



Spane Park

Infrastructure Program Project
Fiscal Year 2023-2024 Call for Projects

Project Lead: City of Paramount
Project Proponent: Lower Los Angeles River Watershed Group
Presenters: Michelle Kim, John L. Hunter and Associates
Oliver Galang, Craftwater Engineering
Previously Awarded TRP: No



Project Overview

Construction of a regional stormwater capture and infiltration facility located at Paramount's Spane Park beneath the existing park surface

- **Phase for which SCW Funding is being Requested:** Construction
- **Funding Requested:** \$18,913,128

(Project received funding for Design under Round 2)



Project Objectives

- **Primary Objectives:**

- Improve water quality within the Los Angeles River Watershed
- Offset water use at the park with stormwater
- At citizens' request, restore/rehabilitate park facilities, including the on-site pond, and install a dedicated soccer field in the City

- **Secondary Objectives:**

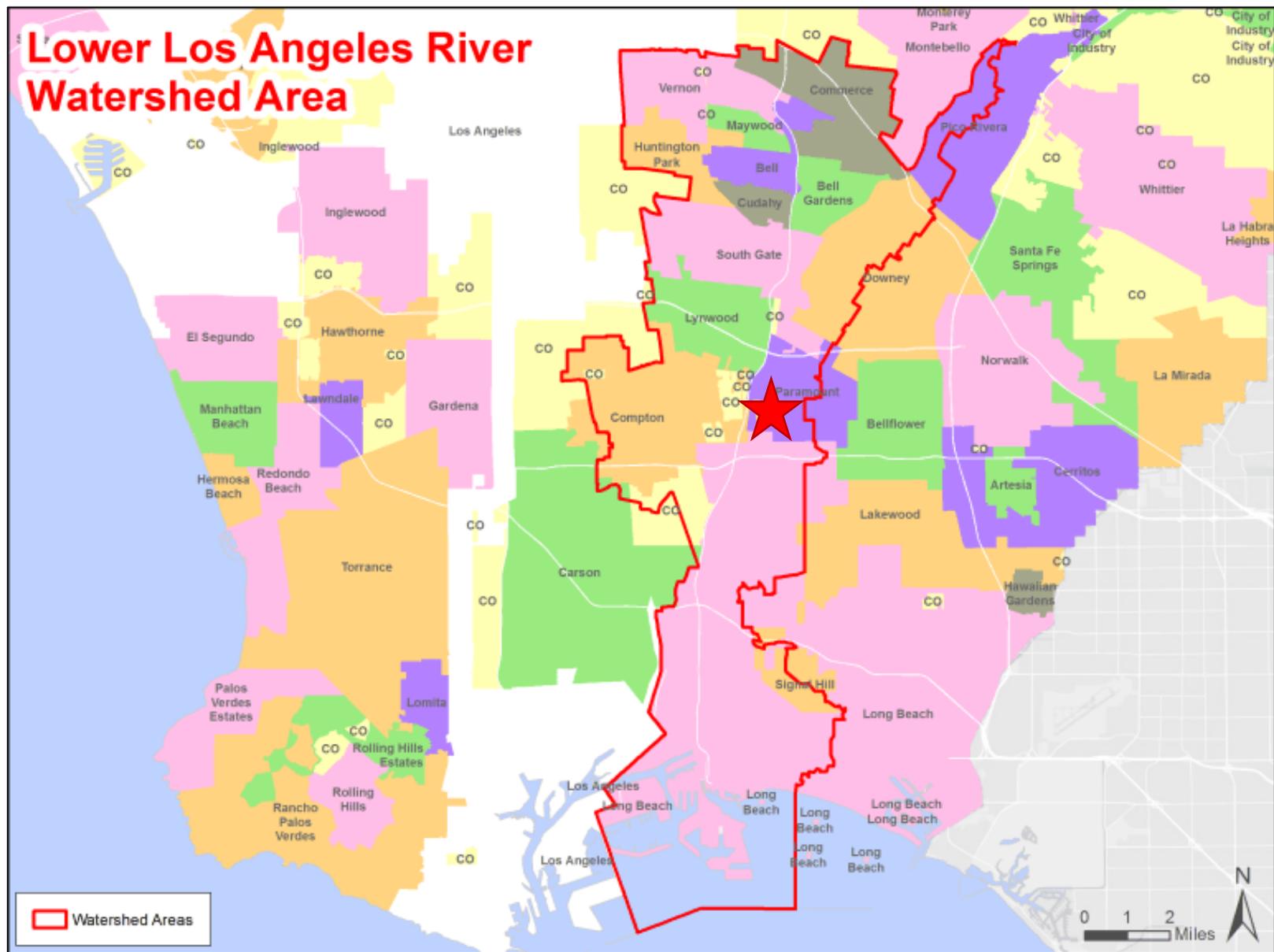
- Educate the public on local water supply and demands
- Incorporate native California landscaping with an ephemeral stream
- Benefit disadvantaged communities (both within the City and downstream)





Project Location

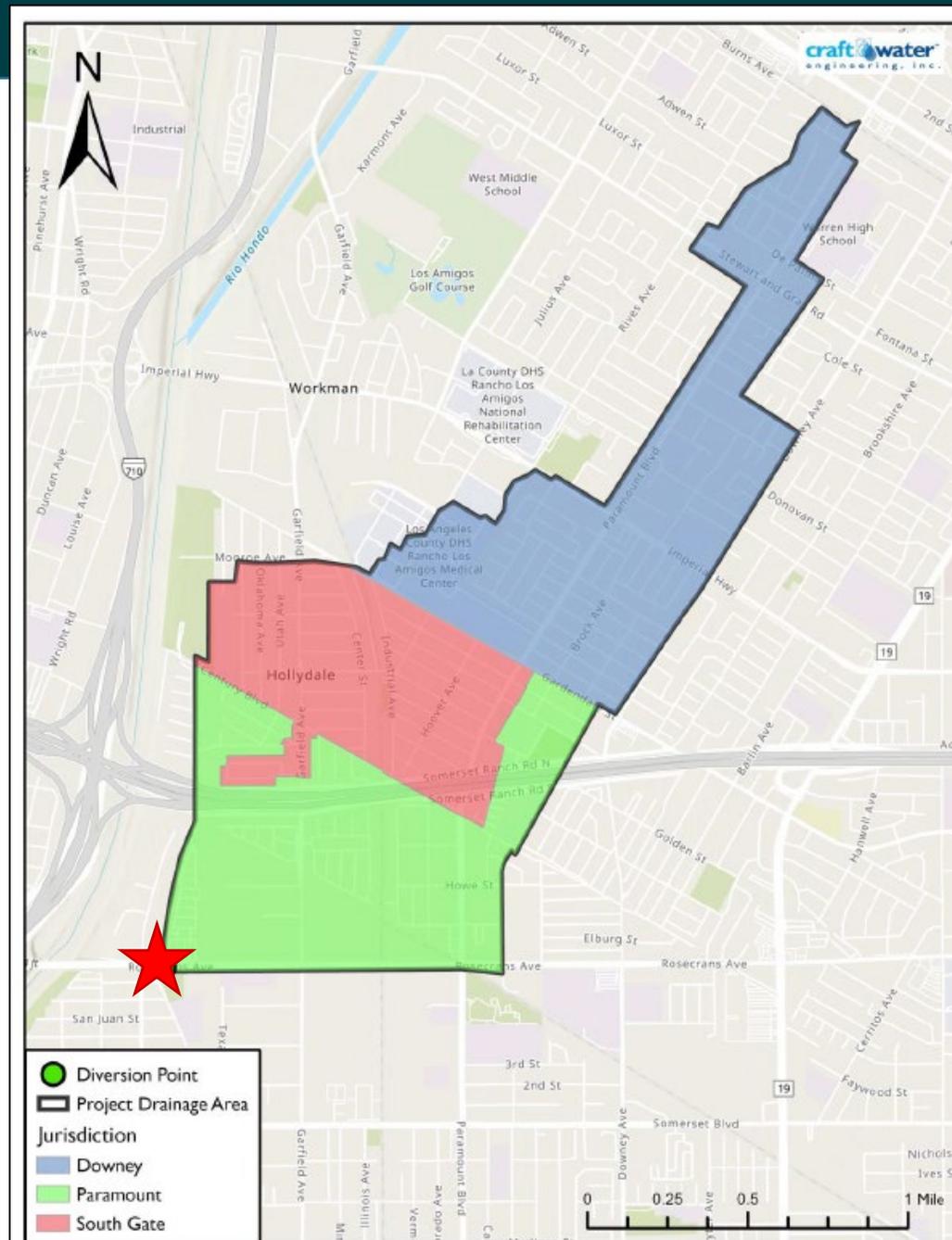
The project is in the **City of Paramount**, within the **Lower Los Angeles River Watershed Area**





