting:

- **Describe all permit requirements including for the Flood Control permit. Discuss anticipated challenges associated with obtaining permits ie. time and cost. A Flood Control Permit (obtained through epicla.lacounty.gov) is required for any project affecting LACFCD right-of-way and/or facility.**
- **If a Flood Control Permit is required:**
 - **Describe how the project will affect LACFCD right-of-way and/or facility.**
 - **Provide a planning-level schedule showing the time allotted for permit review and issuance in the context of the overall project planning and delivery process.**

8.1.2.1 LA County Flood Control District Permits

Consultation with the LACFCD is required before the project components can be constructed. Table 8 2 summarizes the required LACFCD permits anticipated for this project.

The project will impact the San Rafael Creek Channel and the Arroyo Seco Channel through the installation of a drop inlet with a grate cover within the channel bottom. The design will ensure

conveyance of the existing design capacity of the infrastructure thus maintaining the flood control capabilities of the system. An example of the proposed drop structure detail can be found in Attachment B. After construction, the facilities are assumed to require access by the City maintenance crews to remove any debris that is impeding the performance.

Table 8 2: Listing of Anticipated Required LACFCD Permits

Agency Permit/Notification Name Rationale Initial Steps & Anticipated Challenges

LA County Flood Control District Major Modification Permit A water diversion structure is considered a drainage facility modification. Complete and submit application for review via EpicLA.

Challenges anticipated are the design review periods and the processing of the Use and Maintenance Agreement.

LA County Flood Control District Discharge Permit Non-storm water (treated water) will be discharged directly into an existing District facility. Complete and submit application for review via EpicLA.

Challenges anticipated are the design review periods and the processing of the Use and Maintenance Agreement.

The anticipated LACFCD permit schedule is as follows:

Table 8 3: LACFCD Permit Schedule

Task Task Complete Duration

Submit Permit Application w/ 60% Plans NTP + 24 weeks 6 months after Design NTP

60% Plan Review NTP + 30 weeks 6 weeks after Application Submittal

90% Plan Review NTP + 42 weeks 6 weeks after Plan Submittal

100% Plan Approval NTP + 48 weeks 2 weeks after Plan Submittal

Permit Issued NTP + 48 weeks End of 100% Plan Approval

8.1.2.2 Additional Agency Permits

Consultation with additional regulatory agencies and acquisition of permits is required before the project components can be constructed. The following table summarizes the plan checks, regulatory permits and approvals relevant to the project.

Table 8 4: Listing of Anticipated Required Additional Agency Permits

Agency Permit/Notification Name Rationale Initial Steps

City of Pasadena Department of Public Works -- City of Pasadena Department of Public Works is the property manager. Contact Department of Public Works department

City of South Pasadena Public Works Department -- City of South Pasadena Public Works is the property manager. Contact Public Works department

United States Army Corp of Engineers Section 404 Permit Potential discharge of dredged or fill material into waters of the United States File a permit with the Army Corps of Engineers

California Department of Fish & Wildlife Streambed Alteration Notification 1601 Diversion of flow and alteration of the bed of any river Submit Lake and Streambed Alteration (LSA) Notification CA DFW

State Water Resources Control Board Construction General Permit One or more acres of soil will be disturbed during construction. Develop a Storm Water Pollution Prevention Plan (SWPPP).

LA County Department of Public Health Cross Connection and Water Pollution Control Program

Ensure that there is no hazard to the potable water system. Undergo review and approval.

Greater LA County Vector Control District Mosquito Abatement District Potential mosquito concerns.

Provide Vector Control District conceptual project plans for review.

South Coast Air Quality Management District Rule 403 Prevent, reduce, or mitigate fugitive dust emissions from construction activities. Construction in the South Coast Air Basin must incorporate best available control measures included in Table 1 of Rule 403

The acquisition and securing of all the required permits and environmental documentation are anticipated to be around 2.0% of the total project costs for a grand total of \$126,662. All permits are anticipated to be filed and acquired by the end of the 100% final design phase.

Attachments for this Section

Attachment Name	Description
Arroyo Seco-Environmental Documentation and Permits.pdf	Environmental Documents and Permits

8.2 Vector Minimization

This following provides details on vector minimization strategies.

Does the project have vector minimization plan?

