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Marchant Park Stormwater Capture Project

Project Description

Project Site: Marchant Park



The City of San Dimas proposes to capture stormwater runoff to provide treatment and groundwater recharge at Marchant Park (Project area), located at 425 Juanita Avenue in San Dimas, California. The project will capture the 24-hour, 85th percentile stormwater runoff (2.79 acre-feet) from a 77-acre drainage area located east and northeast of the project area. Flows will be treated using a hydrodynamic separator prior to reaching the underground infiltration gallery (NDS StormChamber®) to provide infiltration-based treatment and groundwater recharge. The project area, vicinity map and stormwater capture area are shown in Figure 1.

Figure 1: Project Area, Vicinity, and Drainage Area

Existing site features at the project area are shown in Figure 2.

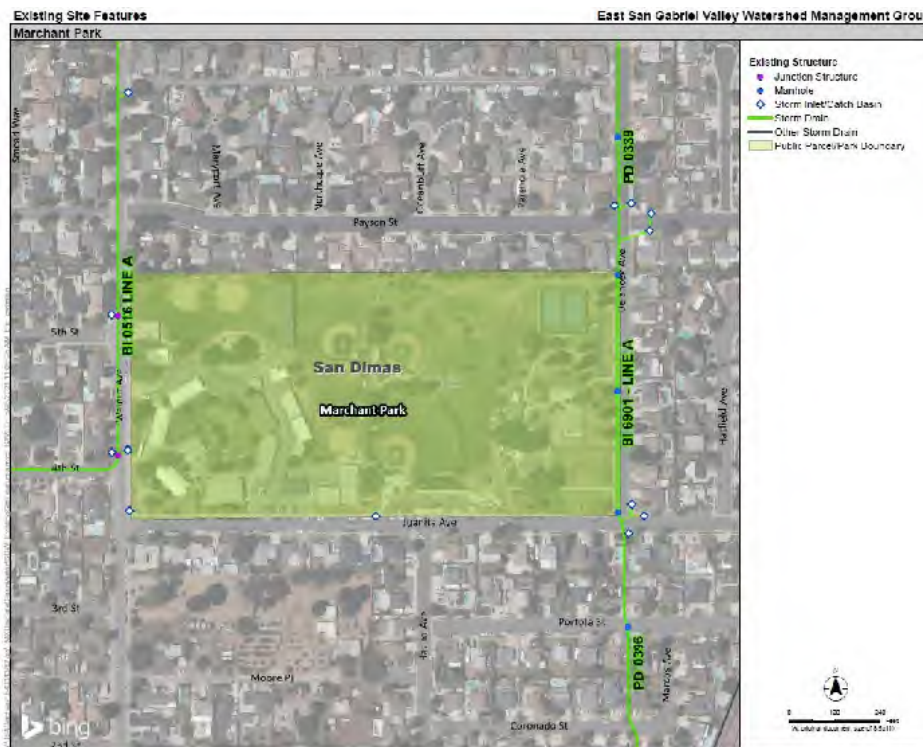


Figure 2: Existing Site Features

Proposed Connections and Project Features

- ✓ Divert flows from PD 0396 (Intersection of N Delancey Ave and E Juanita Ave). Flows will be conveyed via gravity to a hydrodynamic separator for pretreatment and then conveyed via gravity to the infiltration gallery.
- ✓ Install an underground infiltration gallery (NDS StormChamber) within Marchant Park.

Proposed project features are shown in Figure 3. Proposed surface improvements are shown in Figure 4.



Figure 3: Proposed Connections and Project Features



Figure 4: Park Improvements - Concept

Project Benefits

- ✓ Reduce pollutants discharged into Walnut Creek Wash.
- ✓ Provide park improvements including interpretive sensory garden, play trail with musical instruments, corn hole play areas, picnic tables with shade area, educational signage, porous pavement, and native plants

Project Cost Estimate

- ✓ Preliminary construction estimate: \$3M
- ✓ Anticipated Safe, Clean Water Requested Funding: \$675,000

Tentative Milestone Schedule

- ✓ July 2022 – December 2023 Design and Planning, Obtaining Permits
- ✓ July 2025 – June 2027 Construction

Outreach

The City of San Dimas met with the Bonita Unified School District to discuss the project and project features to be implemented. In addition, the San Dimas Chamber of Commerce, as representatives of local businesses, San Dimas Little League and the San Dimas City Council, as representatives of the citizens of the city, both express support for the project.

Detailed Summary of the Estimated Project Scoring

According to Safe Clean Water Project online scoring criteria, the estimated score for this project is 65 points.

- ✓ Water Quality (44/50)
- ✓ Water Supply (2/25)
- ✓ Community Investment (5/10)
- ✓ Nature Based Solutions (10/15)
- ✓ Funds & Community (4/10)

Pelota Park Stormwater Capture Project

Project Description



Figure 1: Project Area, Vicinity, and Drainage Area

The City of La Verne proposes to capture stormwater runoff to provide treatment and groundwater recharge at Pelota Park (Project area), located at 1505 Holly Oak Street in La Verne, California. The project will capture the 24-hour, 85th percentile stormwater runoff (2.2 acre-feet) from a 58-acre drainage area located north and northeast of the project area. In addition, the project will capture dry weather flows from a 1531-acre drainage area by diverting flows from the Marshall Canyon Channel. Flows will be treated using a hydrodynamic separator prior to reaching the underground infiltration gallery (NDS Storm Chamber[®]) to provide infiltration-based treatment and groundwater recharge. The project area, vicinity map and stormwater capture area are shown in Figure 1.

Existing site features at the project area are shown in Figure 2.

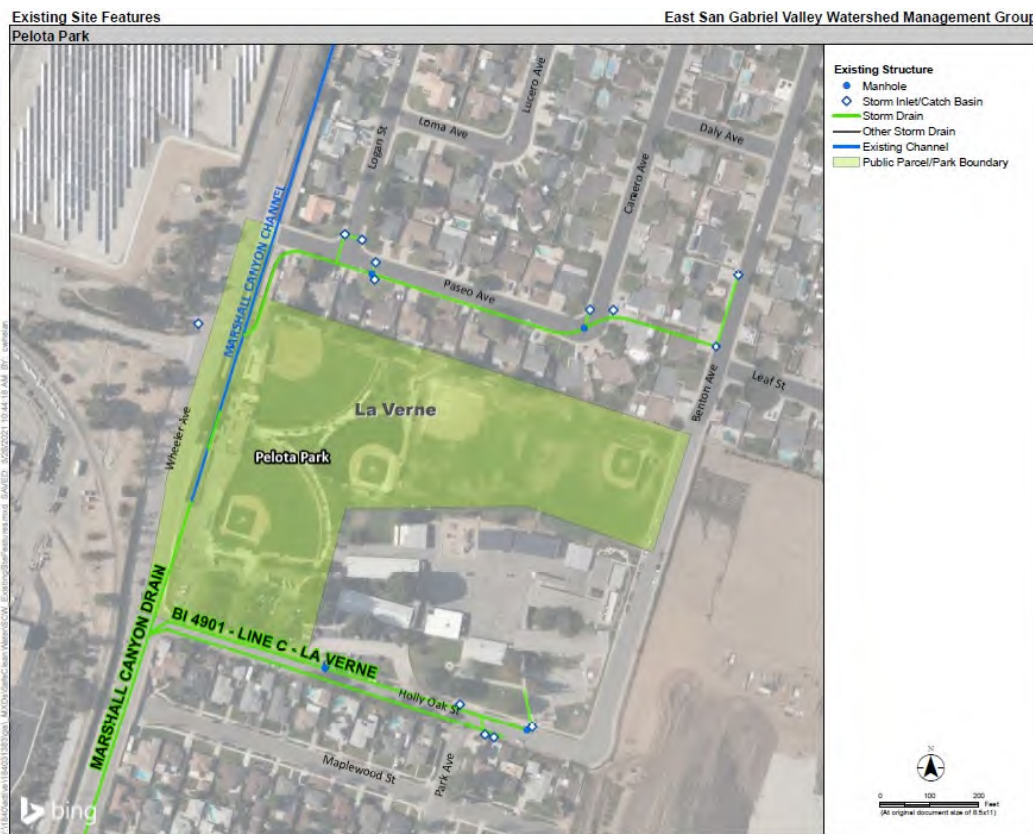


Figure 2: Existing Site Features

Proposed Connections and Project Features

- ✓ Divert flows from the Paseo Avenue storm drain prior to discharge to Marshall Canyon Channel. Flows will be conveyed via gravity to a hydrodynamic separator for pretreatment and then conveyed via gravity to the infiltration gallery.
- ✓ Divert dry weather flows from Marshall Canyon Channel. Flows will be conveyed via gravity to a hydrodynamic separator for pretreatment and then conveyed via gravity to the infiltration gallery. During detailed design, a treatment system will be evaluated that would treat a portion of the dry weather flows to provide irrigation for the little league fields.
- ✓ Capture and infiltrate runoff from buildings and blacktop at Grace Miller Elementary School. Flows will be conveyed to rain gardens or the infiltration gallery.
- ✓ Install new catch basins on Benton Avenue. Flows will be conveyed via gravity to a hydrodynamic separator for pretreatment and then conveyed via gravity to the infiltration gallery.
- ✓ Install an underground infiltration gallery (NDS StormChamber) within Pelota Park.

Proposed project features are shown in Figure 3. Proposed surface improvements are shown in Figure 4.

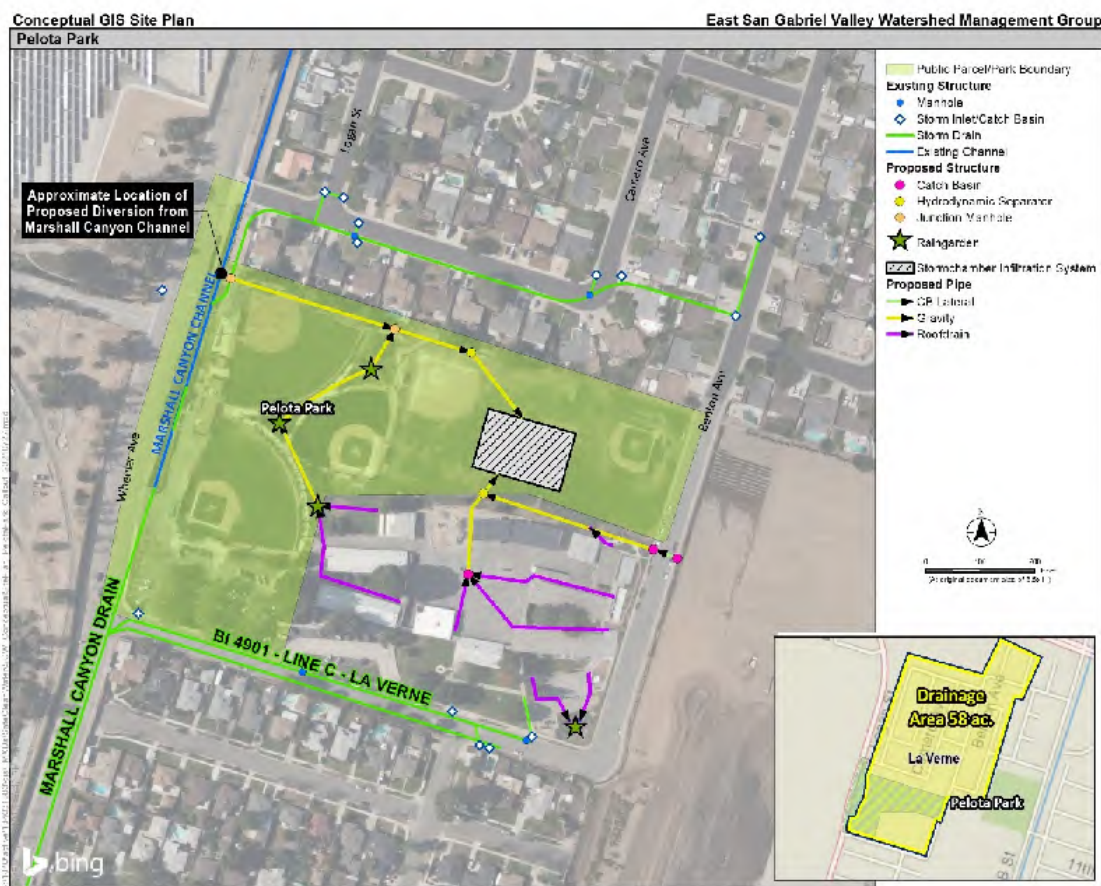
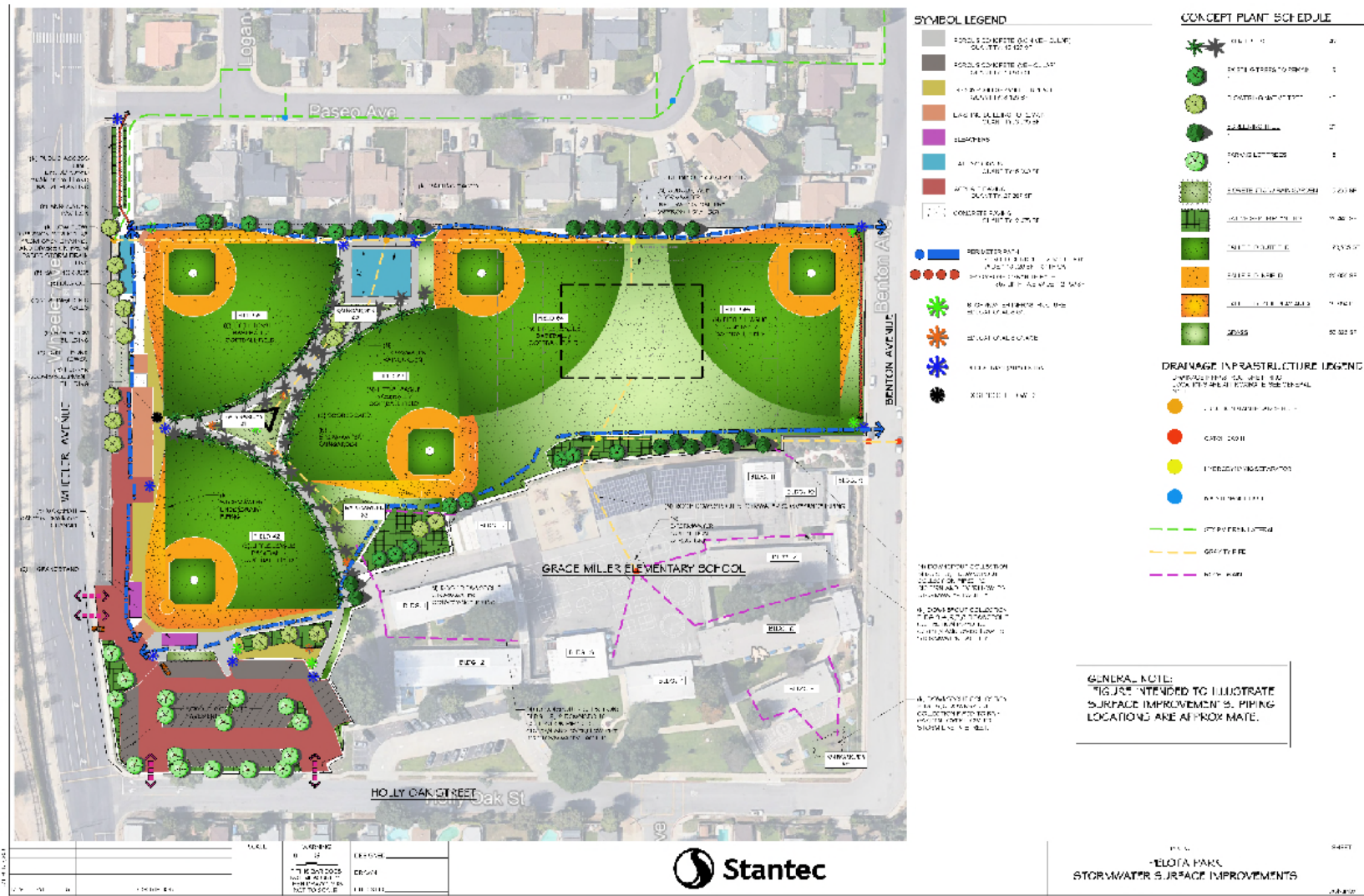


Figure 3: Proposed Connections and Project Features



Project Benefits

- ✓ Reduce pollutants discharged into Live Oak Wash.
- ✓ Provide park improvements including walking paths, educational signage, field improvements to alleviate flooding issues, porous pavement, rain gardens, and native plants.