Project Location

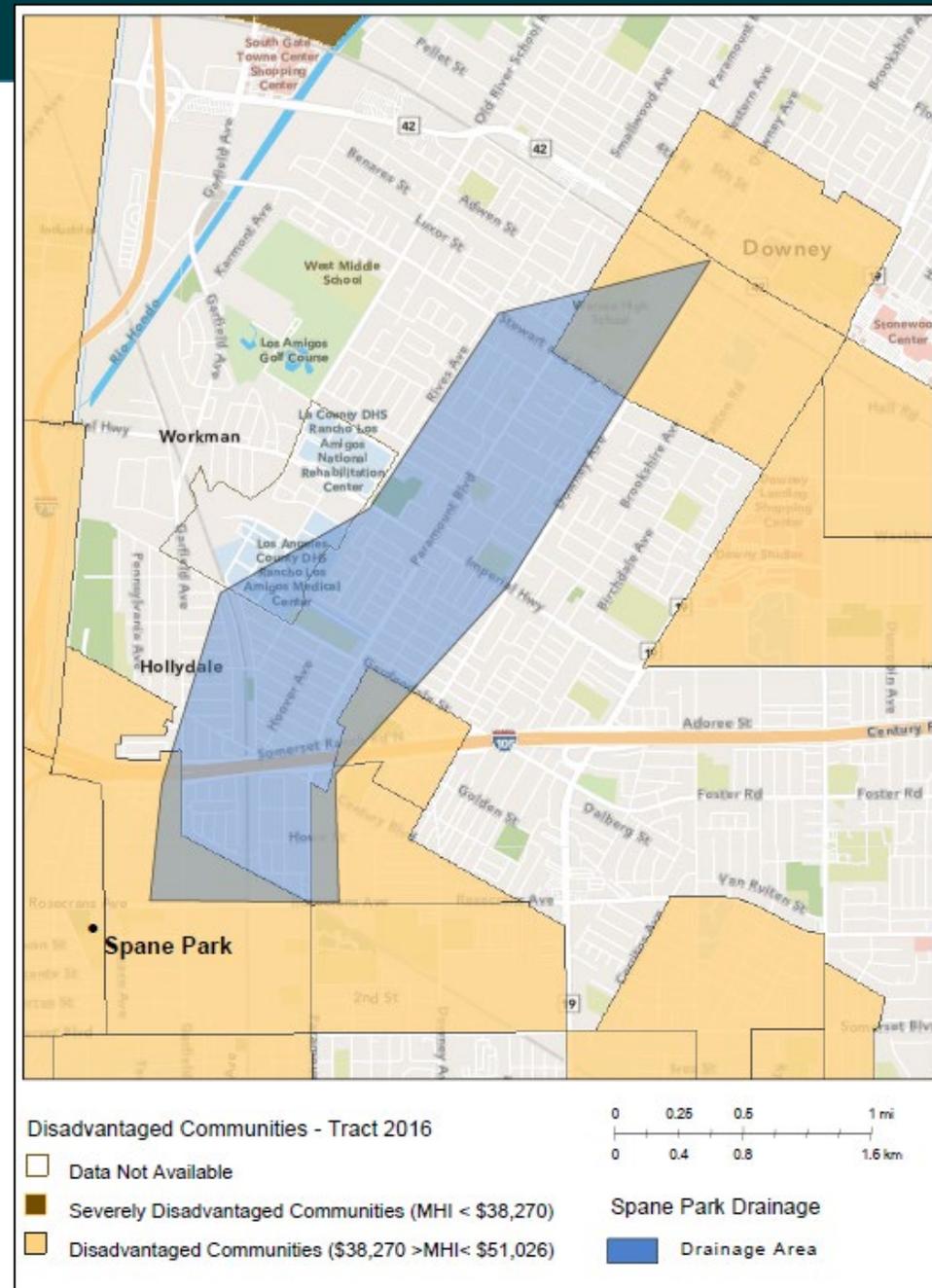
- Drainage Area = 1,338 acres
 - Paramount: 483 ac.
 - Downey: 528 ac.
 - South Gate: 327 ac.





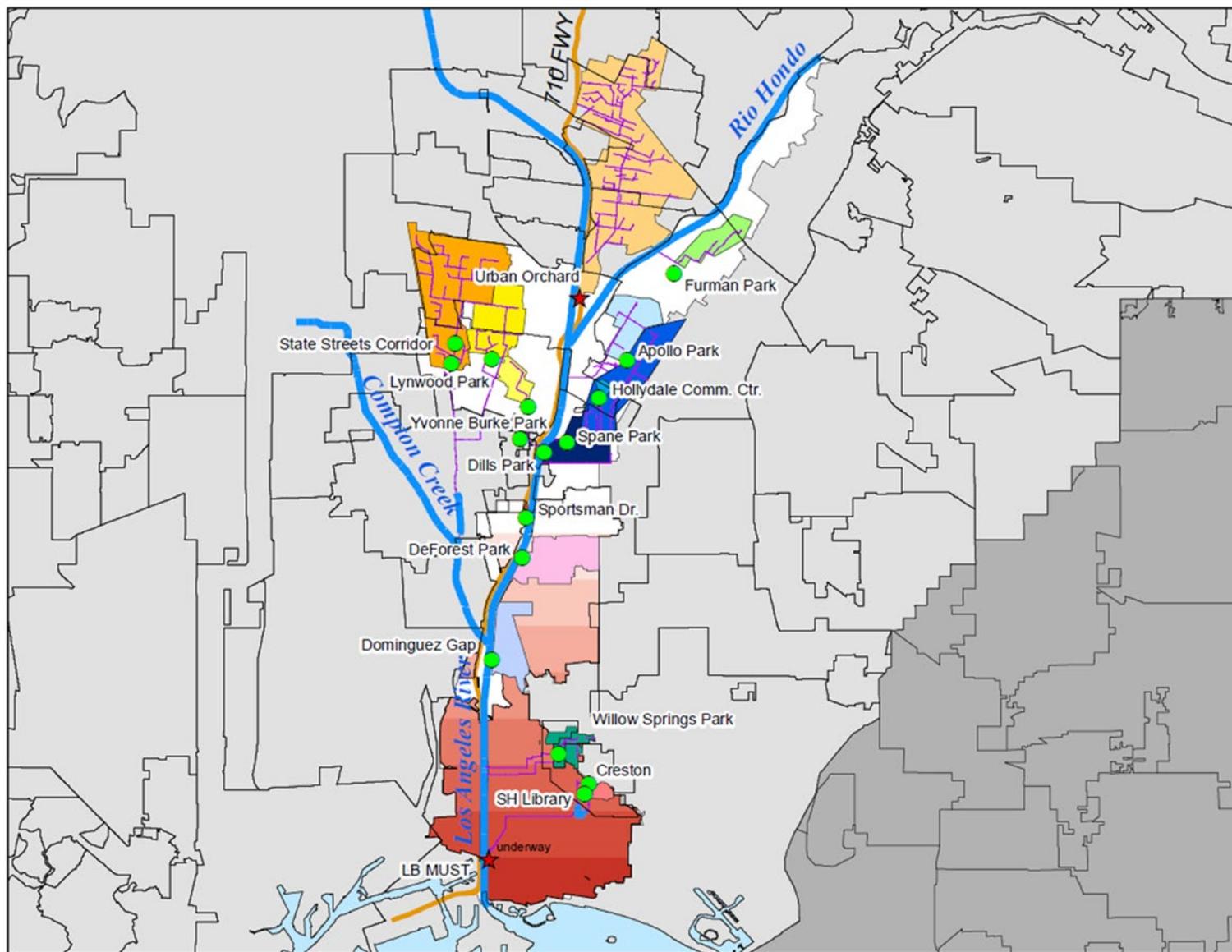
Project Location

The project is located within a **DAC**.
Downstream DACs will benefit from improved water quality





Project Background



- **Why was the Project Location selected?**
 - The project is part of the overall Stormwater Corridor approach being implemented by the LLAR Watershed Management Group



Project Background



- **How was the Project developed?**

- The LLAR Watershed Management Group funded percolation testing in 2018 and the development of a Feasibility Study (including 10% design plans) in 2019

- **Which regional water management plan includes the proposed project?**

- The site was identified in the LLAR WMP (approved in 2015) and is uploaded to the Opti database for inclusion in the GLAC IRWMP

- **Description of benefits to municipality**

- The proposed project will help the City implement its LLAR WMP requirements and represent progress toward compliance with the MS4 Permit and applicable TMDL milestones

- **Description of benefits to Disadvantaged Communities**

- The project provides DAC benefits through the improvement of park facilities and construction of the first public use soccer field in the City



