

EXISTING SITE CONDITIONS

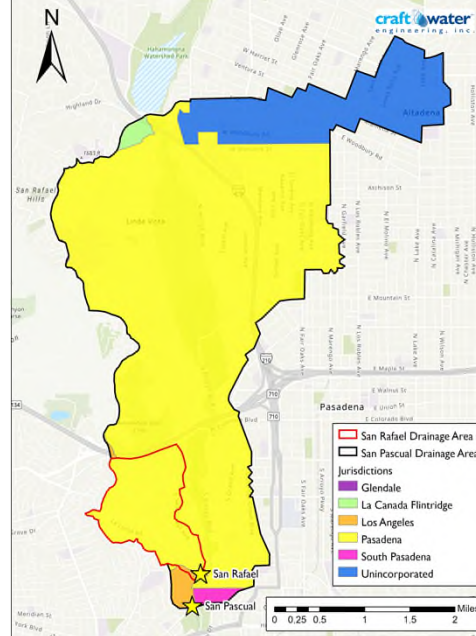


San Rafael Site



San Pascual Site

DRAINAGE AREA



DRAINAGE CHARACTERISTICS

REGIONAL WATER MANAGEMENT PLAN	Upper LA River Watershed
TOTAL DRAINAGE AREA	5,005 acres Pasadena (82.4%) Unincorporated LA County (15.2%) City of Los Angeles (1.1%) La Canada Flintridge (0.7%) South Pasadena (0.6%) Glendale (0.1%)
INFILTRATION RATE	0.89 in/hr (San Rafael) 0.3 in/hr (San Pascual)
APPROX. DEPTH TO GROUNDWATER	91 ft BGS
MODELED AVERAGE ANNUAL RUNOFF VOLUME	4,583 ac-ft per year

San Rafael Creek



Arroyo Seco Channel



BMP CHARACTERISTICS

LOCATIONS	San Rafael Creek near San Rafael Avenue Arroyo Seco Channel near San Pascual Avenue	34°07'31.5"N/ 118°09'58.7"W 34°07'14.2"N/ 118°10'02.0"W
<p>Proposed BMP Description: The project includes two sites: San Rafael located in Pasadena and San Pascual in South Pasadena. The San Pascual site was included in the Adaptive Management Section of the Upper Los Angeles River Enhanced Watershed Management Program (EWMP) Group's Annual Report. The project seeks to improve water quality discharged to San Rafael Creek and the Arroyo Seco Channel through capture, infiltration, and restoration of natural streambed processes. The project also proposes to provide water supply benefit by infiltrating to the local groundwater basin. The project includes a stormwater drop-inlet diversion from the LACFCD San Rafael Creek and enhancement of an existing drop inlet structure in the LACFCD Arroyo Seco Channel and a series of 2.6 acre-foot and 6.5 acre-foot infiltration basins and treatment wetlands. During dry-weather events, the water will pass through a natural stream at San Rafael for eventual discharge into the infiltration basin while the San Pascual site will retain the water within the treatment wetland for irrigation at the Arroyo Park and Arroyo Seco Golf Course. During wet-weather events, the water captured will be filtered through a pretreatment unit, flow into the infiltration basin/treatment wetland, and pass through a filtration device. This project has the potential to offer runoff storage and water quality benefits for these jurisdictions that can address the additional needs for stormwater management identified to achieve compliance in the EWMP.</p>		
<p>Project Benefits:</p> <ul style="list-style-type: none"> • Water Quality Improvement in the San Rafael Creek and the Arroyo Seco Channel by removing trash, metals, and nutrients in stormwater and urban runoff • Nature-Based infiltration recharge basins with sustainable native landscaping and storage • Park recreational enhancements with a wetland/habitat area and continuous irrigation water supply • Public Access to Waterways with improved public access to natural treatment wetlands and pedestrian pathways 		