Project Cost Estimate

- ✓ Preliminary construction estimate: \$10M
- ✓ Anticipated Safe, Clean Water Requested Funding: \$1.3M

Tentative Milestone Schedule

- ✓ July 2022 – December 2023 Design and Permitting
- ✓ July 2025 – June 2027 Construction

Outreach

The City of La Verne met with the Bonita Unified School District to discuss the project and project features to be implemented. In addition, a site visit was held with the Parks Department to discuss park improvements based on feedback from the community. There was also a meeting with La Verne Little League on 7/21/2021 that went over the benefits to the community with this projects and improvements to the ball fields. Lastly, there was a meeting with the Three Valleys Municipal Water District to discuss potentially using water conservation funding from the Metropolitan Water District to design and install drought tolerant native vegetation and rain gardens.

Detailed Summary of the Estimated Project Scoring

According to Safe Clean Water Project online scoring criteria, the estimated score for this project is 68 points. The system scores the project from 5 different perspectives, which are:

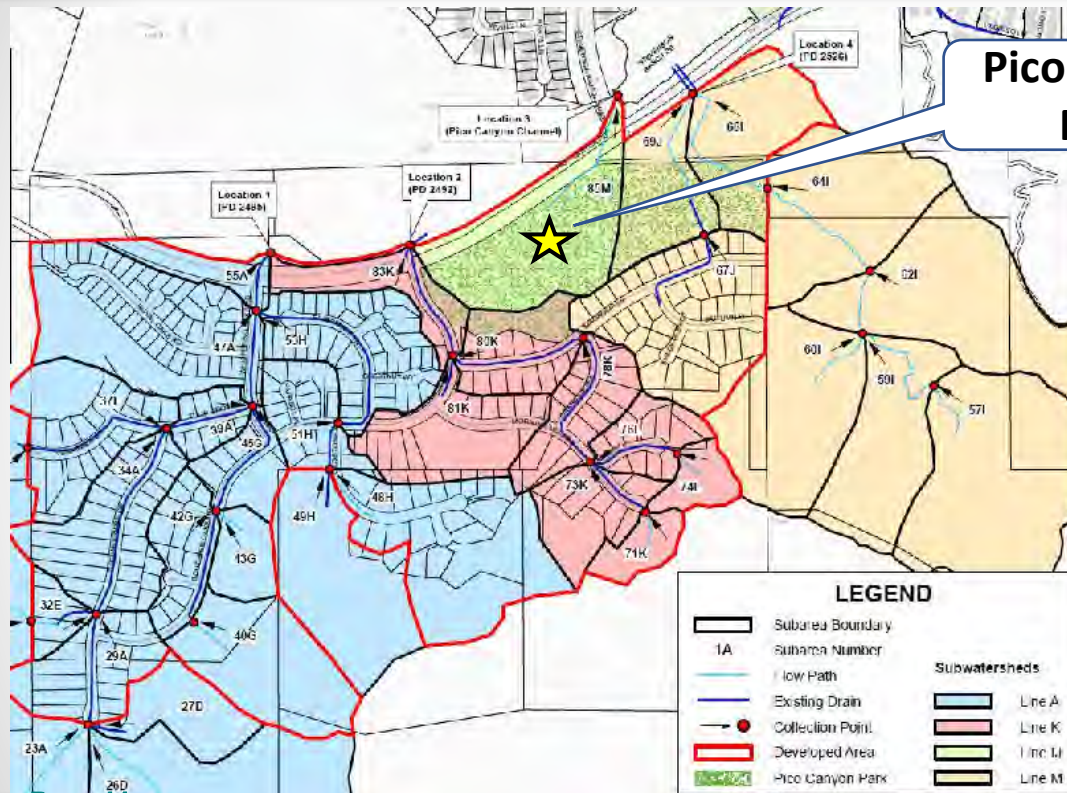
- ✓ Water Quality (30/50)
- ✓ Water Supply (12/25)
- ✓ Community Investment (10/10)
- ✓ Nature Based Solutions (12/15)
- ✓ Leveraging Funds & Community Support (4/10)



Pico Canyon Park Stormwater Improvements Project

Supervisory District 5

Pico Canyon Park Stormwater Improvements Project Tributary Area



**Pico Canyon
Park**

- Medium Density Residential
- 150 Acre Drainage Area
- 100% UA Drainage Area
- 4.8 ac-ft (85th Percentile Volume)
- Capture & Treat 85th

Pico Canyon Park Stormwater Improvements Project

Project Benefits



Key Design Elements

- Volume Capacity – 4.8 ac-ft (85th percentile)
- Drainage area – 150 acres

Benefits

- Water Quality
- Target Pollutants
- Community Enhancements

Outreach

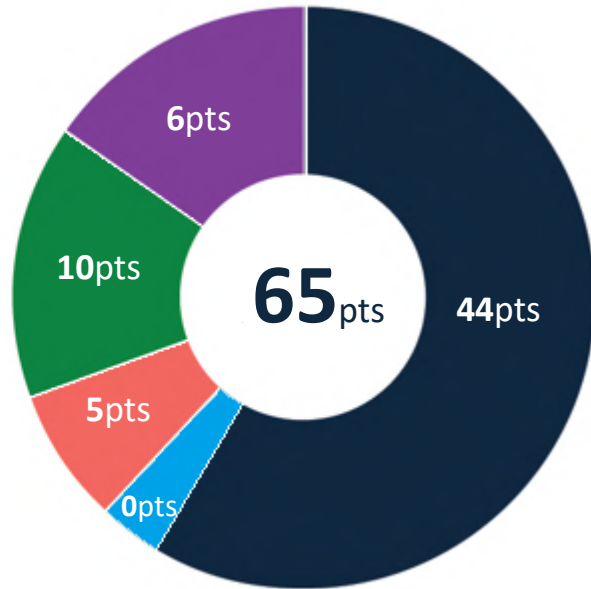
- Westridge HOA Board Meeting 7/21/2021

Pico Canyon Park Stormwater Improvements Project

Project Cost and Schedule

Safe, Clean Water Program Score

- Water Quality
- Community Investment
- Nature-based Solutions
- Leveraging Funds
- Water Supply



Water Quality

Pollutant reduction of bacteria

Water Supply

Recharge local groundwater basin

Nature-based Solutions

Natural process and materials

Leveraging Funds

Project partnerships and community outreach

Community Investment

Exercise equipment, Drinking fountain, and Bioswales to enhance recreation and local habitat

Los Angeles River Upper Reach 2 Watershed Management Area (LAR UR2 WMA)

Salt Lake Park Infiltration Cistern Project



Total Request: \$28,000,000

City of Huntington Park



Water Supply Benefits

Divert wet & dry flows from 9.5' x 7' RCB and 69" RCP

Hydrodynamic separation pretreatment

Deliver flows to 32 acre foot park cistern

Infiltrate 550 ac-ft annually into Central Basin aquifers

Future/current catchment: 605/1,584 acres
24-hour runoff capture capacity: 34 acre-feet

Water Quality Benefits

Mean Annual Load Capture (SCWP Module)		
Pollutant Name	1584-acre Catchment	605-acre Catchment
Total Zinc	27.0%	60.3%
Total Copper	25.7%	59.2%
Total Lead	23.3%	55.4%
<i>E. coli</i>	28.9%	56.7%

LAR UR2 WMA WMP LAR target *E. coli* load reduction 29%

85th %ile storm: 1" × 605 acre × ft/12" × 2/3 = 34 ac-ft

Project Benefits



Nature Based Solution

Supports ongoing/
expanded recreation,
groundwater recharge,
improved receiving
water quality, flood
management, low
energy demand



DAC/Investment Benefits

Huntington Park
catchment: mostly (90%)
Severely Disadvantaged
Vernon catchment:
Disadvantaged
LAR UR2 WMA: 28%
Severely Disadvantaged
72% Disadvantaged



Local Support

Tree People, Commerce,
Bell Gardens, and
Vernon support letters
LAR UR2 WMA MOAs for
MS4P implementation of
similar projects
SWRCB 4/13/17 "SWRP
Functionally Equivalent"

Schedule

Milestone	Anticipated Completion Date
Permitting	February 2022
Design	March 2022
Award Construction Contract	July 2024
Start Construction	October 2024
Complete Construction	June 2027

In 2030, reanalyze based on DWP Transmission Easement Project Progress, Sixth/Seventh Term MS4 Permit, WMMS 3.0, and LAR Bacteria TMDL 2037 Compliance Deadline

Budget

Estimated Project Expenses	
Planning and Design	\$2,500,000
Estimated Construction	\$25,500,000
Total Estimated Capital Improvement Project Expenses	\$28,000,000

Annual Cost Breakdown	
Annual Operation and Maintenance Cost	\$56,700
Module Generated Life-Cycle Cost	\$29,100,393
Module Generated Annualized Cost	\$1,212,825

Cost Schedule

Project Cost Schedule				
Funding Source	FY 2021-24	FY 2024-25	FY 2025-27	TOTAL
Safe Clean Water Program Funds	\$2,500,000	\$10,500,000	\$15,000,000	\$28,000,000
Phases	Planning/ Design	Construction CM Services	Construction CM Services	

Contact



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Vincent Lugo Stormwater Capture Project Executive Summary

The proposed Vincent Lugo Park Stormwater Capture Project (Project) will divert stormwater runoff and dry-weather flow from the adjacent Alhambra Wash, a concrete-lined canal, into the Vincent Lugo Park (Site) for stormwater treatment and infiltration to achieve the primary benefits of groundwater recharge, trash removal, and pollutant load reduction. Diverted water will be infiltrated via bioswale and existing dry creek bed into the Main San Gabriel Basin aquifer nearby San Gabriel County Water District's nine existing water supply wells. Water in the BMPs is not intended for human contact—a decorative railing may isolate the BMPs and include signage to avoid water contact. The secondary benefits of the stormwater BMPs will provide community benefits including aesthetic improvements, heat island reduction, creation of riparian habitat, creation of educational signage and a park educational walking tour, passive recreation (e.g., bird watching), and creation of a new pathway, shade trees, and benches.

Location and Site Context

Location. The Site is called Vincent Lugo Park and is in the City of San Gabriel, Los Angeles County, CA in a residential use area. The Site address is 300 West Wells Street, San Gabriel, California. The site is approximately 9 acres.

Ownership. The Park is owned by the City of San Gabriel and the Alhambra Wash is owned by the LA County Flood Control District. The project leads are the City and LACPW.

Disadvantaged Community. The Site census block has a median household income of \$43,980, qualifying it as a Disadvantaged Community under the scoring criteria.

Funding and Status. The project has received TRP funding for the completion of this feasibility study and will apply for IP funding for the design and construction of the Vincent Lugo Stormwater Capture Project. No leveraged funding has become available at the time of submittal and the project will likely apply for O&M funding in the future once the project is built.



Figure 1. Project Location in the Rio Hondo Watershed

Project Background. The project was developed from a Councilmember's idea to create a stormwater basin at Vincent Lugo Park, but not enough stormwater can be captured on site to make a significant impact, which is why the diversion from the adjacent Alhambra Wash is included. This project is within the Rio Hondo/San Gabriel River regional water management plan.

Project Details. The Site is currently an actively used park. There are 49 water wells identified within 1-mile, 9 of those owned by the City. The completed studies are the draft Geotechnical Investigation and Phase 1 Environmental Site Assessment. Alternatives were considered, but the low dry-weather flow in the Alhambra Wash and limited areas of infiltration within the Site restricted greater amounts of water capture and storage.

Watershed, Capture Flow Rate, & Hydrology. The Alhambra Wash contributing watershed area at the park is approximately 5,800 acres. Average daily flow rate in the Wash is between 0.1 and 1 cubic feet per second (cfs), 90% of the time. Higher flows occur infrequently during wet weather events. The Project will divert water flow rates of up to 1-1.5 cfs, which will capture between 430 and 628 acre-feet/year depending on site soil infiltration and Wash baseflow quantity.

Infiltration Rates. Long term saturated infiltration rates are expected to be in the range of two to four inches (in.)/hour. If the infiltration rate is two-in./hour, the combined 22,000 sf areas (the bioswale and creek bed) can infiltrate 1 cfs. Two cfs can be infiltrated if the actual infiltration rate is four-in./hour.

Key Design Elements

A diversion structure drop inlet will be placed across the Alhambra Wash, from which flows will be pumped to a pretreatment device and then equalization basin, where the water will then be pumped to two infiltration areas in Vincent Lugo Park, including rehabilitating an existing dry rock creek bed with flowing water and a new bioswale infiltration BMP. Overflow from the bioswale will be recirculated to the equalization basin or returned to Alhambra Wash via a stormwater outfall. See Figure 2 and the following for a summary of the key project components:

Diversion Structure. Surface water flows up to 1.5 cfs will be diverted from the Alhambra Wash using a drop inlet in the bottom of the channel. A 10-inch DIP will extend from the inlet to a pump station.

Pump Station 1. The water surface elevation in Alhambra Wash is below the water surface elevation in the pre-treatment BMP and equalization basin, so requires the construction of a pumping system to transmit water from the Wash to the pre-treatment BMP. There will likely be multiple pumps capable of pumping water from 0.1 to 1.5 cfs (45 to 675 gallons per minute (gpm)).

Pre-Treatment BMP. Water pumped from the Wash through a PVC pressure pipe will enter the underground pre-treatment BMP, which will remove trash, organic debris, gross solids, and particulate matter. Multiple BMPs will be considered including hydrodynamic separators and media filtration.

Equalization Basin. Water will flow via gravity from the pre-treatment BMP to the underground equalization basin. The equalization basin is a reservoir for pre-treated water and a buffer between the pumping from the Wash and pumping to the infiltration BMPs. The equalization basin is expected to be a 100,000-gallon concrete structure with access hatches.