Project Background: Anticipated Timelines



- 60% Design has been completed
- 90% Design is anticipated to be completed in December 2022
- Should the Project be chosen for funding, permitting will begin in October 2023
- Construction is anticipated to begin in May 2024 and will be complete by Fall 2026



Community Support Partners



- The implementation partner identified for this project is the **Lower Los Angeles River Watershed Management Group**
- **Letters of support** have been received by the following community groups:
 - Mujeres Unidas Sirviendo Activamente (MUSA)
 - Paramount Youth Soccer Organization
- The City has received a **letter of concurrence** from the Los Angeles Flood Control District
- The City is coordinating with the **Greater Los Angeles Vector Control District** about the project



Project Details

- Per the 60% Design, the scope of the project will include:
 - Diversion and pre-treatment system
 - Underground storage reservoir (8.6 acre-feet)
 - Infiltration and filtration elements
 - Nature-based solutions (e.g., ephemeral stream, permeable pavement in parking stalls)
 - A restored pond
 - Surface improvements including a new soccer field, picnic shelter, and vegetation
- Hydrological analyses and a utility review have been conducted
- Stormwater capture optimization methods were used when considering project alternatives



Project Details | SITE PLAN



UNDERGROUND STORAGE GALLERY



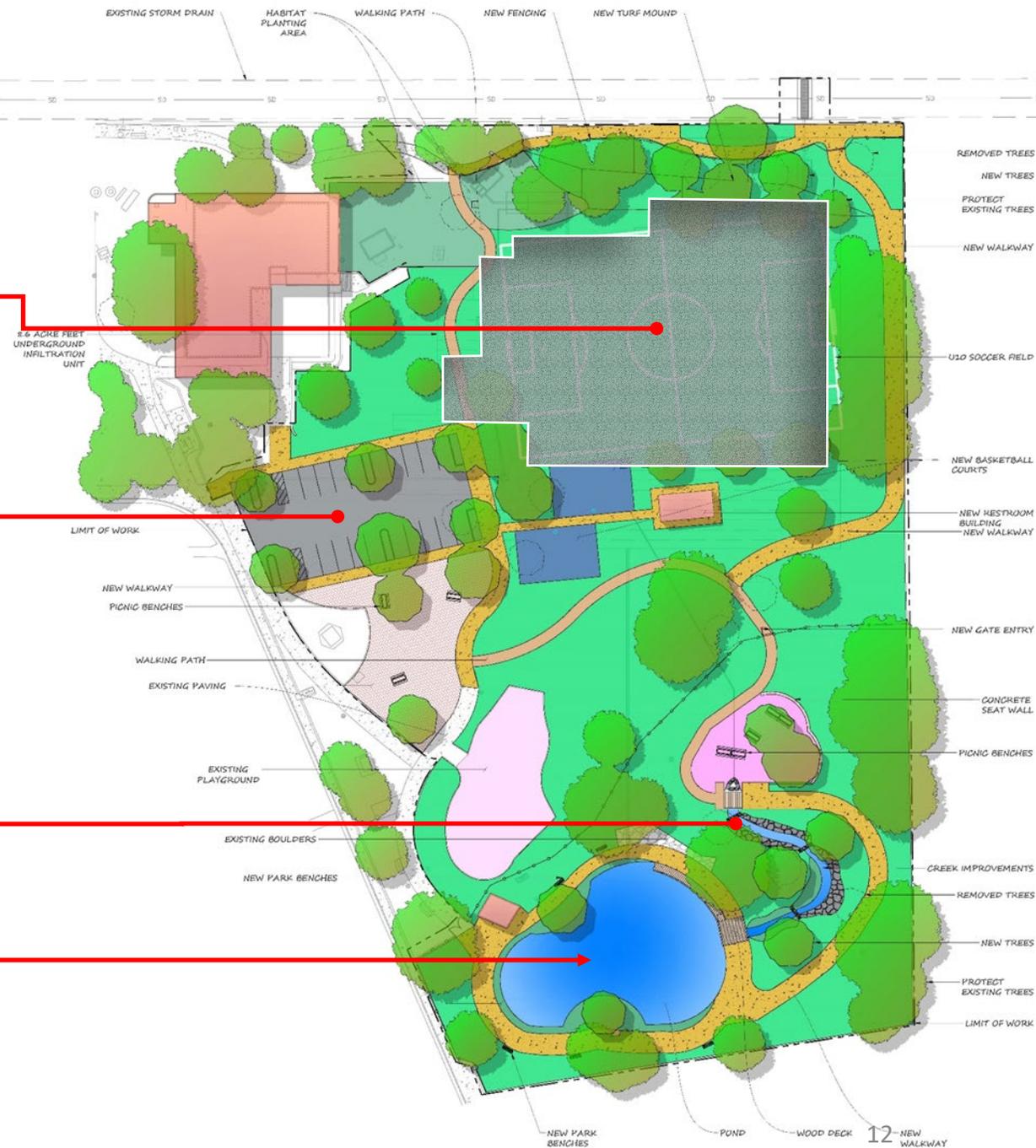
EXPANDED LID PARKING LOT



RECIRCULATION STREAM

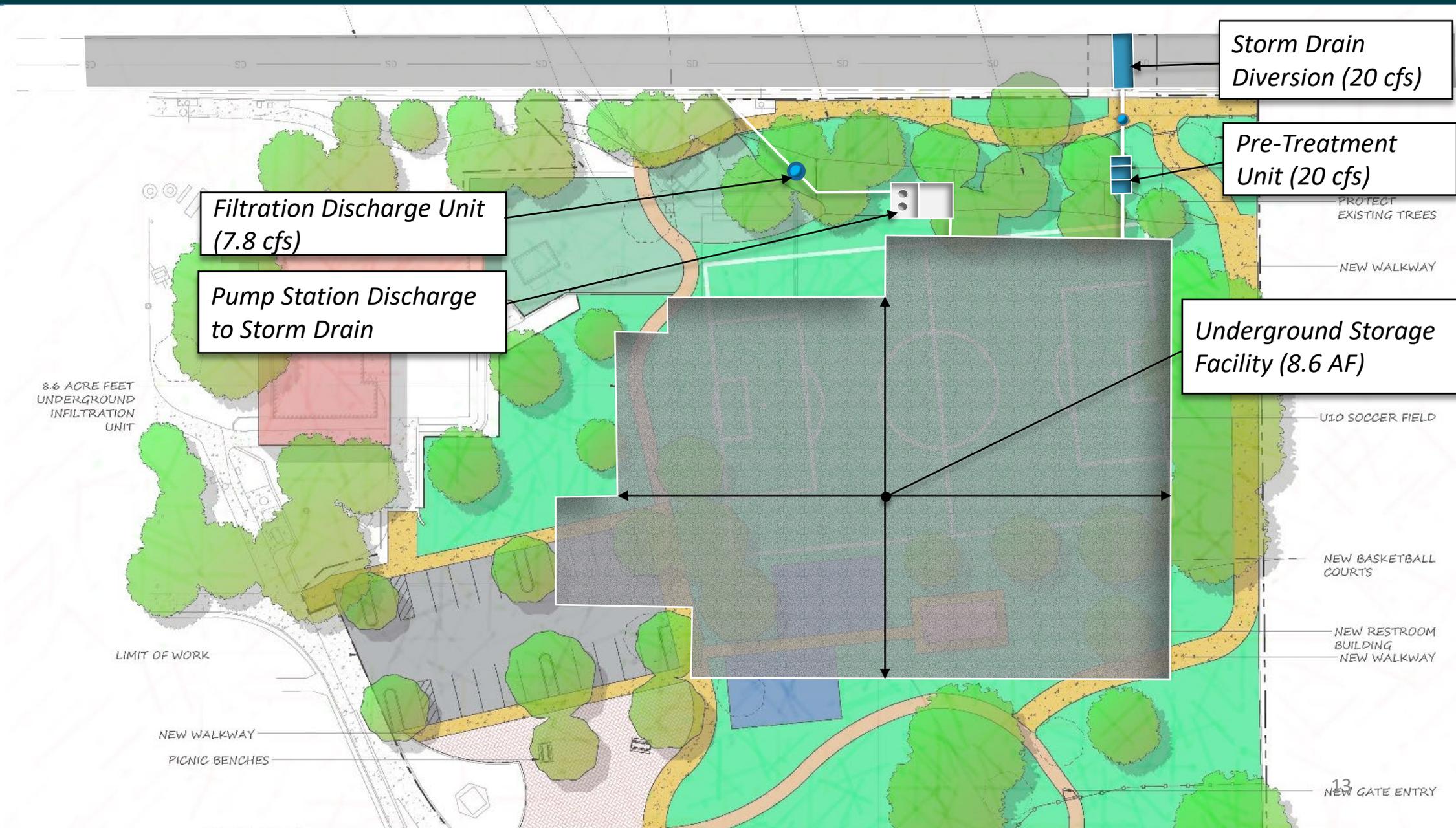


LAKE ENHANCEMENTS



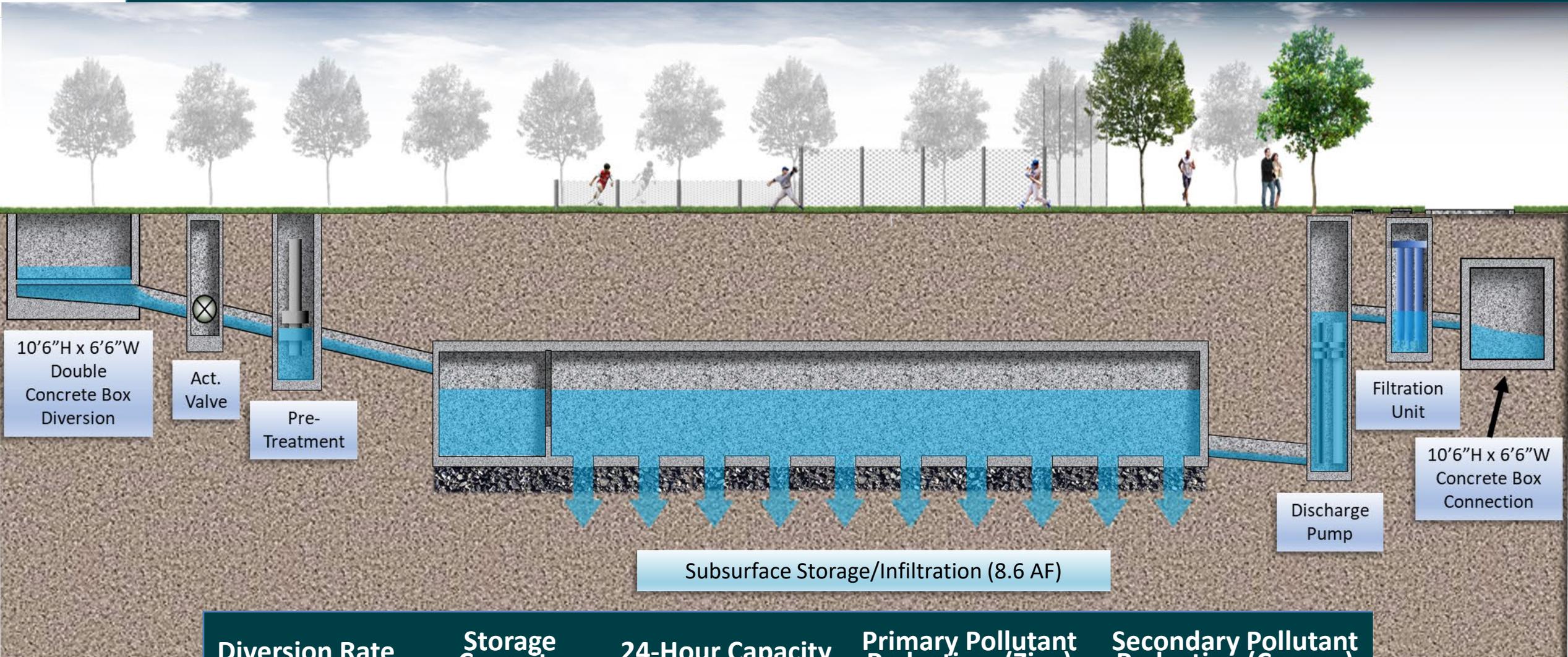


Project Details | Stormwater Capture Facility





Project Details | Schematic Diagram



Diversion Rate	Storage Capacity	24-Hour Capacity	Primary Pollutant Reduction (Zinc)	Secondary Pollutant Reduction (Copper)
20 cfs	8.6 ac-ft (2.8 MG)	27.35 ac-ft	73.2% (231 lbs)	69.7% (57.6 lbs)



Cost & Schedule

Phase	Description	Cost	Completion Date
Design	Pre-Design and Construction Support	\$641,857.00	12/2022
Design	Public and Community Outreach	\$100,000.00	12/2022
Design	Agency Project Management	\$21,755.00	12/2022