SAN RAFAEL PROPOSED CONCEPTUAL SITE LAYOUT



Natural Infiltration Basin

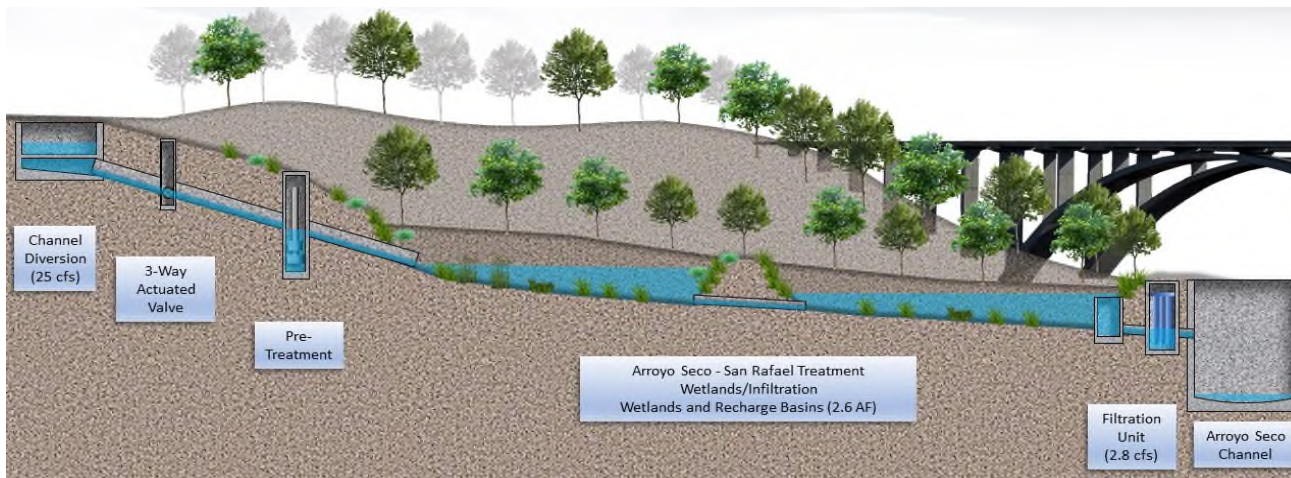


Public Access



Natural Stream

CROSS SECTION



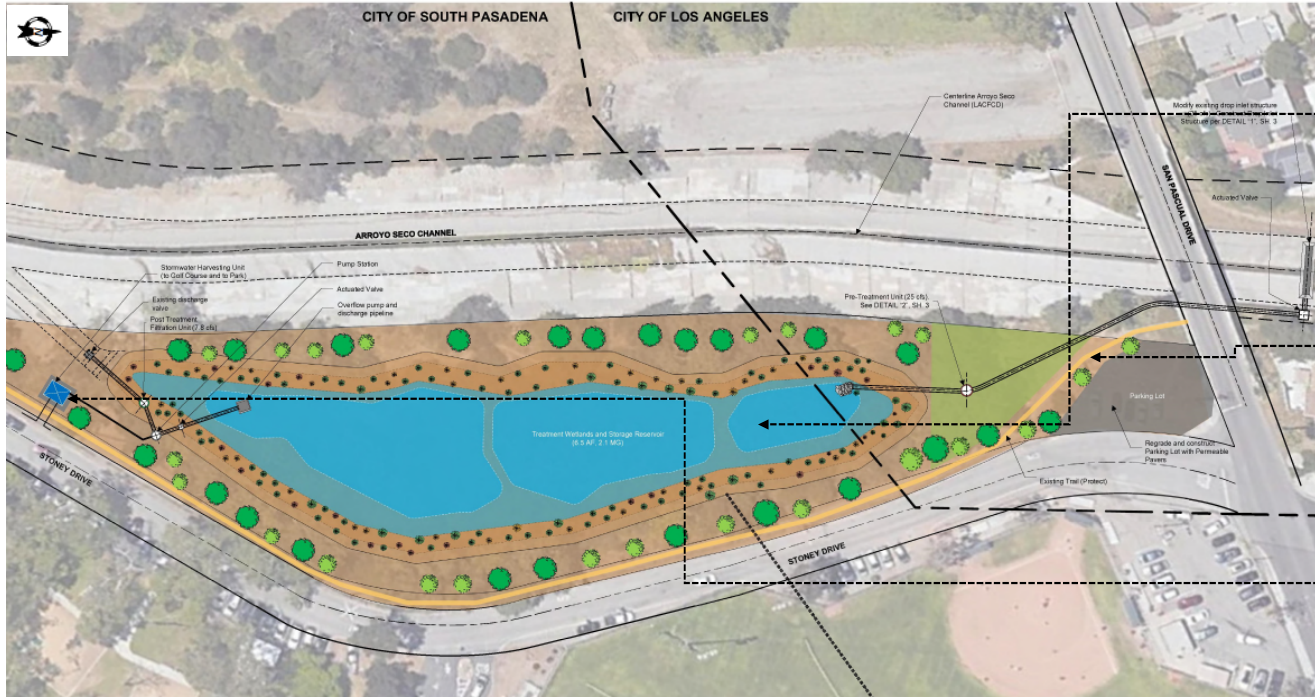
PRELIMINARY SCW SCORING

SECTION	Score
A.1 Wet Weather Water Quality Benefits	40
• A.1.1 Water Quality Cost Effectiveness > 1.0 AF/\$Million	
• A.1.2 Pollutant Reduction >80%	
B. Significant Water Supply Benefits	5
• B1. Water Supply Cost Effectiveness	
• B2. Water Supply Benefit Magnitude	
C. Community Investment Benefits	10
• Improved flood management	
• Creation/enhancement/restoration of parks	
• Improved public access to waterways	
• Enhanced/new recreational opportunities	
• Reducing local heat island effect	
• Increasing number of trees and/or vegetation	
D. Nature-Based Solutions	10
E. Leveraging Funds and Community Support	10
• Strong local, community-based support	
TOTAL SCORE	75

PROJECT CHARACTERISTICS

Primary Pollutant Zinc Reduction Achieved (% Zn reduction) for both projects	873 lb/yr (67.7%)