Pump Station 2. Pump Station 2 is required to convey water from the equalization basin to the upstream end of both infiltration BMPs (creek bed and bioswale). There will likely be multiple pumps capable of pumping water from 0.1 to 3 cfs (45 to 1,350 gpm).

Water Distribution Pipes. An independent PVC pressure pipe will convey water from Pump Station 2 to the upstream end of each infiltration BMP (creek bed and bioswale).

Bioswale Infiltration BMP. A 12,000-sf area on the western side of the Site will be a new attractive bioswale for water quality improvements and infiltration while also serving as an educational and recreational amenity with a new pathway, shade trees, and benches. Water will flow west to east towards the downstream end of the existing dry creek BMP. It will prioritize the use of native plants and materials.

Creek Bed Infiltration BMP. An existing dry creek bed infiltration BMP starts near the eastern boundary of the park and extends west approximately 700 linear feet (LF). It has an infiltration area of approximately 10,000 square feet (sf). It varies from 15 to 25 feet wide, two to three feet deep, and is lined with rocks and stone to mimic a natural rock substrate creek. It contains water during and immediately after a wet weather event, so it is infrequently in use. This Project proposes surface water from the Wash to be continuously diverted to the creek bed BMP for infiltration which will substantially improve the effectiveness, creating a permanently flowing creek.

Water Return Pipes. Water in excess of the infiltration capacity of the BMPs will discharge through a gravity storm drain outfall and return to the equalization basin for subsequent use. Water in excess of the equalization basin capacity will discharge back to the Wash.

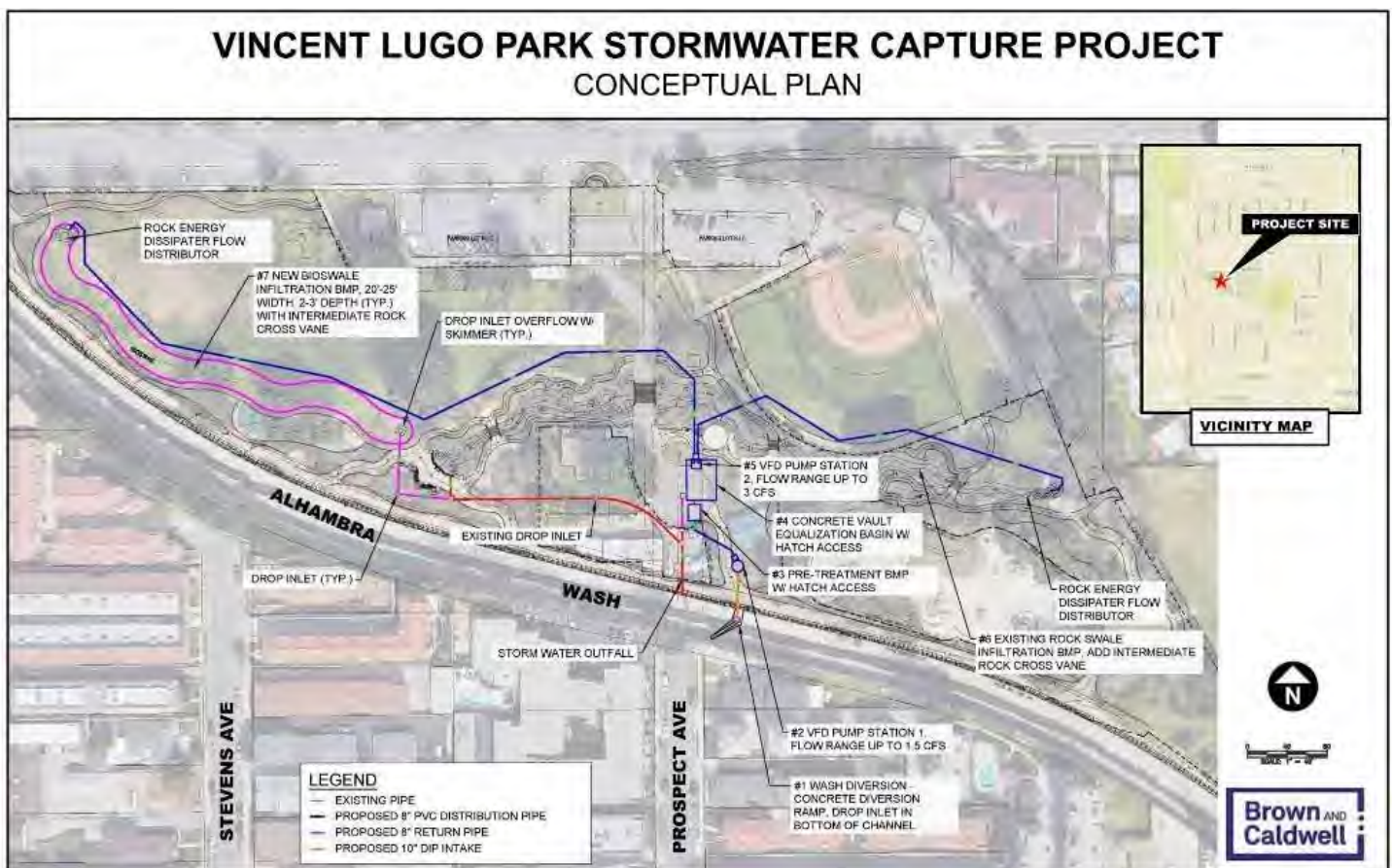


Figure 2. Project Conceptual Plan

Project Benefits

This feasibility study can support community education about water management and the environmental benefits associated with a project that removes pollution from stormwater runoff, reduces downstream flooding, and enhances local water supplies. The feasibility study and its resultant project will not be expected to impact displacement since the majority of the existing park will not be changed. A summary of the project benefits are as follows:

Pollution and Trash Removal. The pollutants of concern are those identified as “highest priority” for the Rio Hondo watershed include metals (copper, lead, zinc, and cadmium), bacteria (fecal coliform and *E. coli*), nitrogen species (ammonia and nitrate-plus-nitrite nitrogen), and trash. The Project will address removal of these pollutants of concern through pretreatment, biofiltration, and infiltration.

Improve Flood Risk. By removing up to 1.5 cfs of dry-weather and low-end wet-weather flow from Alhambra Wash, the Project will likely be able to capture, divert, and infiltrate about 430 to 628 acre-feet of water per year.

Habitat Creation. The bioswale and creek bed creates habitat for aquatic species, small animals, insects, and birds by supplying a reliable water supply. The bioswale will be vegetated, meaning in addition to the lifeforms attracted to the creek bed, additional life will be attracted to the riparian native vegetation. This bioswale will create about 12,000 square feet of new riparian habitat using a diversity of climate appropriate, native species. The creek bed will create about 10,000 square feet of aquatic habitat.

Recreation. Recreation will be created through two new water-related features. These two water features (the converted creek bed and new bioswale) will have flowing water year-round, creating permanent recreational opportunities, particularly for passive recreational opportunities such as bird watching, wildlife viewing, photography, and general enjoyment of flowing water and open space. It is not recommended that community members or their children play directly in the water features. The plan includes developing one new pathway along the bioswale approximately 450 feet long. Along this new pathway are eight new shade trees and four new benches. The plan also includes improving the walkway along the Alhambra Wash with six new shade trees and four new benches. In total, this adds up to 14 new trees and 8 new benches for the park.

Access to Waterways. This project creates public accessibility features along two new flowing creeks—one is an existing dry creek bed converted to have flowing water, roughly 10,000 sf, and the other is a new, roughly 12,000 sf vegetated bioswale. The existing path immediately adjacent to Alhambra Wash will be enhanced with new shade trees, as well as a new pathway adjacent to the new bioswale with shade trees and benches. These two water features will have flowing water year-round, creating permanent recreational opportunities that will enhance the features and aesthetics of the park for its users.

Urban Heat Island. Since this project includes both flowing water and a vegetated bioswale with flowing water, the community will benefit from a reduced heat island effect, positively affecting public health. Flowing water and evapotranspiration from plants will help create localized evaporative cooling in addition to any new shade created through planting trees.

Public Education. The City will like to create an educational walking tour within the park, including outreach to schools to hold outdoor classes in the existing shaded picnic area. The City will provide walking tour information to teachers and educational signage will be placed at key junctures in the park. This will include signs outlining the stormwater processes and pollution removal mechanisms at work at the Alhambra Wash diversion, pump station and treatment BMP, rock infiltration swale, and bioswale.

Natural Processes. Nature-based solutions will be used throughout the project. Both of the main design features in the park utilize nature-based processes, which include the creek bed and bioswale. These features are utilized as part of a train of pre- and post-treatment in conjunction with mechanical and biochemical treatment technologies to improve water quality in urban stormwater runoff.

Natural Materials. The creek bed already utilizes natural materials on the site (e.g., rocks, riprap, and soil). The bioswale design will include natural materials such as soil, gravel, and native Californian plants. A preference will be given to landscaping that uses a diversity of native vegetation and enhances biodiversity and habitat.

Public Engagement

The existing dry creek bed was planned and developed through community outreach meetings with the San Gabriel Community, the Parks and Recreation Commission, and members of key stakeholder groups, including the Girl Scouts Mt. Wilson Vista Council, San Gabriel Pony League Baseball, San Gabriel Sunnyslope Little League, American Youth Soccer Organization, and the Friends of La Laguna. Four community meetings are proposed at 30%, 70%, 90%, and preconstruction design phases. A variety of strategies are proposed to engage the community, including the creation of a project website, surveys, lawn signage, project fact sheets, flyers, and media and social media.

Project Funding

Phase	Description	Cost	Completion Date
Design	Design, Survey, Geotechnical	\$730,000	12/2023
Design	Permitting	\$70,000	12/2023
Design	Public Outreach/Engagement	\$20,000	12/2023
Construction	Construction	\$3,258,000	12/2024
TOTAL		\$4,078,000	

Project Scoring

Topic Area	Score	Notes
Water Quality Dry Weather Only Part 1	20 points	This is a dry weather project—the drainage area is large (5,800 acres), so capturing wet weather flow events will require significantly more BMP volume and cost per additional capture volume. All dry weather flows and up to 1-1.5 cfs of wet weather flows will be captured.
Water Quality Dry Weather Only Part 2	20 points	The tributary area for Vincent Lugo Park is 5,800 acres, well above the goal of 200 acres. The project will divert up to between 1 cfs and 1.5 cfs depending on soil infiltration rate.
Water Supply Part 1	13 points	Detailed design, construction, and operation and maintenance costs were estimated to cost a total of \$5.4 million over 30 years per Safe Clean Water life cycle cost module (\$290,000/yr per Safe Clean Water life cycle cost module), resulting in a cost effectiveness per volume captured of \$675/acre-ft.
Water Supply Part 2	12 points	The analysis indicated a potential water capture rate of 430 acre-ft/yr to 628 acre-ft/yr, or 0.59 cfs and 0.87 cfs average annual capture, respectively. These flows will be pre-treated, filtered through a bioswale, and infiltrated to eliminate surface water pollutant loadings. Infiltrated water will augment 9 nearby water supply wells.
Community Investment	10 points	Six of the community investment benefits were key considerations that were incorporated during project development.
Nature-Based Solutions	10 points	Nature-based solutions and natural materials are prioritized for this project. The Site is currently predominately green-space, so no benefits to impermeable area are anticipated.
Leveraging Funds-Part 1	0 points	This Project is still at an early stage so funding matching has not been identified.
Leveraging Funds-Part 2	4 points	Despite the current project phase, letters of support have been provided by the following community organizations: Friends of La Laguna, the City of San Gabriel Mayor’s Office, the San Gabriel Unified School District, and the San Gabriel Valley Council of Governments.
TOTAL	89 points	For a dry weather project

Watts Civic Center Serenity Greenway – Community Investment & Support

- Project provides an investment in new green space and safe pedestrian path linking community schools, civic center, parks and library.
- Project supported by local community groups including Children’s Institute, Watts Rising, and Kaiser Mental Health
- Project collaborators also include Los Angeles Sanitation and Kaiser Permanente
- Support Letters have been provided by Sisters of Watts, East Side Bike Riders, City of Los Angeles Council District 15



Serenity Greenway – Project Components

- Removes concrete alley and replaces with porous pavers
- Portion of porous pavers to be vegetated adjacent to new green space at Watts Civic Center
- Porous Pavers, Vegetated Planters and Green Walls capture and filter stormwater through filter media
- Underdrain discharges to underground storage vault and then to a series of three dry wells for 100% removal of pollutants
- Stormwater will be diverted from an existing storm drain that traverses the alleyway and conveyed to the underground storage/detention vault and dry well system for 100% removal of pollutants
- Total capture volume is 25,000 cubic yards from the urbanized drainage area of 7.3 acres equivalent to the 85th percentile storm event



Serenity Greenway – Project Benefits

- **Water Quality** – Captures 7.3 of urban drainage area and infiltrates the full 85th percentile storm event achieving 100% removal of pollutants from stormwater runoff
- **Water Quality** – Project has a 24-hour capacity of 5.96 ac-ft of runoff from alley, adjacent parcels and portion of upstream urbanized drainage area that currently goes into storm drain system without pollutant removal
- **Water Supply** – Captures and infiltrates 0.57 acre-ft of stormwater to recharge groundwater
- **Nature Based Solutions** – Restores natural processes by converting impervious concrete alley to porous pavers, vegetated pavers, vegetated planters, green walls, underground storage and dry well system allowing urban runoff to be filtered and infiltrate to groundwater
- **Community Investment** - Transforms a Concrete Alley to a Safe and Green Pedestrian Linkage between local schools, the Watts Community Civic Center, Alma Reaves Woods Library and the Ted Watkins Memorial Park
- **Reduction of Heat Island Effects** – Planters, vegetated pavers, green walls and trees add shade and green space to current concrete alley