Planning	Environmental Planning and Permitting	\$128,371.00	12/2022
Construction	Construction Costs	\$14,259,568.00	06/2028
Construction	Agency Project Management	\$356,489.00	06/2028
Construction	Construction Surveying	\$20,000.00	06/2028
Construction	Construction Administration	\$1,425,157.00	06/2028
Construction	Construction Contingency	\$2,851,914.00	06/2028
TOTAL		\$19,805,111.00	

If funded, the Project will likely be completed in Fall 2026



Cost & Schedule

Annual Cost Breakdown	
Annual Maintenance Cost:	\$120,000
Annual Operation Cost:	\$50,000
Annual Monitoring Cost:	\$25,000
Project Life Span:	50 years
Module-Generated Life-Cycle Cost for Project	\$24,483,921.64
Module-Generated Annualized Cost for Project	\$1,020,422.73



Funding Request

Year	SCW Funding Requested	Phase	Efforts during Phase and Year
1	\$9,456,564.00	Construction	Construction Costs, Surveying, Contingency Administration, Agency Project Management
2	\$5,673,938.40	Construction	Construction Costs, Surveying, Contingency Administration, Agency Project Management
3	\$2,836,969.20	Construction	Construction Costs, Surveying, Contingency Administration, Agency Project Management
4	\$945,656.40	Construction	Construction Costs, Surveying, Contingency Administration, Agency Project Management
TOTAL	\$18,913,128.00		



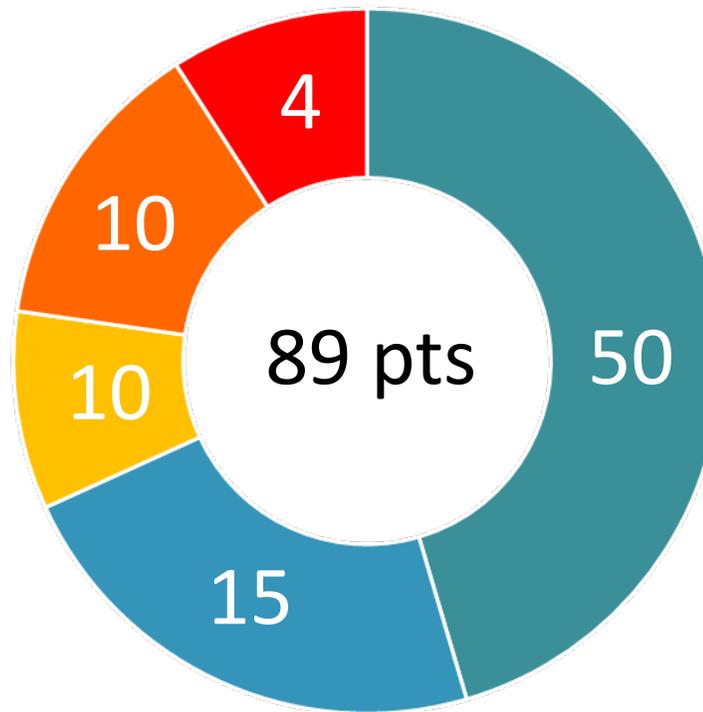
Funding Request

- **Leveraged Funding amount and percent** – Pending grant award notifications and federal funding status
 - **Grants pursued to date:** RMC Prop 1 and IRWMP Prop 1
 - **Federal funding:** \$2M that still requires approval from the Senate
 - If passed, it is expected that the funds will be released in 2-3 years at the earliest.
- **Description of future potential SCW funding requests – O&M**



Score to be confirmed by the Scoring Committee

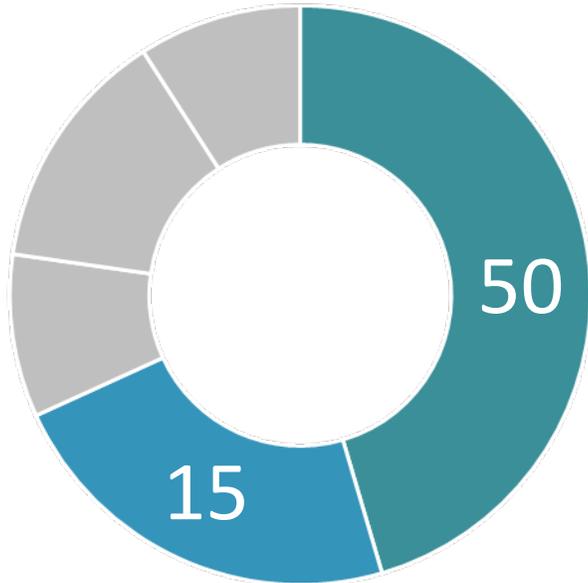
- Water Quality
- Water Supply
- Community Investment Benefits
- Nature Based Solutions
- Leveraged Funds and Community Support



- The Scoring Committee evaluated this score on 10/17/22 and requested additional information.
- Expected to be scored on 12/1/22.