Secondary Pollutant Copper (% Cu reduction) for both projects	235 lbs/yr (68.2%)
Design Diversion Rate San Rafael Creek	25 cfs
Storage Capacity for Infiltration Basin with 2.88 filtration unit	2.6 ac-ft (0.88 MG)
24-Hour Capacity for both San Rafael and San Pascual Sites	27.9 ac-ft
Construction Cost Estimate for both San Rafael and San Pascual Sites	\$6,333,095

SAN PASCUAL PROPOSED CONCEPTUAL SITE LAYOUT



Natural Treatment Wetland

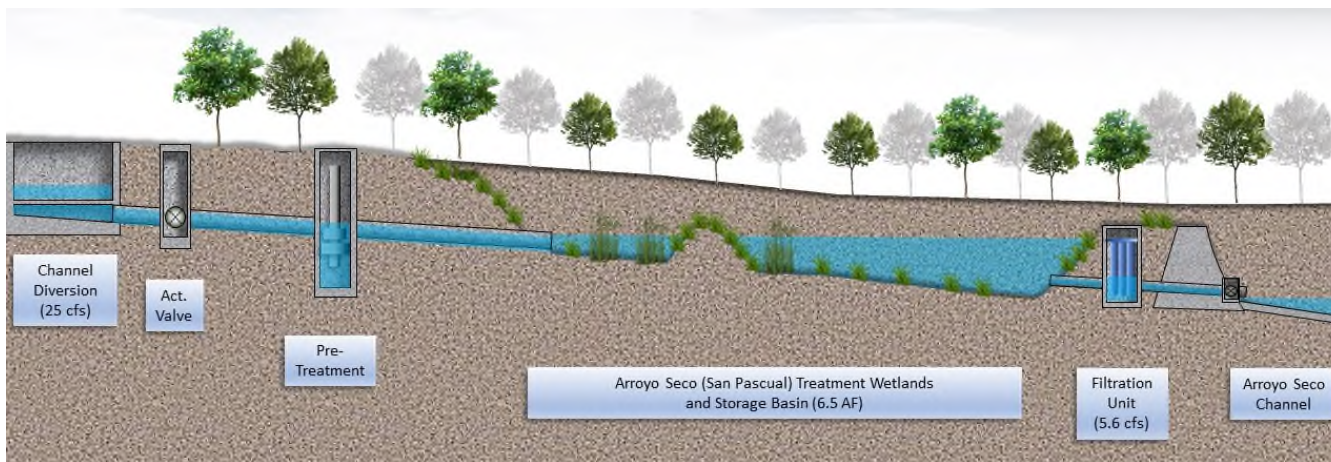


Public Access



Stormwater Harvesting Unit

CROSS SECTION



PROJECT CHARACTERISTICS

Primary Pollutant Zinc Reduction Achieved (% Zn reduction) for both projects	873 lb/yr (67.7%)
Secondary Pollutant Copper (% Cu reduction) for both projects	235 lbs/yr (68.2%)
Design Diversion Rate Arroyo Seco Channel	25 cfs
Storage Capacity for Natural Treatment Wetlands with 5.76 cfs filtration unit	6.5 ac-ft (2.1 MG)
24-Hour Capacity for both San Rafael and San Pascual Sites	27.9 ac-ft
Construction Cost Estimate for both San Rafael and San Pascual Sites	\$6,333,095