Project Scoring

Water Quality – 50/50

Water Supply – 0/25

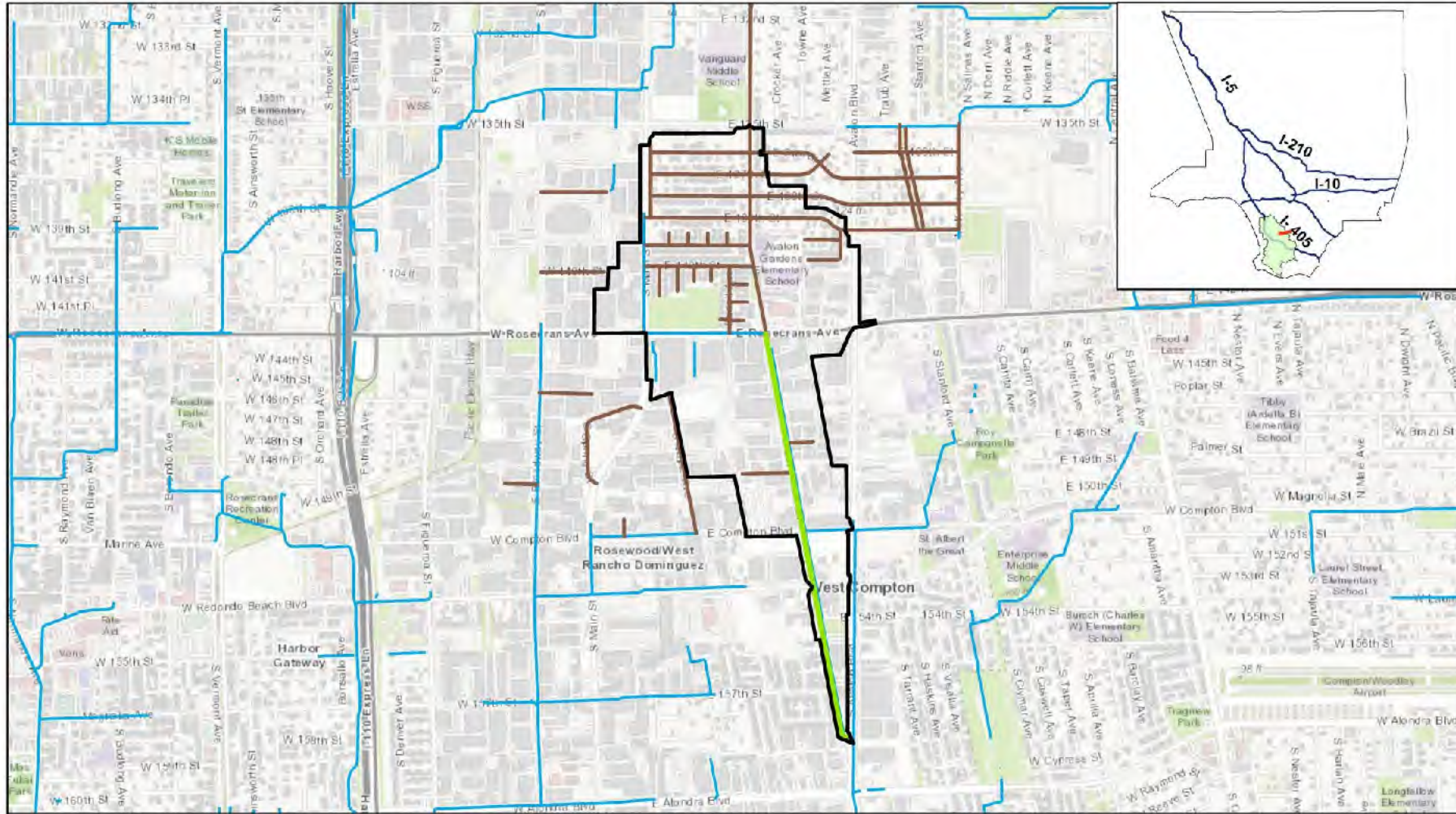
Community Investment – 10/10

Nature-Based Solutions – 15/15

Leveraging Funds – 4/10

TOTAL: 79 points

West Rancho Dominguez – San Pedro St Green Improvement Project Location



Project Location

- South Santa Monica Bay/DC Watershed
- Unincorporated Community of West Rancho Dominguez
- San Pedro St between Rosecrans Ave and Avalon Blvd
- Drainage Area = 278 acres
- Mostly industrial and residential
- Project within DAC

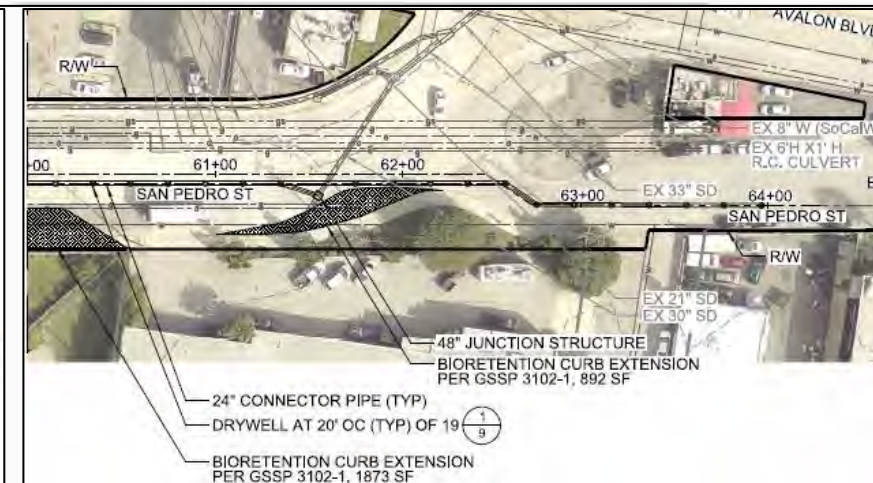
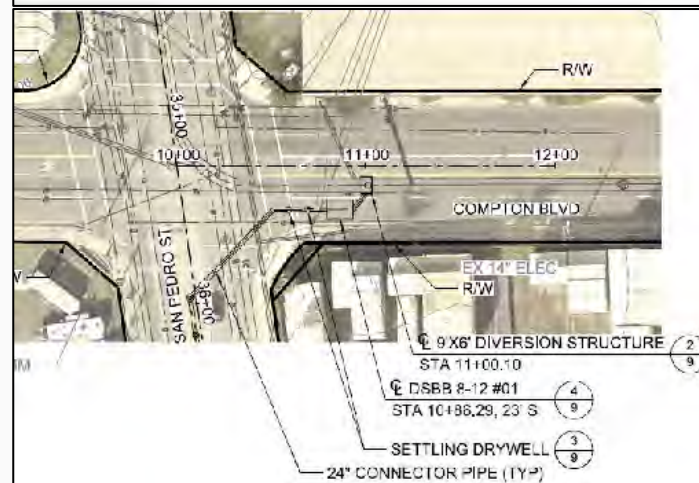
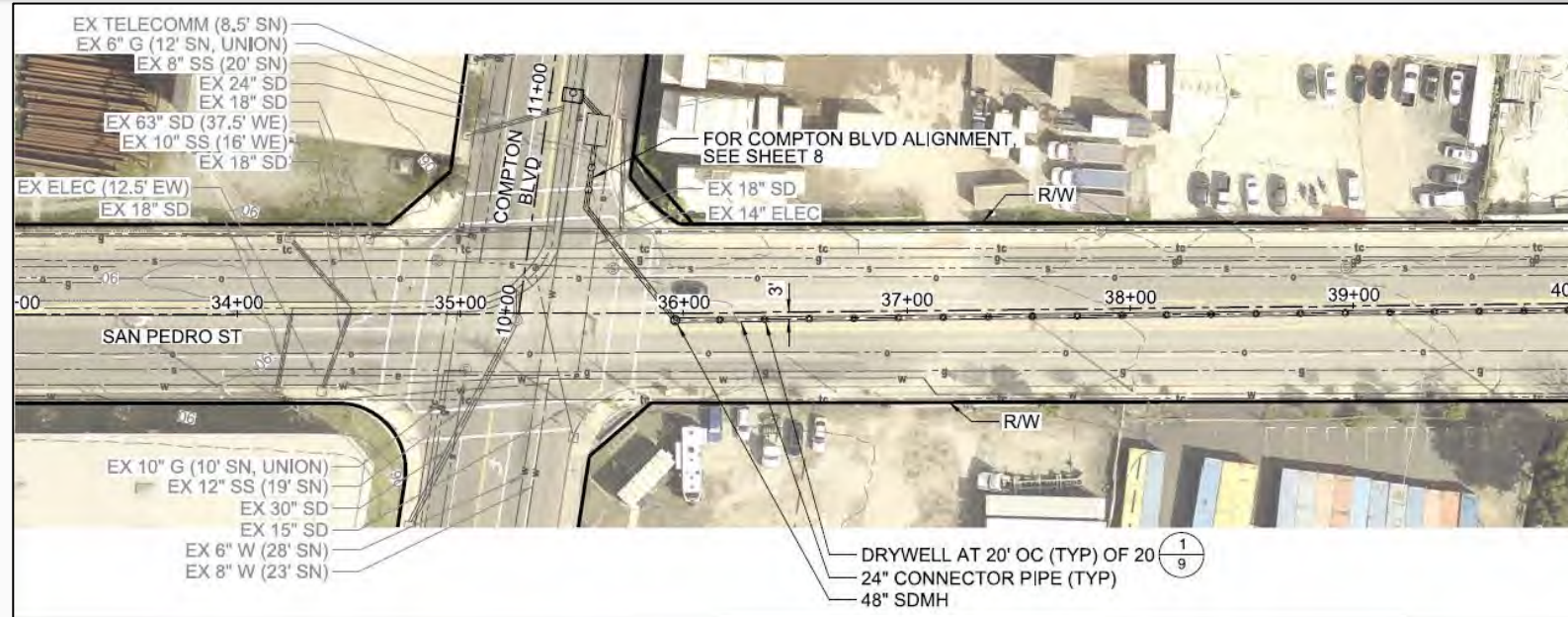
West Rancho Dominguez – San Pedro St Green Improvement Project Design Elements/Benefits

Project Design Elements

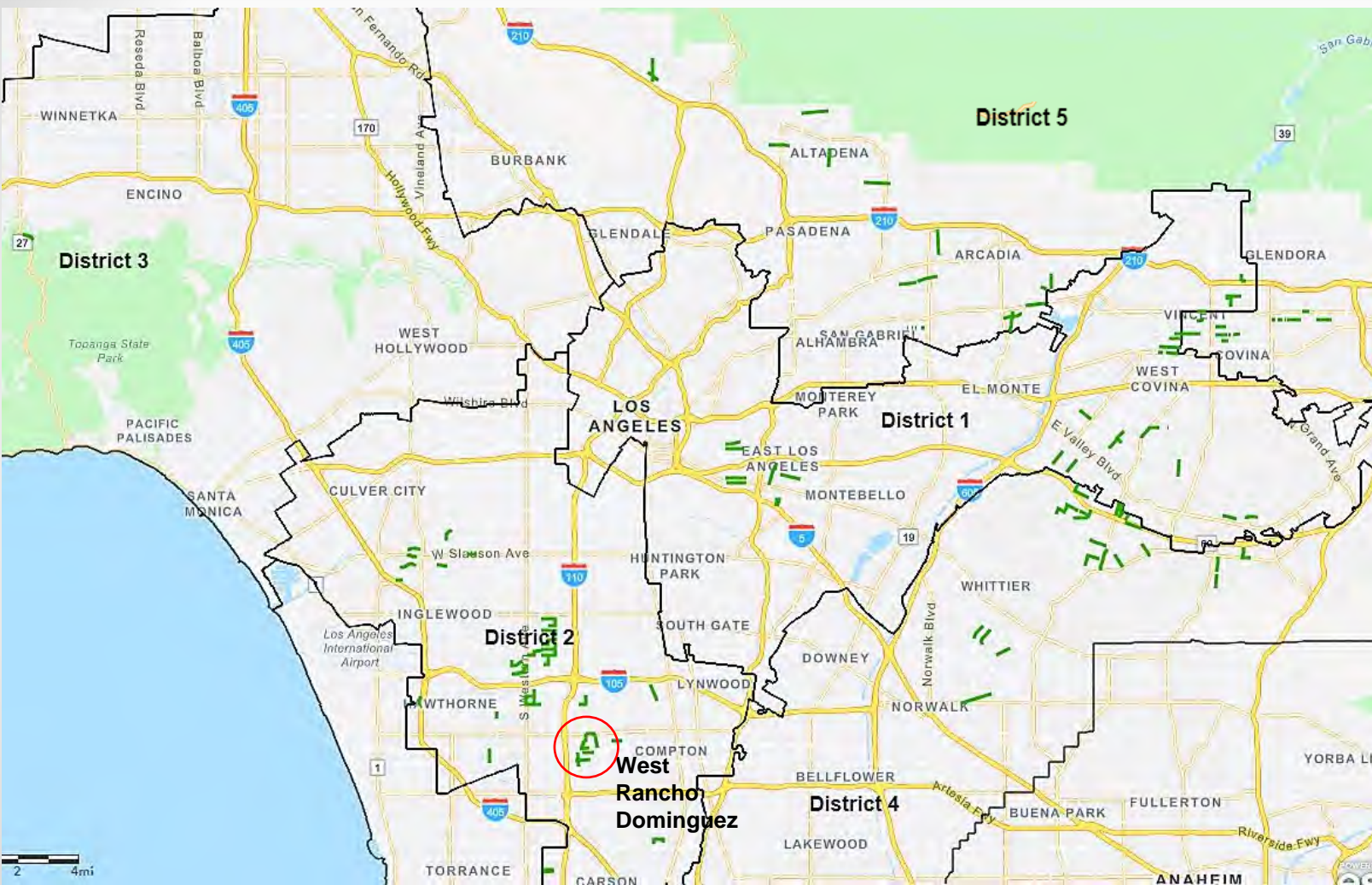
- ❖ Diversion structure (from main storm drain line)
- ❖ Pretreatment device: debris separating baffle boxes
- ❖ Settling drywell (for additional treatment): 2
- ❖ Drywells (for infiltration): 135
- ❖ Bioretention planters/curb extensions: 5,863 SF
- ❖ **24-hour BMP Capacity \geq 85th Percentile, 24-hour storm even runoff volume (12.8 acre-feet)**

Project Benefits

- ❖ **Water Quality:** removing pollutants from stormwater before entering Arroyo Seco and Los Angeles River
 - Primary Pollutant: Total Zinc = 81% reduction
 - Secondary Pollutant: Total Cu = 81% reduction
- ❖ **Community Enhancement:**
 - Improve localized flooding
 - Increase vegetation and create new habitat
 - Reduce heat island effect and increase shade
 - Enhance traffic safety



West Rancho Dominguez – San Pedro St Green Improvement Project Outreach



114 Sites

Green Street Master Plan

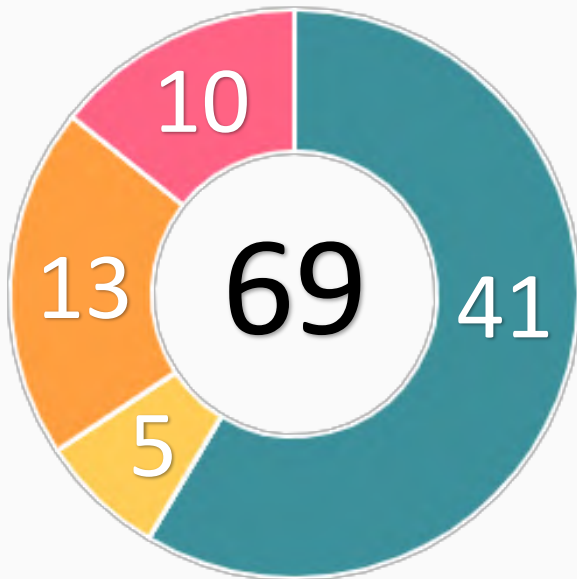
- ❖ Objective: to identify the most strategic and cost-effective locations for green street projects
- ❖ Circulated potential green street sites to the Green Infrastructure Feasibility Team, consisting of numerous divisions within Los Angeles County Public Works and Los Angeles County Parks and Recreation
- ❖ Several sights selected for each Supervisorial District based on the needs of all stakeholders
- ❖ Met with Supervisorial District 2 to identify areas in need of improvement and enhancement
- ❖ Green street site along San Pedro St in the unincorporated community of West Rancho Dominguez selected to move forward with design.