Water Quality & Water Supply Benefits



- The Scoring Committee evaluated this score on 10/17/22 and requested additional information.
- Expected to be scored on 12/1/22.

Water Quality Benefits

- Will achieve its water quality objectives through runoff/pollutant capture, infiltration, filtration, use, and release
- Will address zinc and bacteria (the primary and secondary limiting pollutants identified in the LLAR WMP, respectively) in addition to other pollutants
- Has a drainage area of 1,338 acres (Cities of Paramount, Downey, and South Gate)

Water Supply Benefits

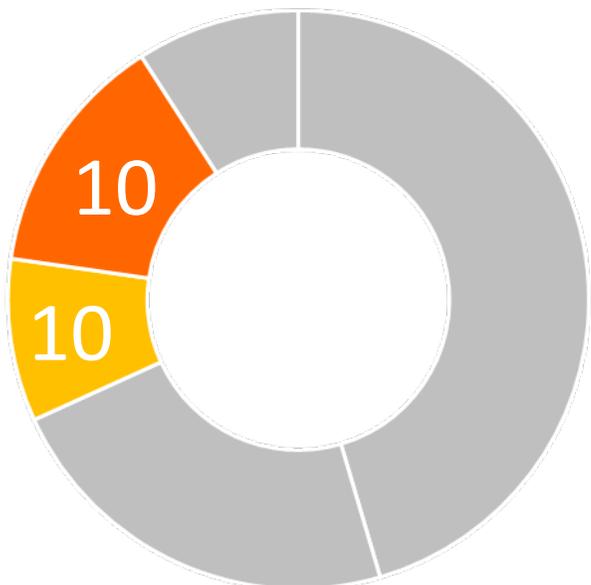
- The project is connected to a managed water supply aquifer (Central Basin of the Coastal Plain, Los Angeles Aquifer). Infiltration rates are high and will augment groundwater supply by approximately 100 acre-feet on an average annual basis
- Reclaimed urban runoff will be recycled and utilized to fill the on-site pond



Community Investment Benefits and Nature Based Solutions

Community Investment Benefits

- **Enhanced Park Space and Recreational Opportunities:**
 - First public use soccer field in the City
 - New ephemeral stream to mimic natural conditions that is supplied by the captured stormwater
 - Restored pond and improved park facilities and amenities
 - Adjacent to Los Cerritos Elementary School. Students may utilize the revitalized park for recreation and educational opportunities



- The Scoring Committee evaluated this score on 10/17/22 and requested additional information.
- Expected to be scored on 12/1/22.

Nature-Based Solutions

- **Natural Processes:** Infiltration; new ephemeral stream; new parking stalls will be permeable pavement
- **Reduced Heat Island Effect:** Additional vegetation will be planted, including native landscape. Approximately 1,500 sf of impervious area will be removed.



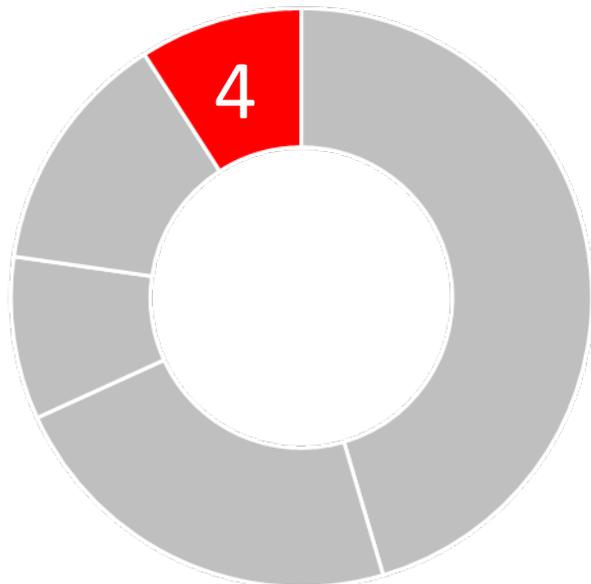
Leveraging Funds and Community Support

Leveraging Funds

- The LLAR Watershed Management Group provided funding for the Feasibility Study (including 10% design plans) and the preliminary geotechnical testing
- The City received \$891,984 under Round 2 for Design
- The City is pursuing other funding sources for construction including: RMC Prop 1 Grant, IRWMP Prop 1 Grant, and federal funding sources

Community Support

- Community Outreach Events Conducted:
 - City of Paramount Eco-Friendly Fair (4/16/22)
 - Community Meeting (4/26/22)
 - Community Meeting (6/22/22)
 - One more event scheduled early 2023



- The Scoring Committee evaluated this score on 10/17/22 and requested additional information.
- Expected to be scored on 12/1/22.



Questions?

Michelle Kim
(JLHA)

Oliver Galang
(Craftwater)



Long Beach Municipal Urban Stormwater Treatment (LB MUST) Phase 2

Funding Program: Infrastructure Program

Fiscal Year 2023-2024

Lower Los Angeles River Watershed Area

Project Lead – City of Long Beach

Presenter – Ed Othmer, Colin Averill

Previously Awarded TRP – No



Project Overview

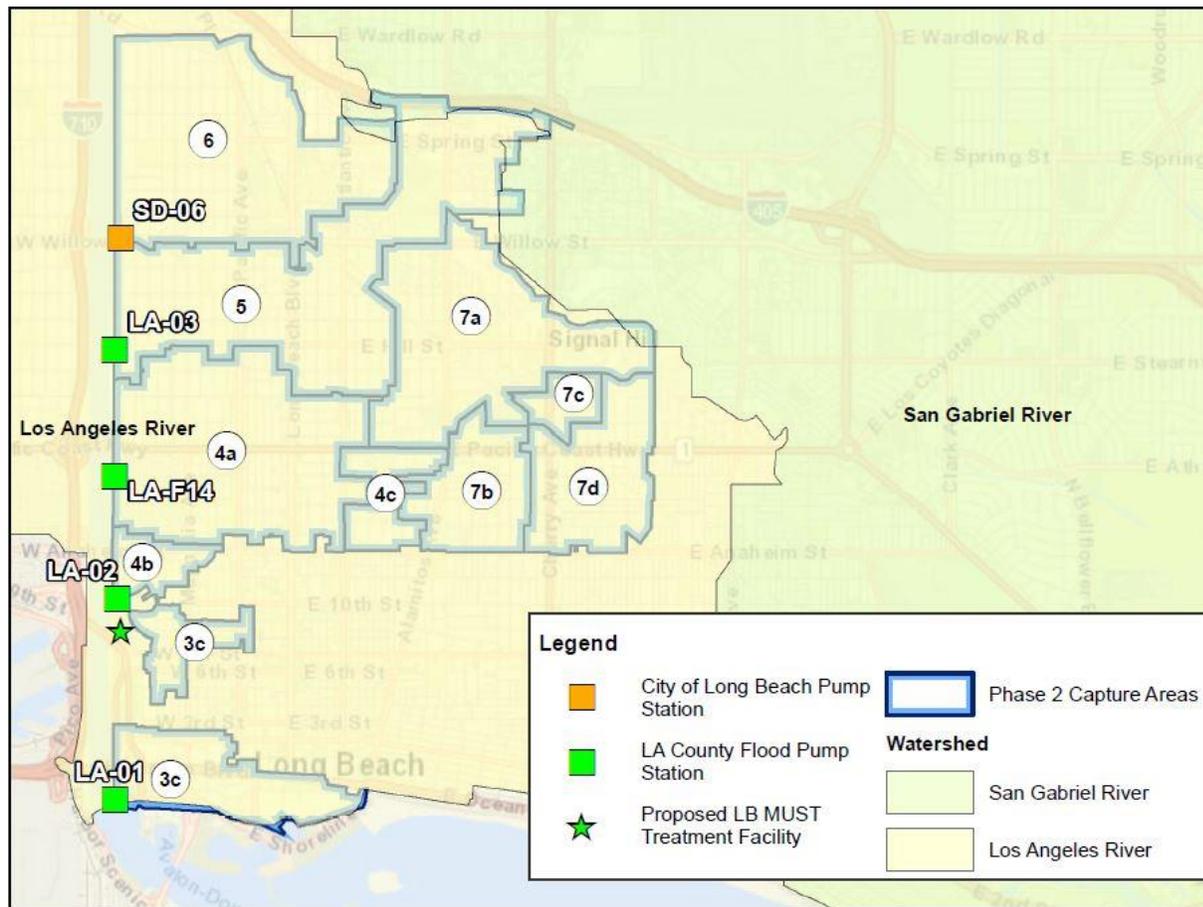
Phase 2 includes constructing a new park with a pump station and cistern, and connecting 5 existing pump stations to the LB MUST Facility.