Yes

Provide a description of the vector minimization plan.

As a part of final design, the City will review the design documents with the Greater LA County Vector Control District to ensure that the system meets all requirements and minimizes the potential for vector increases.

Vector Minimization Strategy and Protocols are summarized below.

Coordination

- Guidelines outlined in the California Department of Public Health's Checklist for Minimizing Vector Production in Stormwater Management Structures
- Coordination with the Greater LA County Vector Control District will be conducted to discuss potential for mosquitos in the system. This will be initiated at the start of the design process.

Design Reviews

The City will review the design documents (30/60/90/100) with the Greater LA Vector Control District to ensure that the system meets their requirements to minimize the potential for vectors.

Project Description and potential mitigation measures

The proposed project consists of storm diversion, pretreatment unit, above ground treatment and storage basins. A filtration unit and discharge pipeline return flows back to the channel.

Vector Minimization Measures

The following are the potential mitigation measures to reduce vectors:

- Incorporating best vector control practices in design documents. For example, maintenance manhole covers be watertight and have sealed pick holes to control odors and vectors. Additionally, a healthy wetland provides habitat for many unique animals including natural enemies of mosquitoes. These natural predators keep the mosquito population low. Certain birds, frogs, fish, and insects can live in the wetland and feed on mosquito larvae and/or adults.
- The infiltration system will be designed to infiltrate/drain the system within 3 days following a storm event to prevent long-term standing water.
- Routine inspection for required vector control, which would be conducted as part of the routine operation and maintenance protocols.

Please see an attachment with proposed vector minimization plan.

8.3 Alternatives Studied

Describe alternatives that were considered and evaluated as part of the Project development:

Alternatives evaluated included combinations of diversion rates, alternative footprints and orientations, and various outflow rates. The full discussion on alternatives studied can be found in the Stormwater Capture Technical Memorandums uploaded as part of the Design Elements part of the module.

8.4 Effectiveness

Describe the effectiveness of similar types of projects already constructed if applicable:

Projects similar to the Arroyo Seco-San Rafael Treatment Wetlands project are being designed and constructed throughout Los Angeles County. A couple (including the Dominguez Gap Wetlands, South LA Wetlands, Machado Lake Wetlands, and Echo Park Wetlands) have been completed and are in the monitoring phase. Nationally and internationally, thousands of constructed stormwater wetlands have been successfully implemented; the International BMP Database reports with statistical significance that wetland basins and channels are expected to reduce concentrations of heavy metals, bacteria, nutrients, and total suspended solids. In the future, it is anticipated that local project effectiveness will be obtained through monitoring efforts but at this time, there is no comparable completed and monitored project that includes a combination of wetlands and recharge basins.

8.5 Legal Requirements and Obligations

Describe any legal requirements or obligations that may arise as a result of constructing the Project and how these requirements will be satisfied:

There are two primary legal issues that require addressing through the course of the project; access and regulatory compliance.

The main project sites are owned and maintained by the City of Pasadena and the City of South Pasadena. However, construction requires accessing the LACFCD channel as a key component of this project. The LACFCD requires that the hydraulics of the existing infrastructure not be negatively impacted, and that access is maintained. The Cities will be required to enter into an operation and maintenance agreement with the LACFCD for continued access for the constructed diversion structures. All required permits and agreements will be in place through the construction of the project.

As stated in the project background, one of the key drivers for this project is the compliance with the water quality targets identified in the ULAR EWMP and the Load Reduction Strategy (LRS). Design and construction of the project brings the ULAR EWMP Group closer to watershed-wide compliance through water quality improvement. The City is required to demonstrate project performance to the Water Resource Control Board for acceptance towards the water quality objectives. The project will be monitored and reported on as required.

8.6 Technical Reports

Please upload additional technical reports related to this project not provided above.