Future Public Outreach

- ❖ **Community Meetings** will be held during the planning, design, and construction phases of the project to receive feedback from the residents and business to incorporate in design plans. Community meeting scheduled for August 2021
- ❖ **COVID Implications:** due to the recent pandemic, community meetings may be held virtually.

West Rancho Dominguez – San Pedro St Green Improvement Project Scoring

■ Water Quality
 ■ Water Supply
 ■ Community Investment
■ Nature-Based Solutions
 ■ Funds & Community



Scoring Section	Score	Score Calculation
Water Quality Wet + Dry Weather Part 1	11	$12.8 \text{ AF} / \$21.1\text{M} = 0.61 \text{ AF capacity} / \-M $0.6-0.8 \text{ (acre feet capacity / \$-Million)} = 11 \text{ points}$
Water Quality Wet + Dry Weather Part 2	30	Primary Pollutant (Zinc) = $81\% > 80\% = 20 \text{ pts}$ Secondary Pollutant (Cu) = $81\% > 80\% = 10 \text{ pts}$
Water Supply Part 1	0	Project doesn't claim water supply benefits = 0 pts
Water Supply Part 2	0	Project doesn't claim water supply benefits = 0 pts
Community Investment (CI)	5	Project improves (1) flood management, (2) creates new habitat and wetlands, and (3) reduces heat local island effect = 5 pts
Nature-Based Solutions	13	Project implements natural processes (5 pts), utilizes natural materials (5 pts), and removes 75% of impermeable area (3 pts).
Leveraging Funds Part 1	6	>50% Funding Matched = 6 pts
Leveraging Funds Part 2	4	Letter of support from TreePeople = 4 pts
Totals	69	

FACT SHEET



80
POINTS

COUNTY SCORE
Safe Clean Water
(SCW) Program

Whitsett Fields Park North Stormwater Capture Project

The Whitsett Fields Park North Stormwater Capture Project is a proposed regional project led by the Los Angeles Department of Water and Power in collaboration with the Los Angeles Department of Public Works Bureau of Engineering, Bureau of Sanitation, and the Los Angeles Department of Recreation and Parks.

The goal of this project is to improve the City of Los Angeles' water quality and water supply by pre-treatment and infiltration of stormwater while also providing community enhancements for the park and the disadvantaged community.



50/50

Wet Weather Water Quality Benefits



18.9 AC-FT/DAY Capacity



94% Zinc Removal



86% E. coli Removal

5/25

Significant Water Supply Benefits



150 AC-FT/YR Captured



Project Capture Area **302.6** acres

10/15

Nature Based Solutions



Protect in place **102** of **105** trees.

At least **16** trees added.



5/10

Community Benefits



- ✓ Park Enhancements
- ✓ New Recreation Opportunities
- ✓ Increased Trees and Shade
- ✓ Carbon Reduction
- ✓ Flood Management

10/10

Leveraging Funds and Community Support



50% LADWP Funding



50% SCW Funding

Total Project Cost ~ **\$17M**

7 outreach events conducted to date



Picoima Beautiful

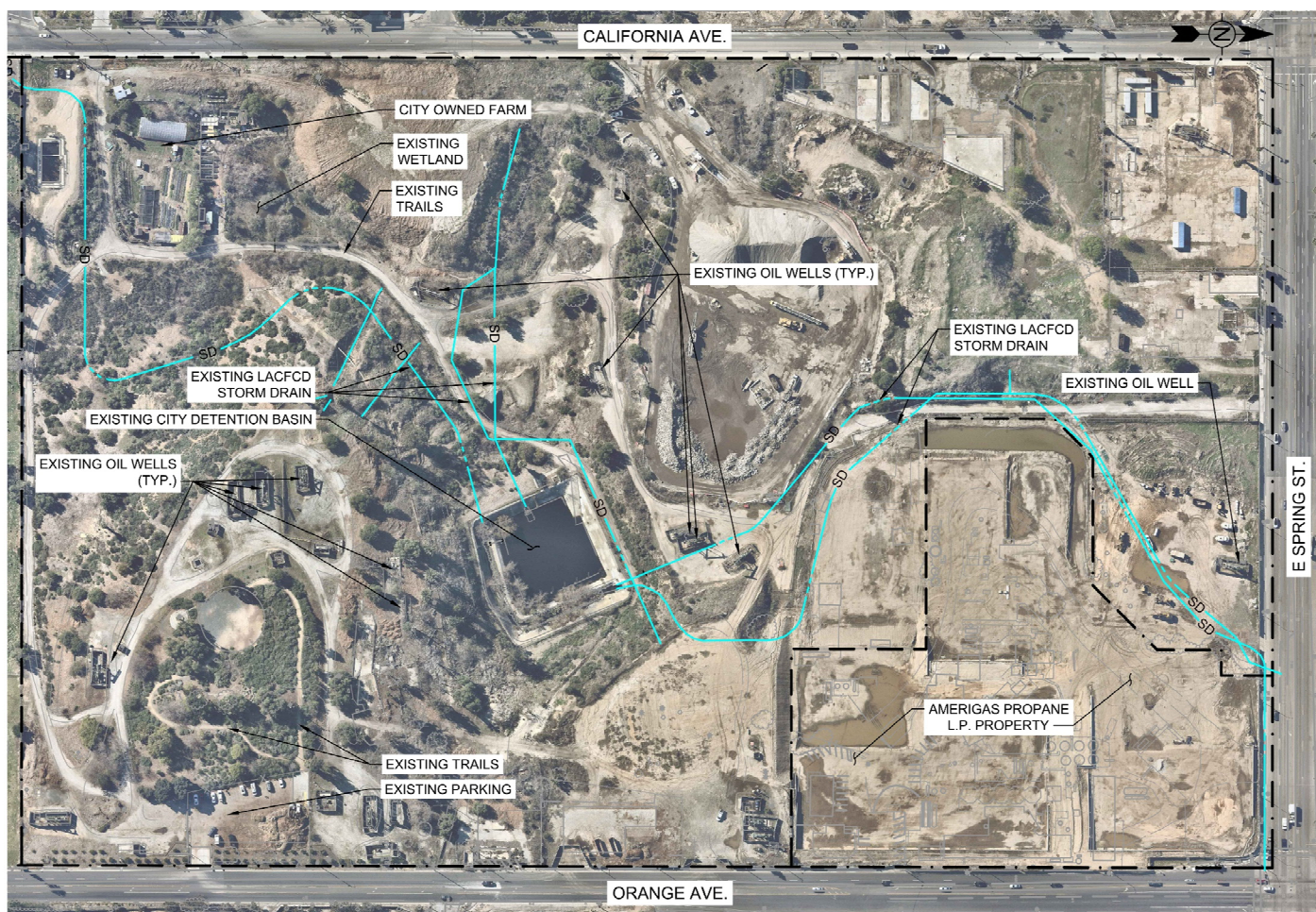
Mountains Recreation & Conservation Authority



Council for Watershed Health

PAUL KREKORIAN
LOS ANGELES CITY COUNCIL MEMBER

EXISTING SITE CONDITIONS



PROJECT CHARACTERISTICS

LOCATION Willow Springs Park
2745 Orange Ave
Long Beach, CA 90806

LATITUDE: 33° 48' 25.43" N
LONGITUDE: 118° 10' 43.88" W

Proposed Project Description:

Willow Springs Park is a 48-acre park located in the City of Long Beach. This project will be the second phase to a project started in 2017 by the City of Long Beach Office of Sustainability in an effort to restore the naturally occurring wetlands that were present at the site and expand on the two existing wetlands at the site. The proposed improvements will develop an additional 6 acres with a 4.08 ac-ft lined wetland, 7,980 ft of trails, educational signage on the history of the park, and habitat restoration.

Stormwater and urban runoff from the site and from the existing detention basin within the site will be diverted into the constructed 4.08 ac-ft wetland. The wetland will serve as a biofiltration basin, as the native vegetation provides a natural form of stormwater treatment. Stormwater and urban runoff captured within the wetland will receive additional filtration through soil media before collecting in a series of underdrain pipes. The treated stormwater and urban runoff will be used for either groundwater recharge in an existing, unlined wetland located at the project site, on-site irrigation, or pumped back to a nearby 54-inch LACFCD storm drain via solar-powered pumps. The wetland will also feature a pedestrian bridge, which will serve for access, educational opportunities, and maintenance. The design approach for this project integrates nature-based flood control solutions and stormwater mitigation measures.

Project Benefits:

- Water Quality Improvement by removing metals and nutrients in regional and local stormwater and urban runoff.
- Nature-Based treatment wetland with native vegetation.
- Park enhancement with sustainable landscaping and habitat restoration.
- Public access to waterways with increased public access to the wetlands and trail network.
- Educational opportunities regarding stormwater quality, fauna and flora as well as the history of the site through interpretive signage.
- Incorporates sustainable infrastructure through the use of solar power for valves, gates, and pumps.

COMMUNITY SUPPORT

On July 21, 2012, RJM Design Group along with the City of Long Beach conducted a workshop with the support of 73 residents and community members. A site tour led to group discussions which resulted in a consensus of issues and desired improvements. Composite plans were developed and refined providing the base work for the preliminary master plan which resulted in more natural open spaces and opportunities for an interpretive educational experience.

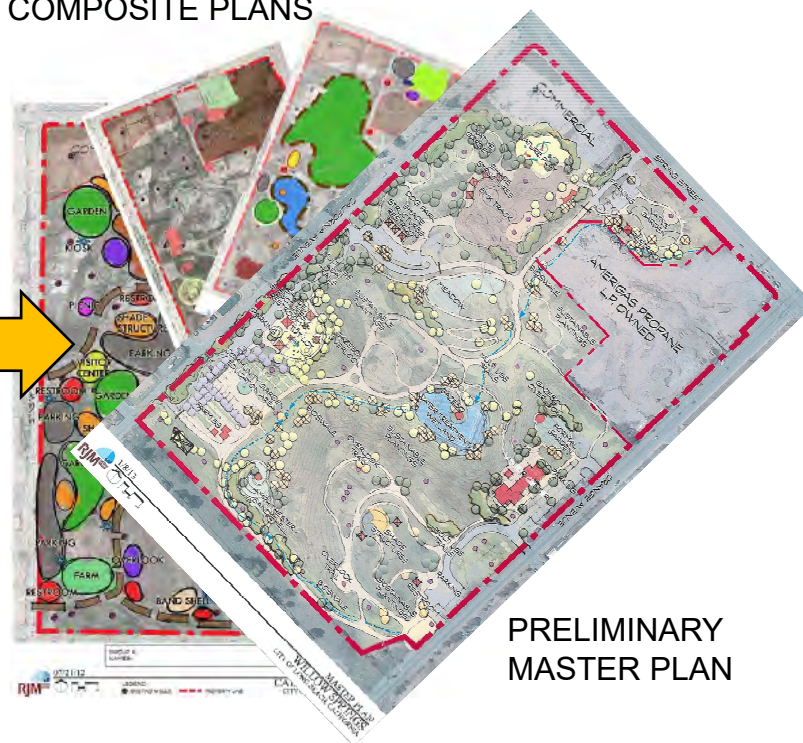


SITE TOUR



GROUP DISCUSSIONS

COMPOSITE PLANS



PRELIMINARY MASTER PLAN

COMMUNITY INVESTMENT BENEFITS

The project can capture approximately 83% of the 85th-percentile storm runoff, providing flood protection through reduced peak flow rates and peak flow attenuation in the existing storm drain system.

Additional park space with 1.51 miles of new trails and 2.71 acres of habitat with California native vegetation and added wetland area.

The project is a five-minute school bus ride from both Signal Hill ES and Alvarado ES. The project will provide teachers with opportunities for environmental education and local ecology.

Provide access to waterways with the creation of an additional wetland with pathways adjacent to it and a pedestrian bridge over the wetland.

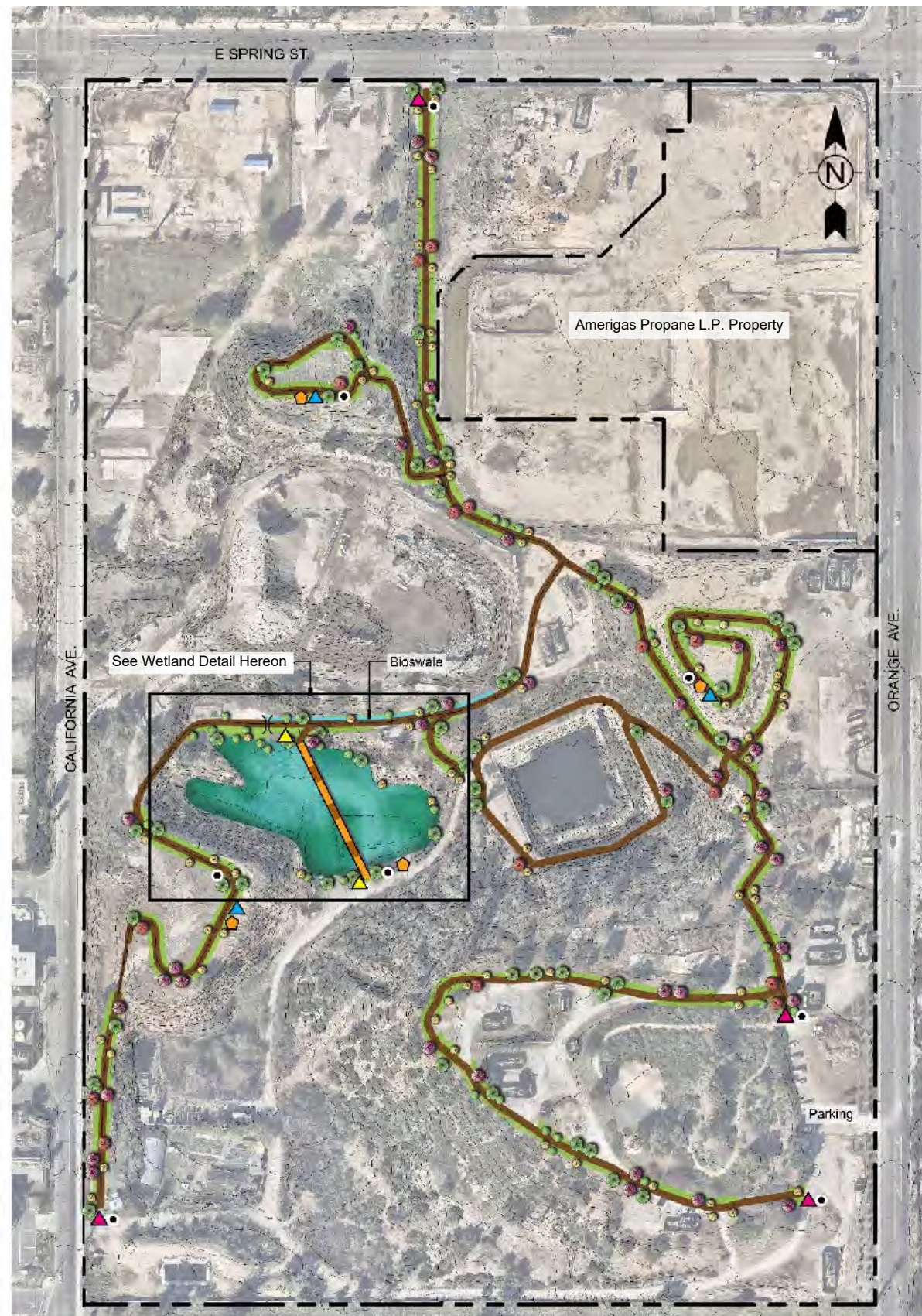
Reduction of local heat island effect, increased carbon reduction / sequestration, and improve air quality through the addition of 2.4 acres of planting that includes 232 trees that line the proposed 7,980 feet of new trails. This will maximize the shade and reestablish willow trees which once grew prolifically in the area.