- Primary Objective: Treat urban runoff for water quality compliance
- Secondary Objectives: Create additional water supply
- Project Status: Design and Construction
- Total Funding Requested: \$10,387,527

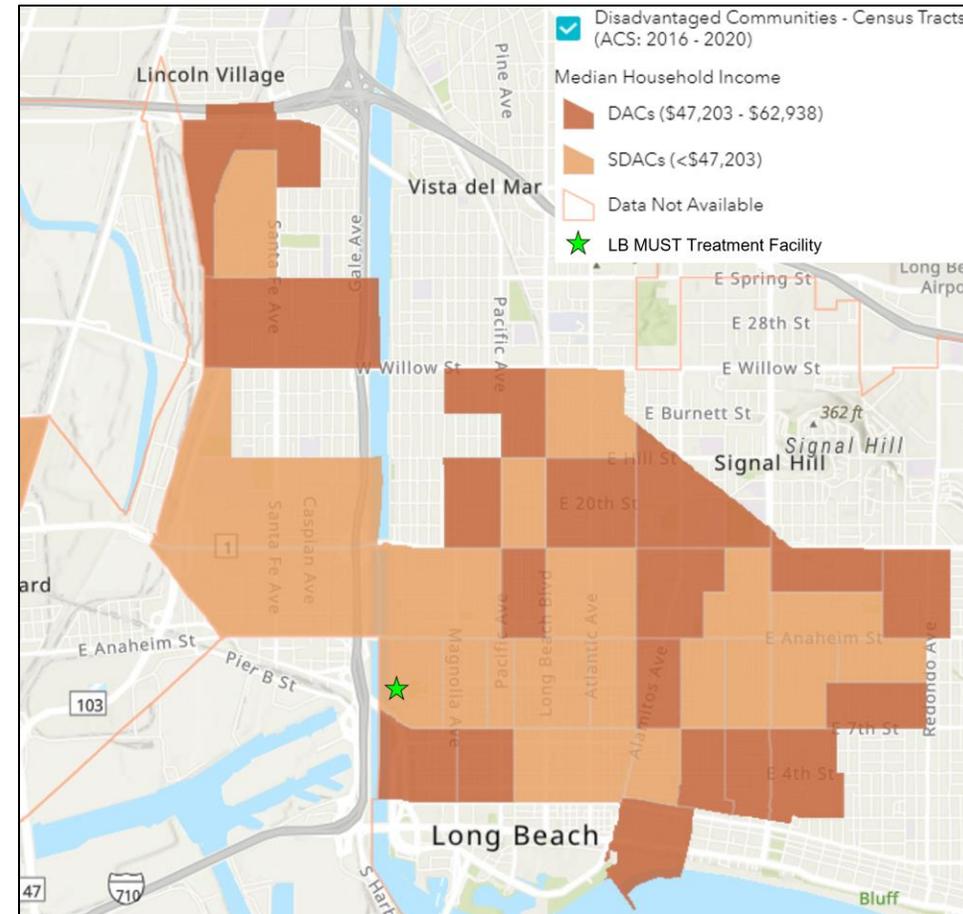




Project Location



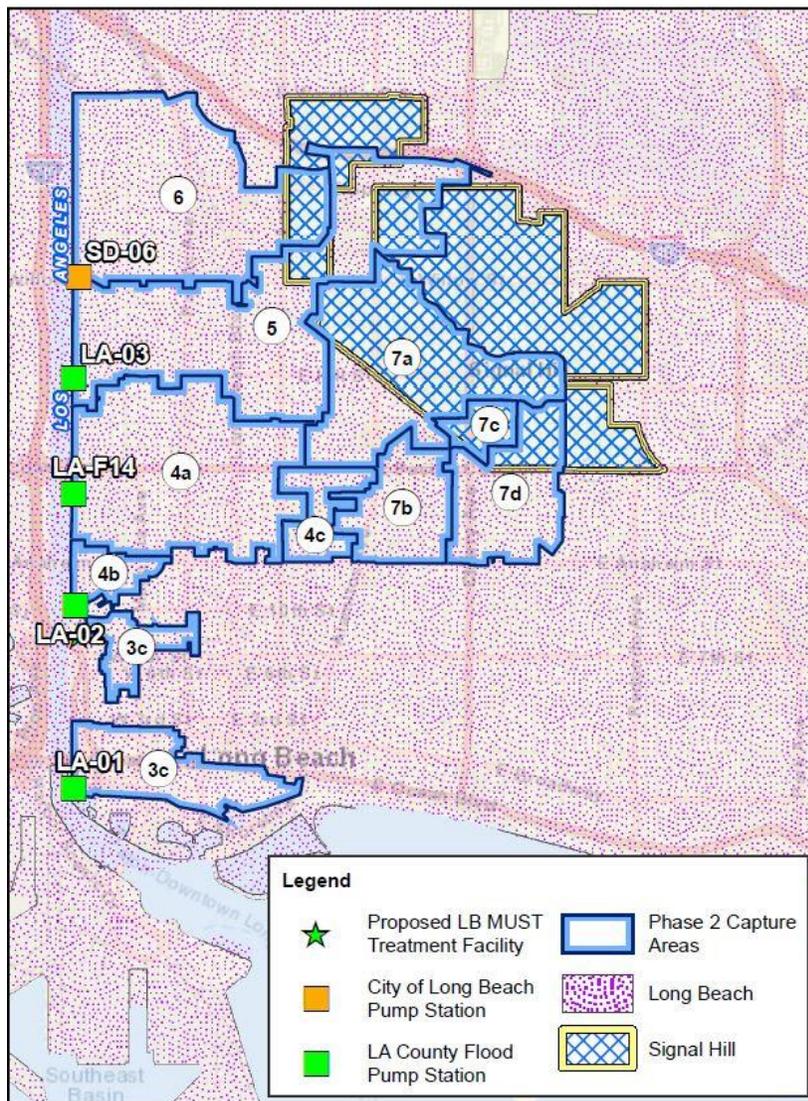
LB MUST Project Location, Watersheds, and Capture Areas



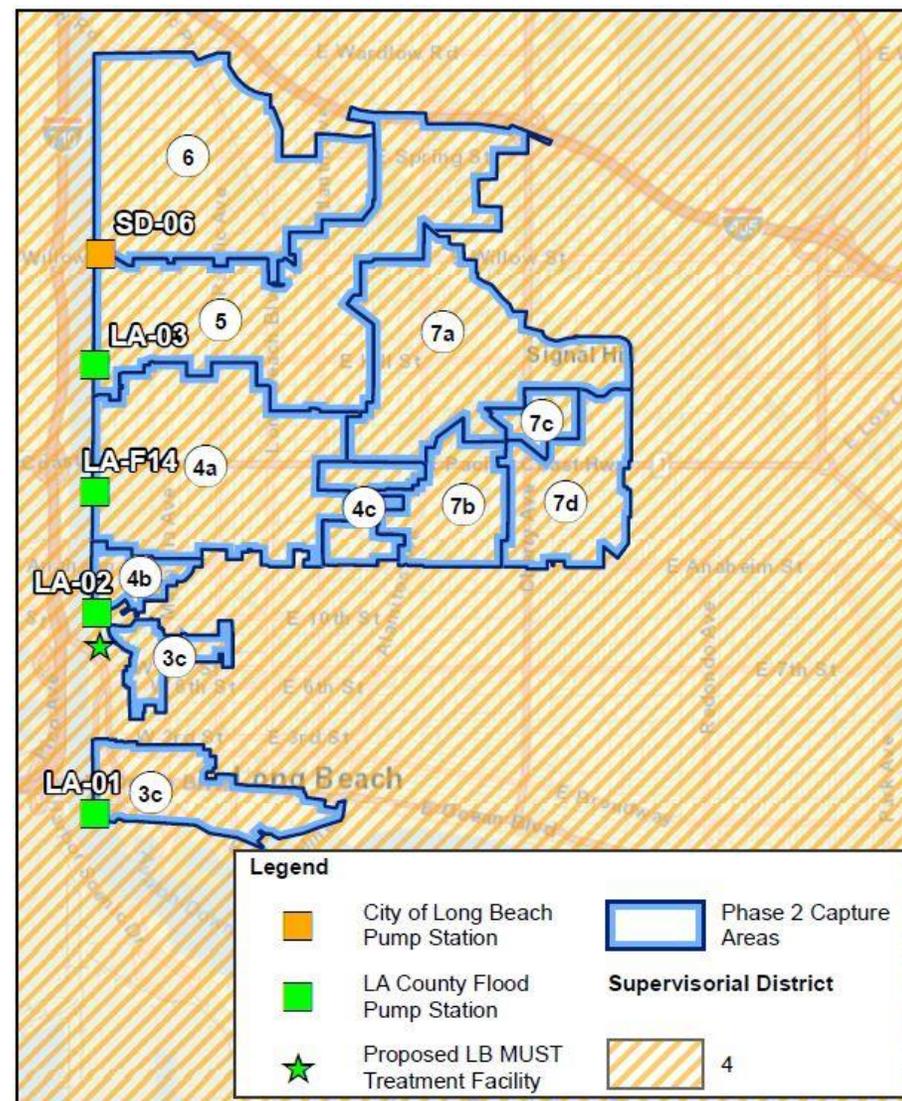
Surrounding Disadvantaged Communities



Project Location



LB MUST Municipalities



LB MUST Supervisorial District



Project Background

- Project Location Selection and Development
 - Building on progress from Phase 1:
 - Greenspace and cistern adjacent to treatment facility and wetlands
 - Connects pump stations closest to facility & non-brackish pump station
 - Develops infrastructure for future irrigation uses
 - Delivers next step in regional project masterplan
 - Makes uses of treatment capacity already under construction
- Project is included in the Lower Los Angeles River (LLAR) Watershed Management Program