8.7 Other

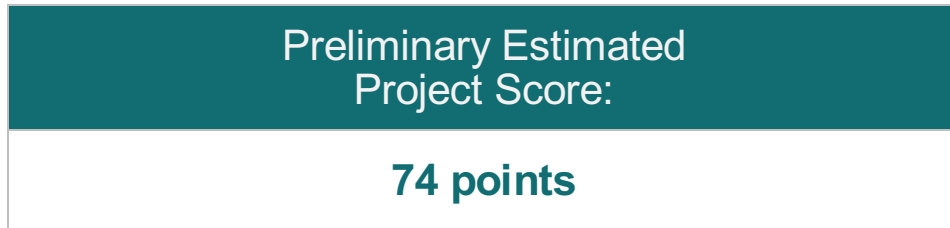
Provide any additional information related to the Project as necessary:

Attachments for this Section	
Attachment Name	Description
SanRafael&SanPascual_SCW_FINAL_PDR_2020 10 14-med res.pdf	Preliminary Design and Feasibility Study Report

9 SCORING

This section summarizes scoring calculations generated by the Module. All Regional Program Projects must meet the Threshold Score of 60 points or more using the following Project Scoring Criteria to be eligible for consideration.

Note: all scoring estimates are considered preliminary and subject to review and revision by the Scoring Committee.



The following graphics summarize the project scoring. The first graphic shows the components of the project score, based on the different scoring sections. The second graphic shows the percent of maximum score achieved by the project within each scoring section.





The following table details the scoring calculated for the project, along with the scoring thresholds from the SCW Project Scoring Criteria:

Scoring Section	Project Score	Max Score	Scoring Criteria Thresholds
Water Quality Wet + Dry Weather Part 1	20	20	Cost Effectiveness = (24-hour BMP Capacity) / (Construction Cost in \$Millions) <ul style="list-style-type: none"> • <0.4 = 0 points • 0.4-0.6 = 7 points • 0.6-0.8) = 11 points • 0.8-1.0 = 14 points • >1.0 = 20 points
Water Quality Wet + Dry Weather Part 2	20	30	Primary Pollutant Reduction: <ul style="list-style-type: none"> • >50% = 15 points • >80% = 20 points Secondary Pollutant Reduction: <ul style="list-style-type: none"> • >50% = 5 points • >80% = 10 points
Water Quality Dry Weather Only Part 1	N/A	20	For dry weather BMPs only, Projects must be designed to capture, infiltrate, or divert 100% (unless infeasible or prohibited for habitat, etc.) of all tributary dry weather flows.
Water Quality Dry Weather Only Part 2	N/A	20	For Dry Weather BMPs Only. Tributary Size of the Dry Weather BMP: <ul style="list-style-type: none"> • <200 Acres = 10 points • >200 Acres = 20 points
Water Supply Part 1	0	13	<ul style="list-style-type: none"> • >\$2500/ac-ft = 0 points • \$2,000–2,500/ac-ft = 3 points • \$1500-2,000/ac-ft = 6 points • \$1000–1500/ac-ft = 10 points • <\$1000/ac-ft = 13 points
Water Supply Part 2	5	12	<ul style="list-style-type: none"> • <25 ac-ft/year = 0 points • 25 - 100 ac-ft/year = 2 points • 100 - 200 ac-ft/year = 5 points • 200 - 300 ac-ft/year = 9 points • >300 ac-ft/year = 12 points
Community Investment	10	10	<ul style="list-style-type: none"> • One Benefit = 2 points • Three Benefits = 5 points • Six Benefits = 10 points

Nature Based Solutions	12	15	<ul style="list-style-type: none"> • Implements natural processes or mimics natural processes to slow, detain, capture, and absorb/infiltrate water in a manner that protects, enhances and/or restores habitat, green space and/or usable open space = 5 points • Utilizes natural materials such as soils and vegetation with a preference for native vegetation = 5 points • Removes Impermeable Area from Project (1 point per 20% paved area removed) = 5 points
Leveraging Funds Part 1	3	6	<ul style="list-style-type: none"> • >25% Funding Matched = 3 points • >50% Funding Matched = 6 points
Leveraging Funds Part 2	4	4	The Project demonstrates strong local, community-based support and/or has been developed as part of a partnership with local NGOs/CBOs.
Total	74	110 / 100	

10 ATTACHMENTS

Attachments are bundled and organized in the following pages, with cover pages between each subsection.

Please note – at a minimum, a feasibility study must attach the following:

- A Location Map
- A Schematic with Proposed Footprint and Key Components
- A Map of the Capture Area (Tributary Map)
- Technical Reports (e.g. soil report, hydrology report, hydraulic study, utility search, survey, PEIR, EIR, monitoring data, etc.)