Enhanced and new recreational opportunities through the addition of 1.51 miles of additional trails and improved connectivity with existing trails and park space.





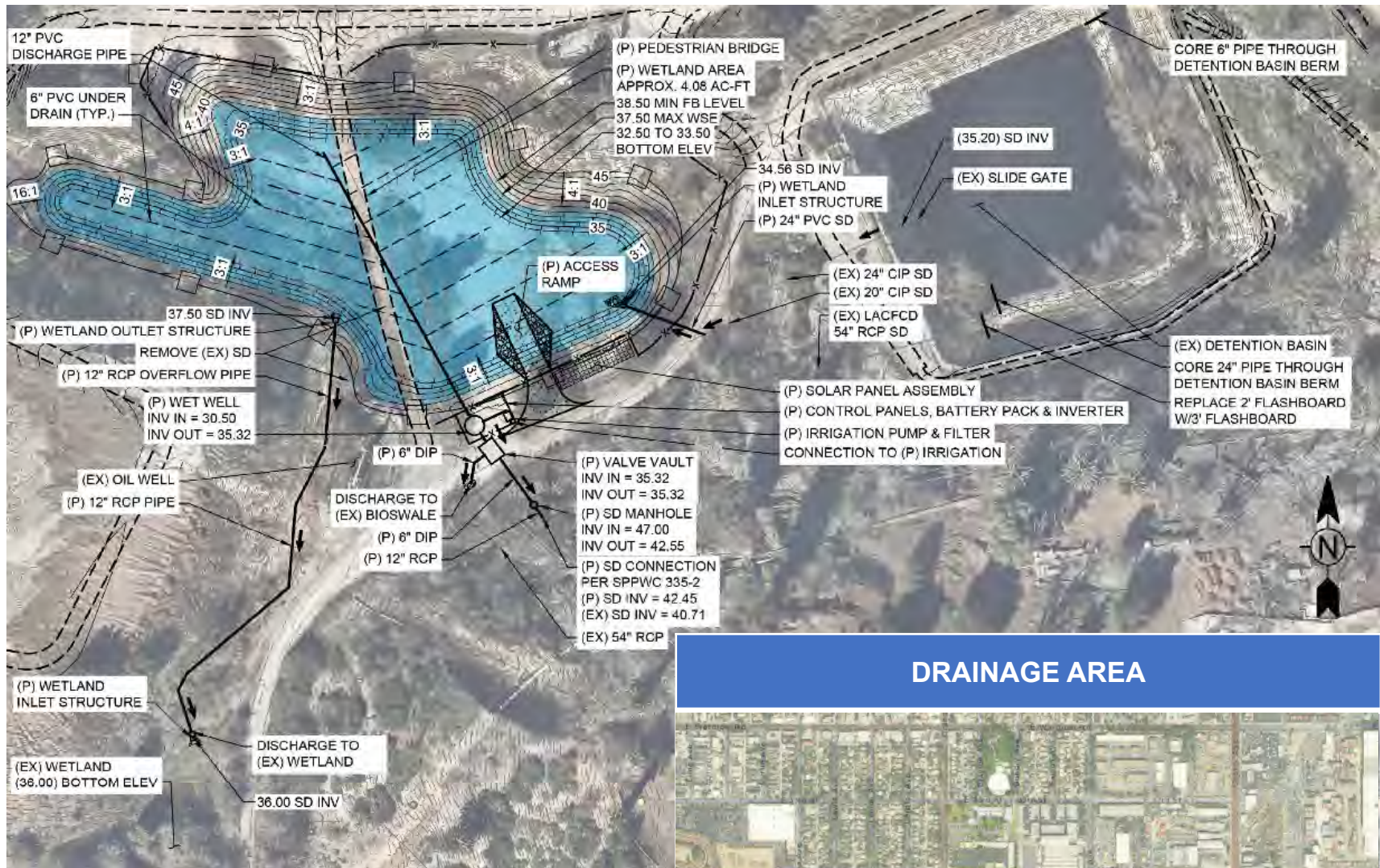
PROPOSED PROJECT



LEGEND

Tree Plantings	Wetland	Interpretive Signage at Trail Head	Trash Receptacle
New Trail	Wetland Foot Bridge	Interpretive Signage at Vista Point	Property Line
Seed Mix/Shrub Plantings	Bioswale	Interpretive Signage at Wetland	Bench

NOTE: CONTOURS ARE AT 1' INTERVALS



DETAILED WETLAND PLAN

DRAINAGE AREA CHARACTERISTICS	
Regional Water Management Plan	Greater Los Angeles County IRWM region
Drainage Area	256.3 acres Signal Hill (52.7%) Long Beach (47.3%)
Modeled Average Annual Runoff Volume	119.1 ac-ft per year
Annual Volume Treated Stormwater	82 ac-ft per year



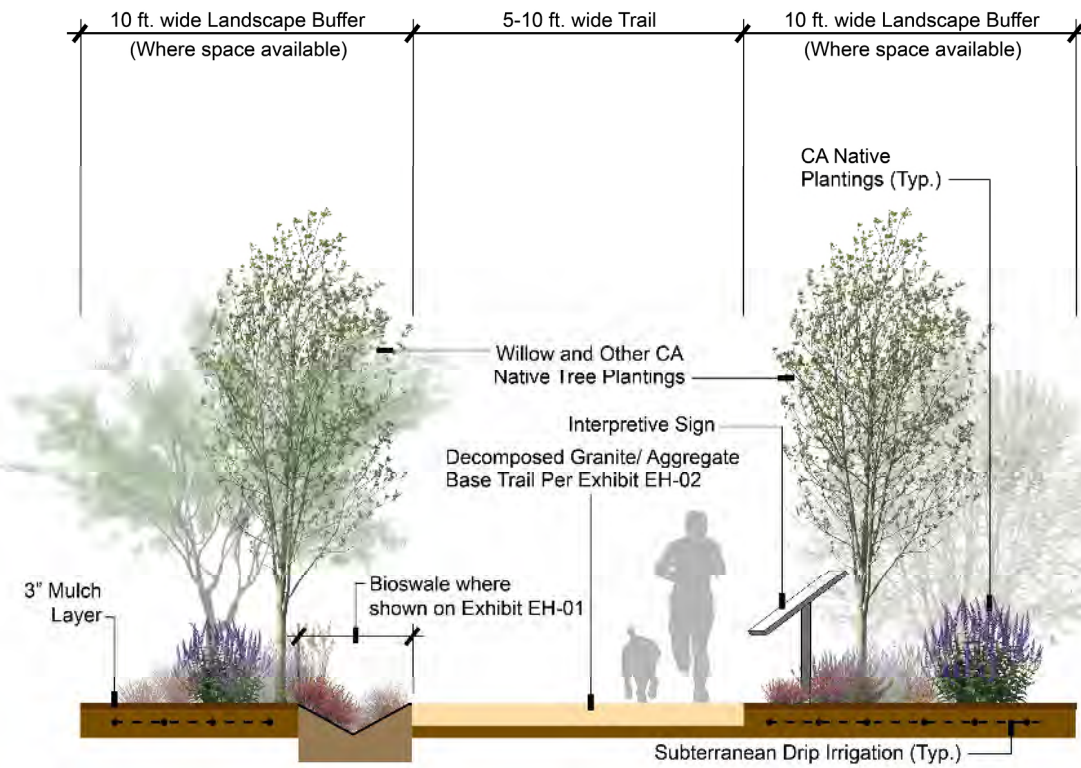
DRAINAGE AREA

Legend

Drainage Area

- Detention Basin
- Wetland

TRAIL AND LANDSCAPE SECTION



PROJECT CHARACTERISTICS

Primary Pollutant Zinc	140.1 lbs/yr (67.3% reduction)
Secondary Pollutant Nitrogen	396.5 lbs/yr (81.7% reduction)
Storage Capacity for Constructed Treatment Wetland	4.08 ac-ft
24-hour Capacity	7.1 ac-ft
Construction Cost Estimate	\$8,644,200
Total Life-Cycle Cost	\$14,079,800
Water Quality Cost Effectiveness (7.1 ac-ft / \$8,644,200)	0.82

WATER QUALITY BENEFITS

Reduction in Sediments	15.4 tons/yr (60.5% reduction)
Runoff	0.9 ac-ft captured (0.8% reduction)
Cadmium	0.3 lbs/yr captured (65.9% reduction)
Copper	29.9 lbs/yr captured (67.3% reduction)
Lead	7.4 lbs/yr captured (66.3% reduction)
Zinc	140.1 lbs/yr captured (67.3% reduction)
Total Nitrogen	396.5 lbs/yr captured (81.7% reduction)
Total Phosphorus	99.8 lbs/yr captured (66.1% reduction)

WATER SUPPLY BENEFITS

It is anticipated that approximately 4.5 ac-ft / year of the captured stormwater will be used for on-site irrigation.

NATURE BASED SOLUTIONS

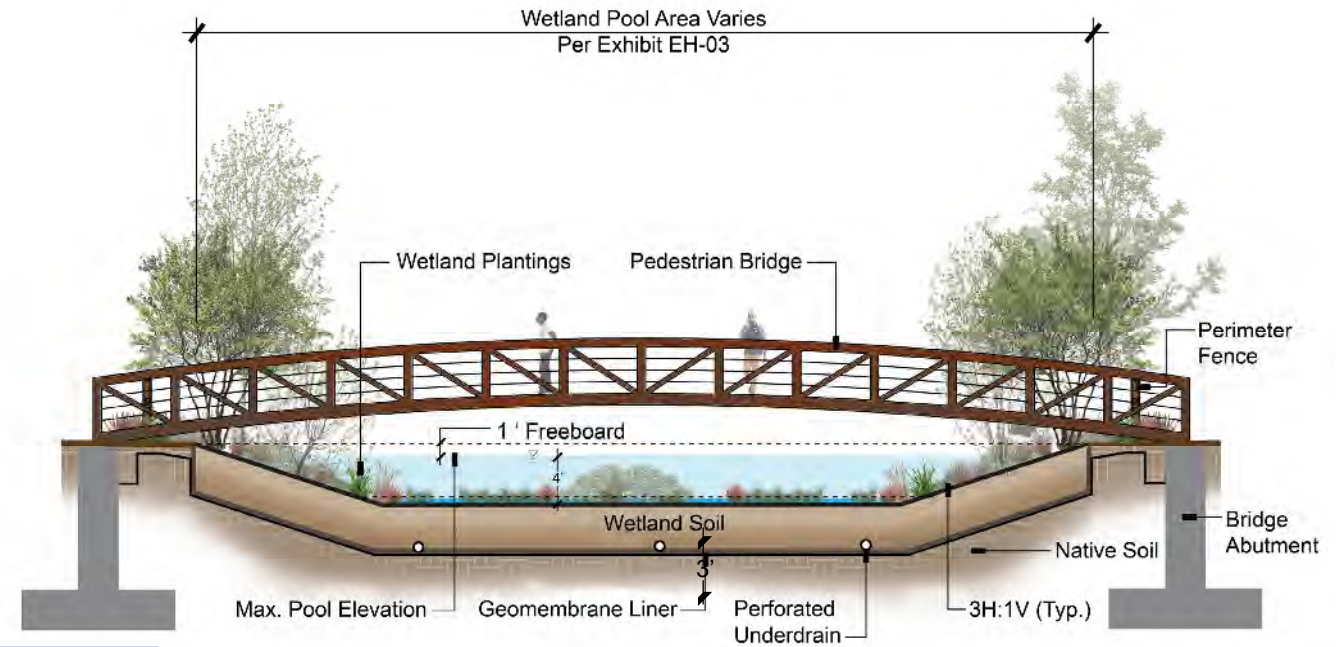
Wetland will be designed to detain water and host healthy substrate and vascular plants. These components will help the habitat develop communities of microbes and aquatic invertebrates naturally.

Utilization of the California Conservation Corp's existing mulching operation on-site to supply materials for the project. These materials will be used to for composting and mulch to enrich the soil, support vegetation growth and increase the soil's water storage capacity.

Addition of a native species plant palette in the landscaping design to support biodiversity and water conservation goals.

Expanding the usable space of the site by converting current space occupied by oil fields and construction stockpile into trails and natural habitats.

WETLAND AND PEDESTRIAN BRIDGE SECTION



PRELIMINARY SCW SCORING

SECTION	Score
A.1 Wet Weather Water Quality Benefits (50 pts Max.)	
• A.1.1 Water Quality Cost Effectiveness (0.8 to 1.0)	14
• A.1.2 Pollutant Reduction (Primary 15 pts and Secondary 10 pts)	25
B. Significant Water Supply Benefits (25 pts Max.)	
• B.1 Water Supply Cost Effectiveness	0
• B.2 Water Supply Benefit Magnitude	0
C. Community Investment Benefits (10 pts Max.)	10
• Improved flood management, flood conveyance, or flood risk mitigation	
• Creation/enhancement/restoration of parks, habitat, or wetlands	
• Improve public access to water ways	
• Enhanced new recreational opportunities	
• Reducing local heat island effect and increasing shade	
• Increasing the number of trees and/or other vegetation at the site location that will increase carbon reduction/sequestration and improve air quality	
D. Nature Based Solutions (15 pts Max.)	10
• Implement natural processes or mimic natural processes to slow, detain, capture and absorb water in manner that protects, enhances, and/or restore habitat.	
• Utilize natural materials such as soils and vegetation with a preference for vegetation.	
E. Leveraging Funds and Community Support (15 pts Max)	4
• Strong local community-based support	
TOTAL SCORE (110 pts Max.)	63



Winery Canyon Channel and Descanso Gardens Stormwater Capture and Reuse Project

FACT SHEET

Project Overview

The proposed project consists of a diversion from Winery Canyon Channel, pretreatment, storage in a subsurface cistern and existing lake, disinfection, and reuse of stormwater as irrigation and supply for non-interactive water features at Descanso Gardens. Two over-arching goals for this project:

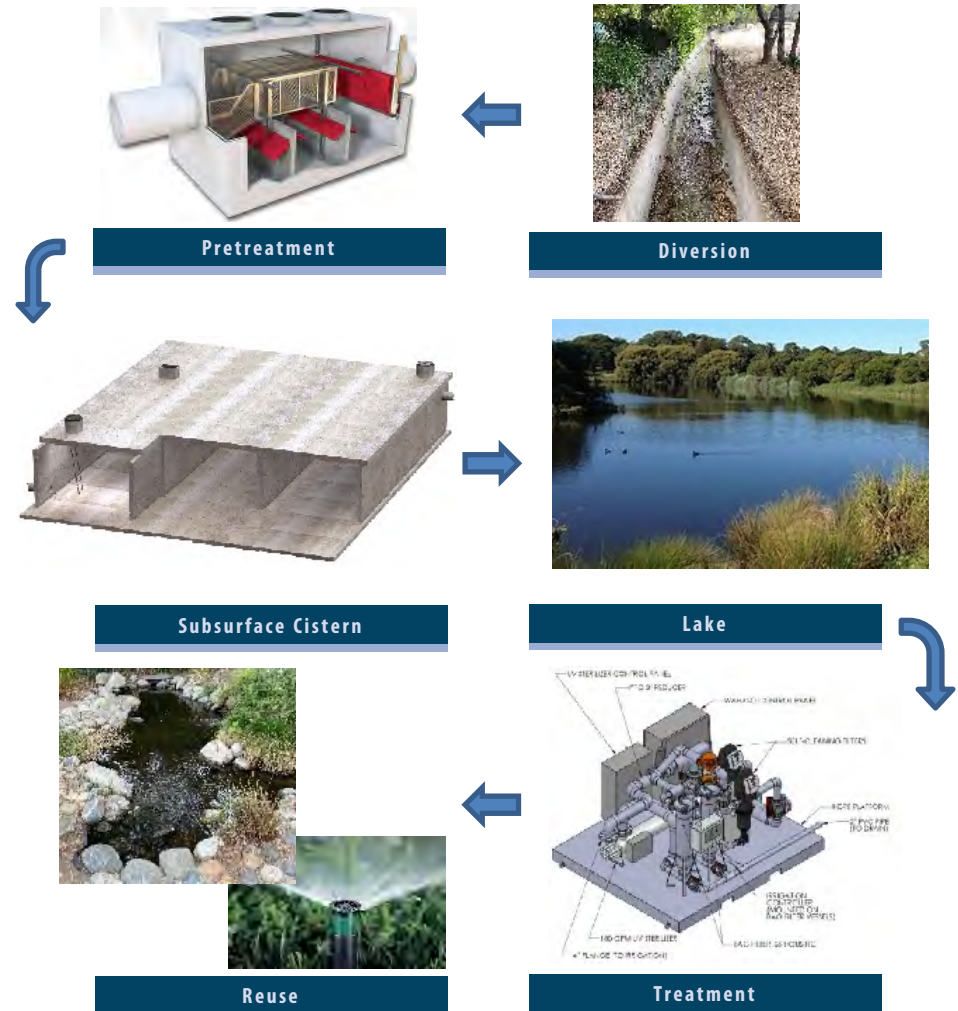
1. Offset potable water use at the Gardens which is currently their only source of water for irrigation and water features (non-interactive).
2. Help the City of La Cañada Flintridge meet their critical load reduction goals as stated in the Upper Los Angeles River Enhanced Watershed Management Program (ULAR EWMP).

To meet these project goals, water will be diverted from Winery Canyon Channel north of Descanso Gardens, pretreated to remove trash and debris, and conveyed by a gravity line under Descanso Drive to a new 4.5 ac-ft subsurface cistern at the Gardens. The cistern, which will be located under a new main parking lot extension, will also receive stormwater from a new curb inlet on Descanso Drive and trench drains located in the main parking lot. Accumulated stormwater will be transferred to the existing lake where it will then be pumped through a treatment system and ultimately used for surface irrigation and non-interactive water features. The treatment system is designed to comply with Los Angeles County Department of Public Health guidelines for stormwater reuse. The project also includes drywells to treat runoff from the auxiliary parking lot and overflow from the cistern once the system storage (cistern and lake) are at capacity.

Project Summary

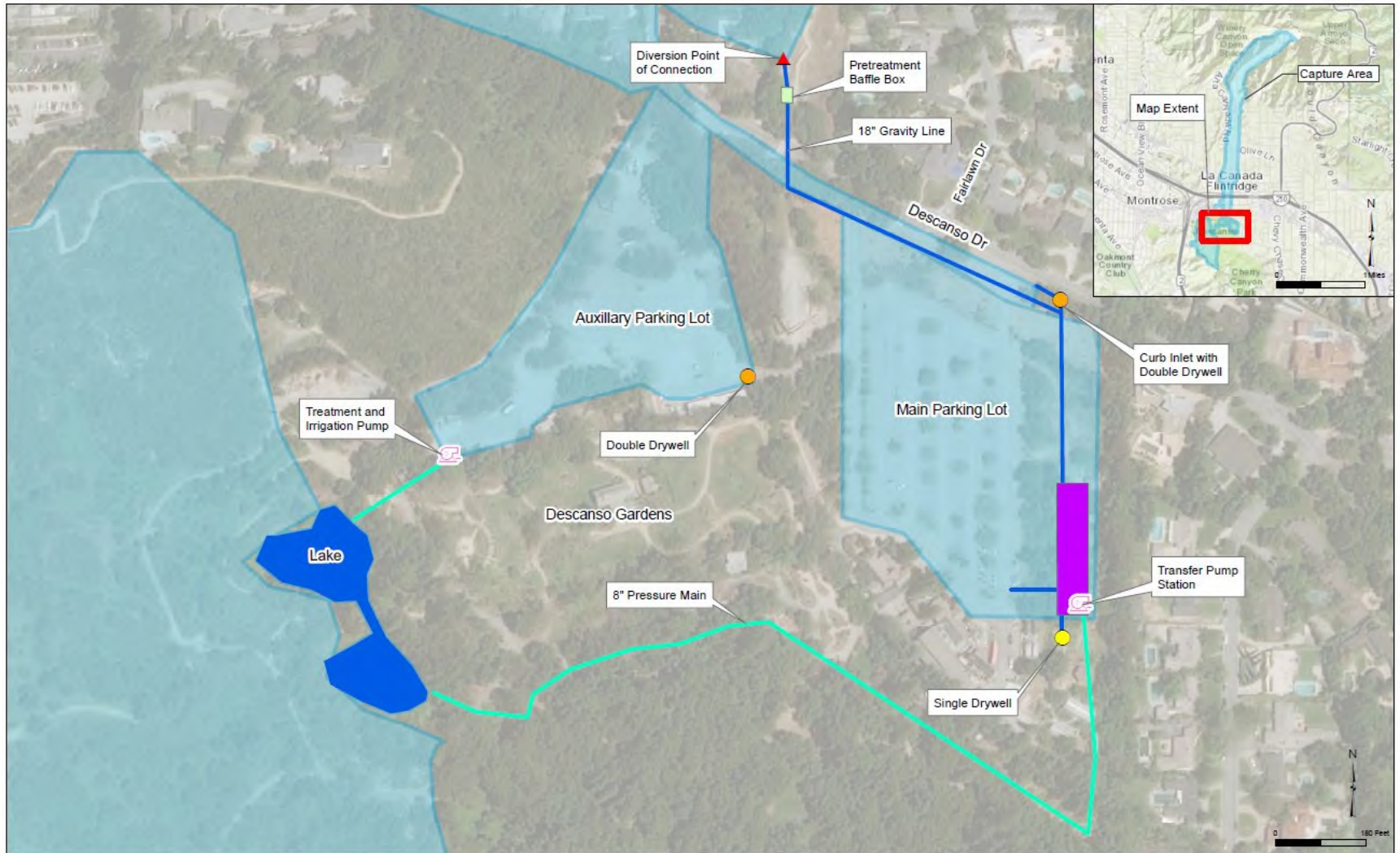
- In total, the Project proposes to capture 100% of the 85th percentile, 24-hr storm from a 311-acre capture area.
- Reuse or infiltrate over 63 acre-feet per year and provide 9 acre-feet of available storage.
- Funding request for the project is \$6.85 million.
- Project achieves 65 points in Safe, Clean Water Program scoring.

Major Project Components



Winery Canyon Channel and Descanso Gardens Stormwater Capture and Reuse Project

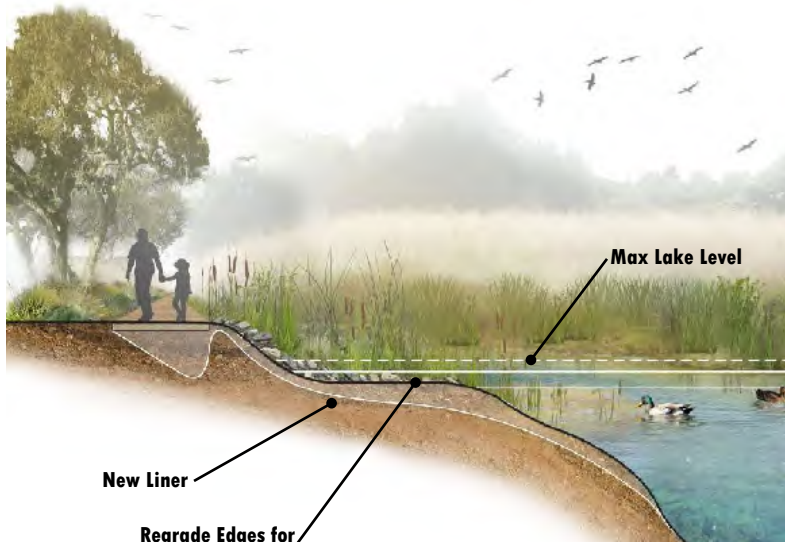
FACT SHEET



Conceptual Project Layout

Winery Canyon Channel and Descanso Gardens Stormwater Capture and Reuse Project

FACT SHEET



Lake Improvements (storage and recreation)

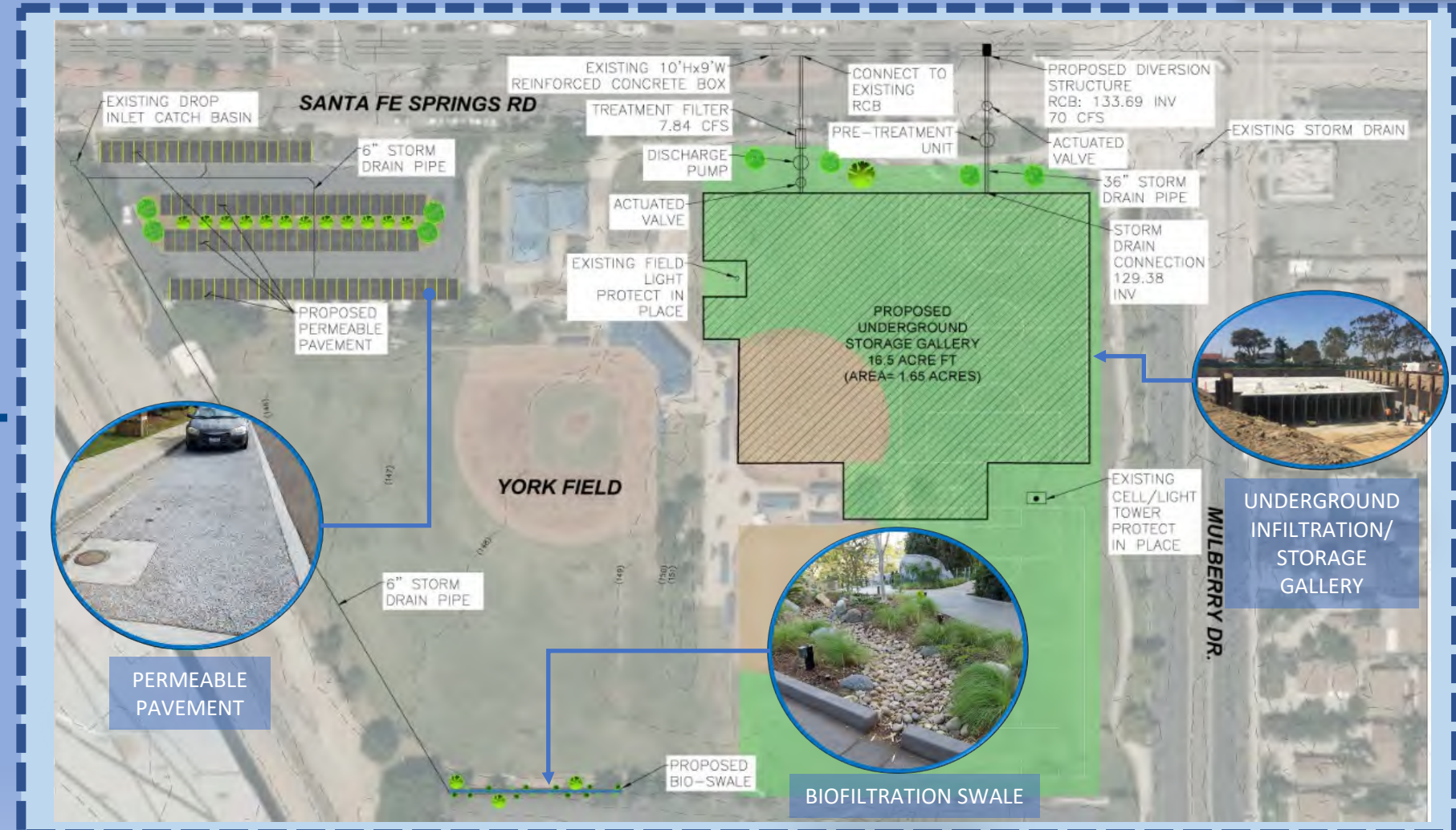
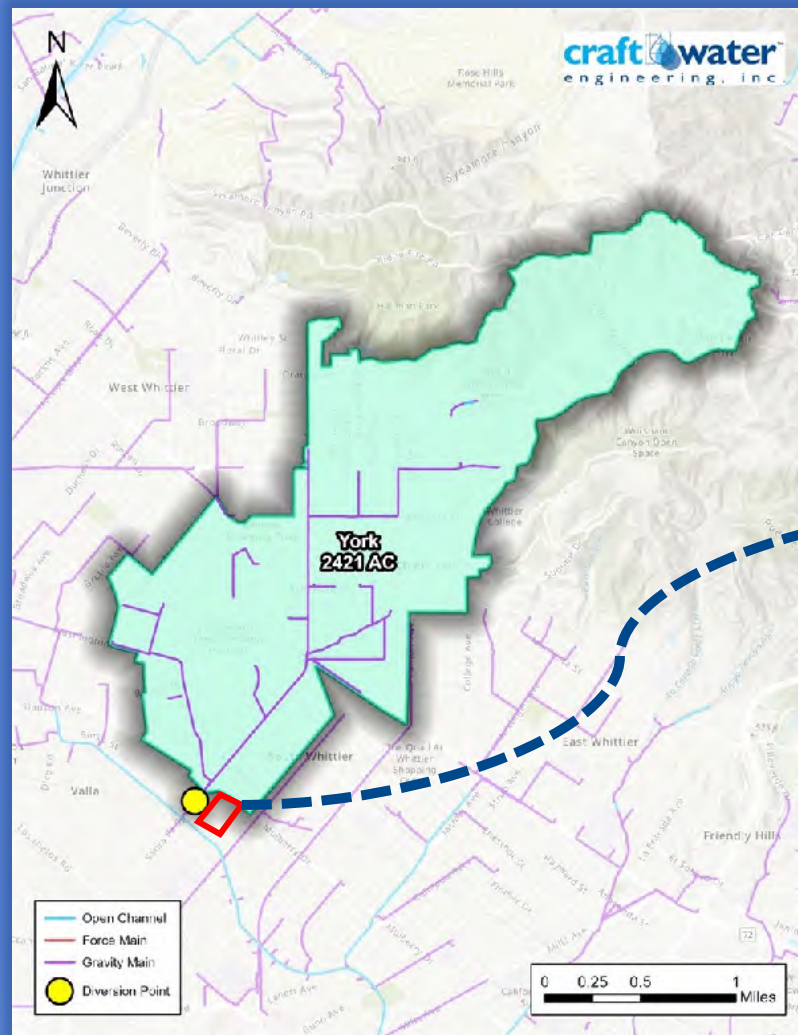