Project Background

- Benefits for Cities of Long Beach and Signal Hill:
 - Increased water quality, water supply, & urban green space
 - Improved air quality & public health
 - Public education & community engagement opportunities
- Benefits for Disadvantaged Communities (DACs)
 - The Project is located within a severely DAC and will serve DACs through the environmental and community benefits listed above
 - Light industrial area converted to greenspace reconnecting historic neighborhood with LA River
- Awarded ISI Envision Platinum

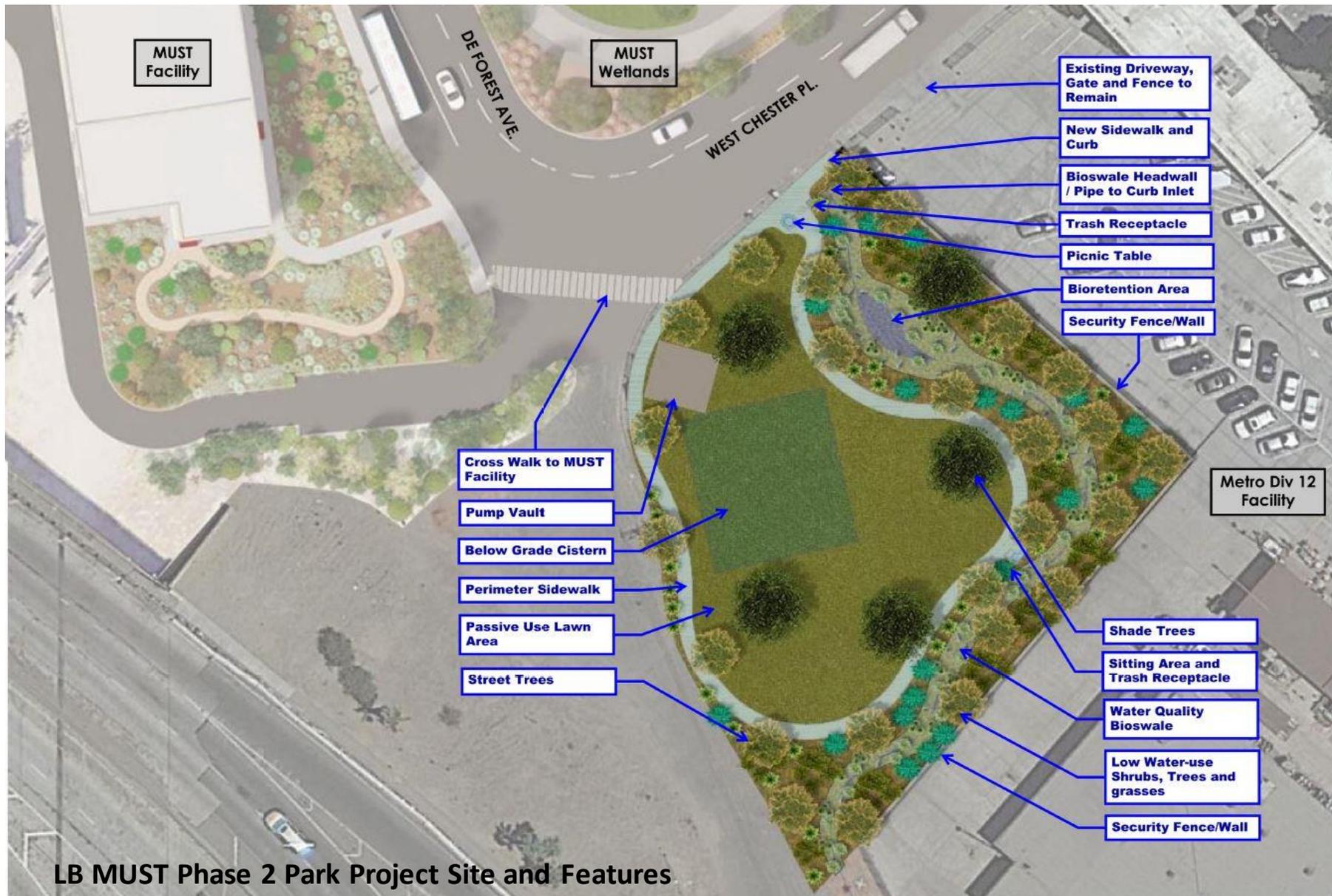


Partners

- Implementation partners: City of Long Beach, Los Angeles County Flood Control District
- Community Support
 - Wilmore City Heritage Association (WCHA)
 - Long Beach City Councilwoman Mary Zendejas (District 1)
 - Assemblymember Patrick O'Donnell (70th District)
 - Senator Lena Gonzalez (33rd Senate District)
 - Aquarium of the Pacific
 - Long Beach Conservation Corps
- City of Long Beach Support
 - Mayor Robert Garcia
- Los Angeles County Flood Control District Support
- Long Beach Health Department



Project Details



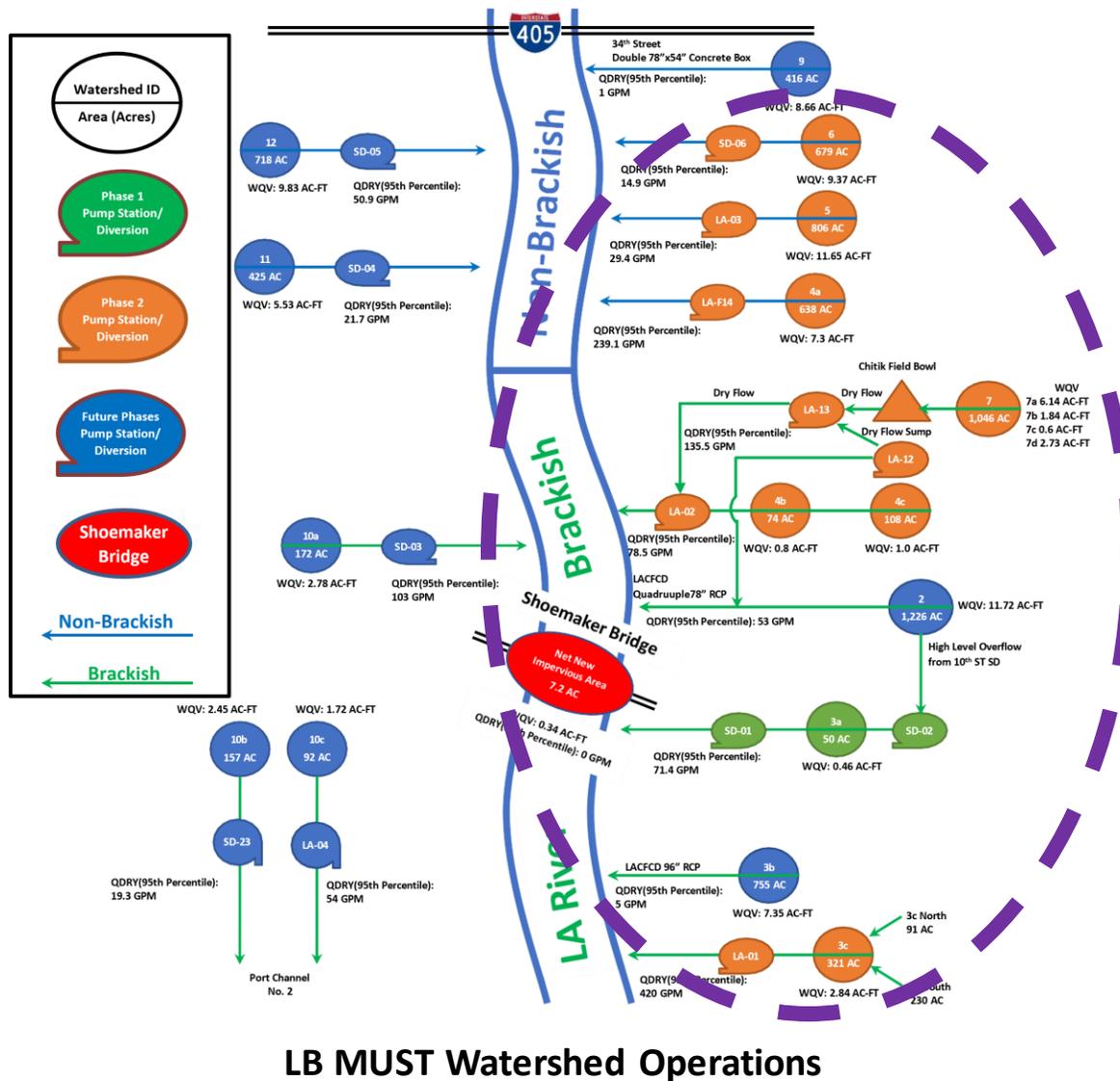
LB MUST Phase 2 Park Project Site and Features