Main Parking Lot Extension (above cistern)

Above images from Descanso Gardens Master Plan



YORK FIELD STORMWATER CAPTURE PROJECT FACT SHEET



PROJECT DESCRIPTION

LOCATION: York Field, 9110 Santa Fe Springs Road Whittier, CA. (LAT: 33°57'26.98"N, LONG: 118° 03'02.74"W)

REGIONAL WATER MANAGEMENT PLAN

Lower San Gabriel River Watershed Management Program

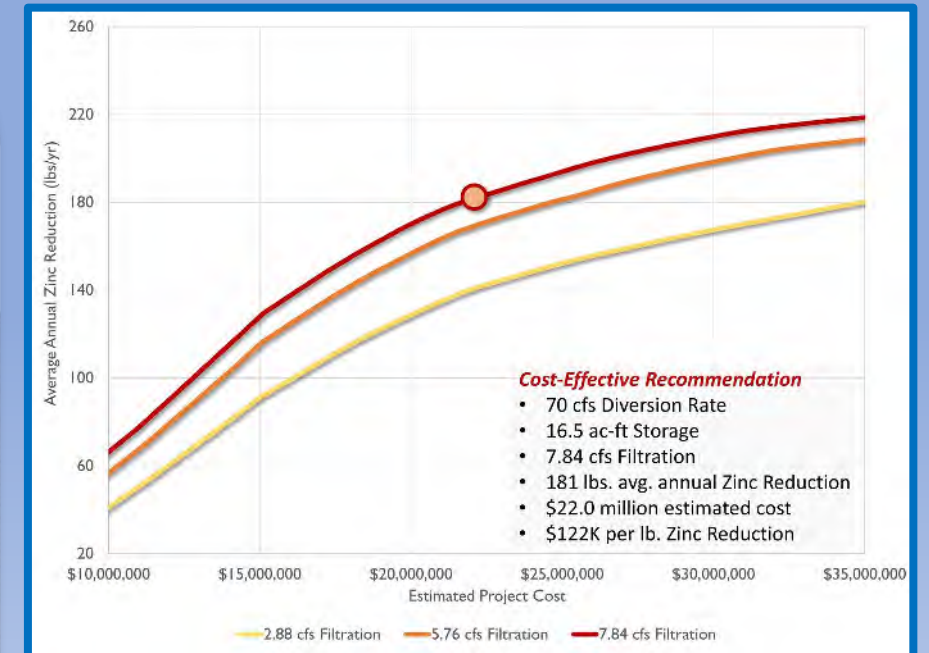
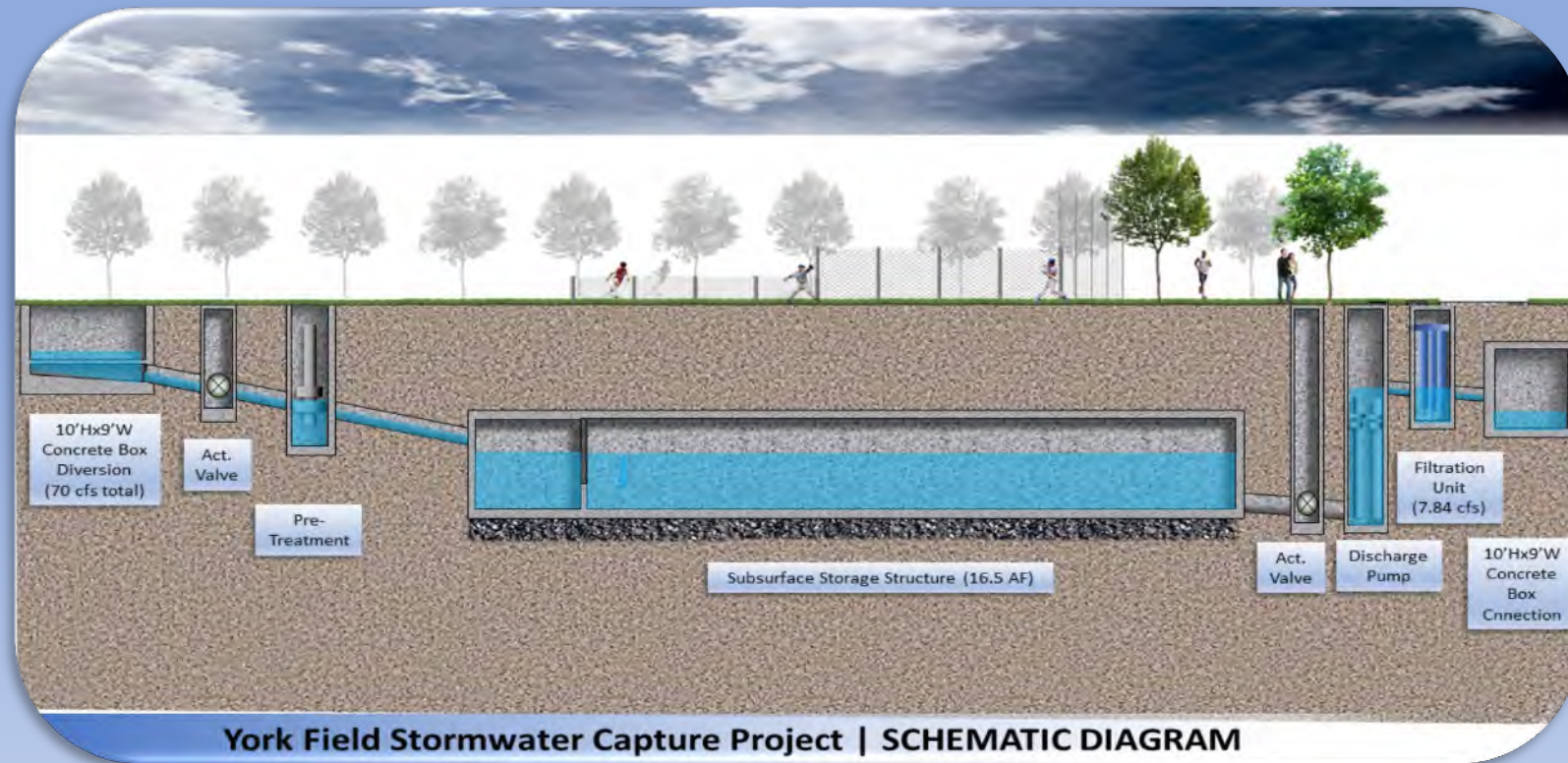
BRIEF: York Field is a site that is owned and operated by the City of Whittier and has been identified as a strategic Regional Stormwater Project for the City within the Lower San Gabriel River Watershed Management Program (LSGR WMP). Runoff within this corridor drains to the Sorenson Drain, Coyote Creek, the San Gabriel River, and ultimately the Pacific Ocean. The project seeks to improve the water quality of stormwater runoff flows conveyed within Coyote Creek and the San Gabriel River through capture, storage, infiltration, and filtration before returning flows back to the channel. In addition, the project also proposes to provide water supply benefit through infiltration and capture/ detention of wet-weather flows for release at least 24-hours after a rain event where the runoff is then slowly released to the downstream Adventure Park project. The downstream Adventure Park project captures all dry-weather flow for diversion to the nearby sanitary sewer line that convey flows to the water reclamation plant. The project includes a stormwater drop-inlet diversion structure from the LACFCD BI0015, Unit 2 – Line A (a double 10'x9' reinforced concrete box), a pretreatment unit, and a combination of an underground subsurface storage reservoir and surface bioswale basin (volumes to be determined). This project offers runoff storage and water quality benefits for the cities of Whittier, Santa Fe Springs, and Unincorporated LA County that can address the additional needs for stormwater management identified to achieve compliance with the LSGR WMP. The park is located within a Disadvantaged Community and will provide community desired soccer field amenities in the improved space.



YORK FIELD STORMWATER CAPTURE PROJECT FACT SHEET



DRAINAGE AREA CHARACTERISTICS	
REGIONAL WATER MANAGEMENT PLAN	Lower San Gabriel River
TOTAL DRAINAGE AREA	2,421 Acres Whittier (68%) Santa Fe Springs (2%) LA County (30%)
INFILTRATION RATE	0.4 in/hr
APPROX. DEPTH TO GROUNDWATER	46 ft BGS
MODELED AVERAGE ANNUAL RUNOFF VOLUME	927 acre-ft



WATER QUALITY IMPROVEMENT

<u>Primary Pollutant</u> Zinc Reduction Achieved (% Zn reduction)	181 lb/yr (60.3%)
<u>Secondary Pollutant</u> Lead Reduction Achieved (% Pb reduction)	17 lb/yr (62.1%)
<u>Design Diversion Rate</u> BI0015-Unit 2	70 cfs
Storage Capacity for Basin and Subsurface Storage Structure	16.5 ac-ft (4.6 MG)
24-Hour Capacity	33.6 ac-ft
Construction Cost Estimate	\$20,360,887

Existing York Field 2



York Field 2 Backstop



Field 1 Outfield Fence Line

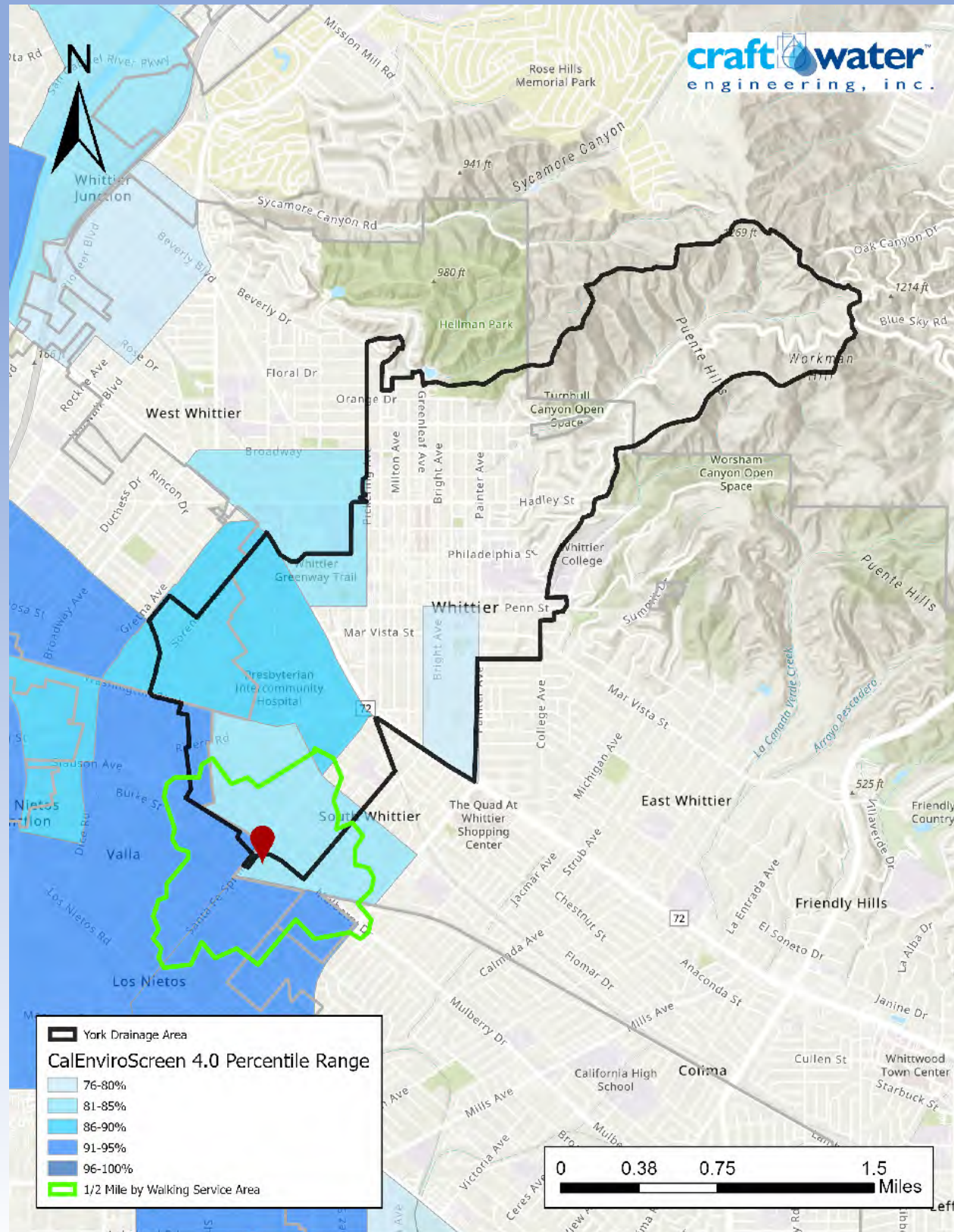




YORK FIELD STORMWATER CAPTURE PROJECT FACT SHEET



DISADVANTAGED COMMUNITY MAP



COMMUNITY INVESTMENT BENEFITS



COMMUNITY SUPPORT



NATURE BASED SOLUTIONS





YORK FIELD STORMWATER CAPTURE PROJECT FACT SHEET



SCHEDULE FUNDING BY YEAR		
Year	SCW funding Request	Project Phase
Year 1	\$2,498,720	Design
Year 2	\$7,585,659	Construction
Year 3	\$7,565,659	Construction
Year 4	\$7,565,659	Construction
Year 5	\$159,000	O&M/Monitoring
Total	\$25,374,696	-

PRELIMINARY SCW SCORING	
SECTION	Score
A.1 Wet Weather Water Quality Benefits <ul style="list-style-type: none"> A.1.1 Water Quality Cost Effectiveness > 1.0 AF/\$Million A.1.2 Pollutant Reduction >50% 	20 20
B. Significant Water Supply Benefits <ul style="list-style-type: none"> B1. Water Supply Cost Effectiveness B2. Water Supply Benefit Magnitude 	0 2
C. Community Investment Benefits <ul style="list-style-type: none"> Creation/enhancement/restoration of parks Enhanced/new recreational opportunities Reducing local heat island effect and increasing shade Increasing the number of trees increase and/or other vegetation at the site location that will increase carbon reduction/sequestration and improve air quality 	5
D. Nature-Based Solutions	11
E. Leveraging Funds and Community Support <ul style="list-style-type: none"> E1. Cost Share. <ul style="list-style-type: none"> > 25% Funding Matched by the City E2. The project demonstrates strong local, community-based support and/or has been developed as part of a partnership with local NGOs/CBOs 	3 4
TOTAL SCORE	65