Phase 2 Project includes:

- Demolition of light industrial building
- Construction of new greenspace
- Bioswale and planting consistent with LA River Revitalization
- Cistern and pump to support irrigation reuse in this greenspace and planned greenspace along Drake-Chavez park corridor



Project Details



Phase 2 also includes:

- Connecting 5 existing stormwater pump stations to the LB MUST Facility.
 - Convey additional dry weather and first flush flows from a combined area of 3,672 acres.
- Treated non-brackish water will be used as an alternative water supply.
- LACFCD operates 4 of the 5 pump stations (LA-01, LA-02, LA-F14, and LA-03).
- The City of Long Beach owns the proposed park parcel and 1 pump station (SD-06).



Project Details

- Multiple studies and analyses have been completed for the project area including:
 - LB MUST Facility Master Plan
 - LB MUST Initial Study/Mitigated Negative Declaration
 - LB MUST Basis of Design Report
 - Preliminary testing for asbestos contamination
 - Geotechnical analyses
 - Site evaluations



Cost & Schedule

Phase	Description	Cost	Completion Date
Planning	Planning for Phase 2: Phase I and II Site Assessment, Asbestos, Lead-based Paint, and Hazardous Materials Survey, and CEQA Addendum	\$95,000	6/2024
Design	Design for Phase 2: New park greenspace and cistern, conveyance, pump station (electrical, mechanical, and I&C)	\$912,557	6/2024
Construction	Construction of cistern/pump station, performing site improvements in new park, and installation of new pumps and conveyance for Phase 2 pump stations	\$17,326,250	6/2027
TOTAL		\$18,333,807	

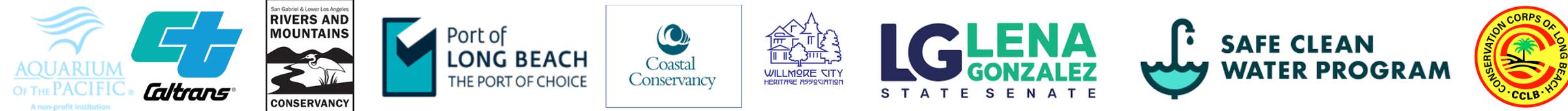
- For a life span of 30 years, the annualized life-cycle cost is \$1.1M



Funding Request

Year	SCW Funding Requested	Phase	Efforts during Phase and Year
2	\$3,522,551	Construction	Construction for cistern/pump station, park site improvements, pipe conveyance for LA-01 to LB MUST, pipe conveyance for LA-F14 to LB MUST, and new pumps at LA-01, LA-02, and LA-F14.
3	\$3,797,892	Construction	Construction for conveyance from LA-F14 to LA-03 and new pump at LA-03.
4	\$3,067,084	Construction	Construction for conveyance from LA-03 to SD-06 and new pump at SD-06.
TOTAL	\$10,387,527		

- Leveraged Funding amount: \$7,946,280 (43.3%)
- Actively seeking additional funding sources

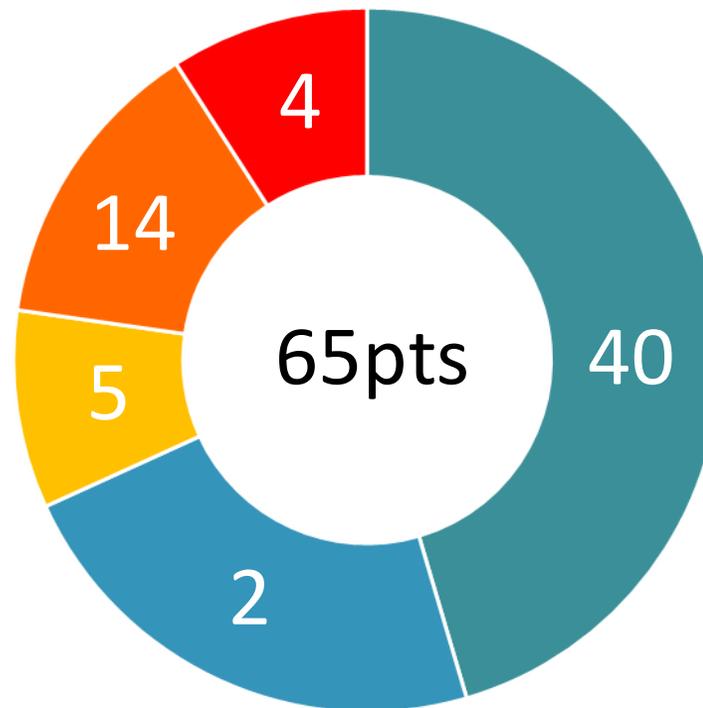




Score as confirmed by the Scoring Committee

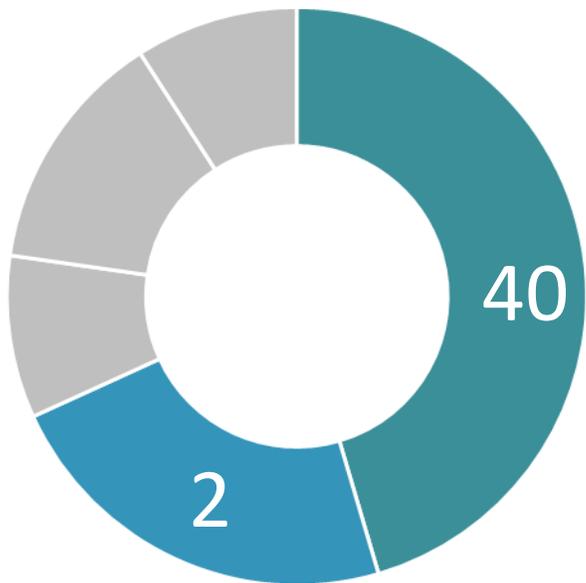
The Scoring Committee confirmed this score on October 17, 2022.

- Water Quality
- Water Supply
- Community Investment Benefits
- Nature Based Solutions
- Leveraged Funds and Community Support





Water Quality & Water Supply Benefits

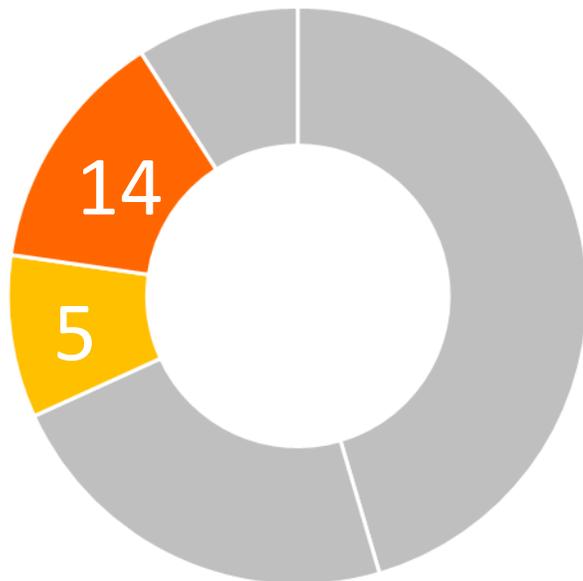


The Scoring Committee confirmed this score on October 17, 2022.

- 3,672 acres of drainage area: expands conveyance to intercept dry weather and first flush flows.
 - 1.1 MGD of dry weather flow + portions of first flush flows
- 2 MGD treatment capacity at LB MUST Facility already under construction, available for use.
- 125,000 gallon cistern/pump to irrigate new greenspace and revitalized greenspaces in Drake-Chavez park masterplan.
- 81.6 acre-feet average annual capture for water supply, used for irrigation



Community Investment Benefits and Nature Based Solutions

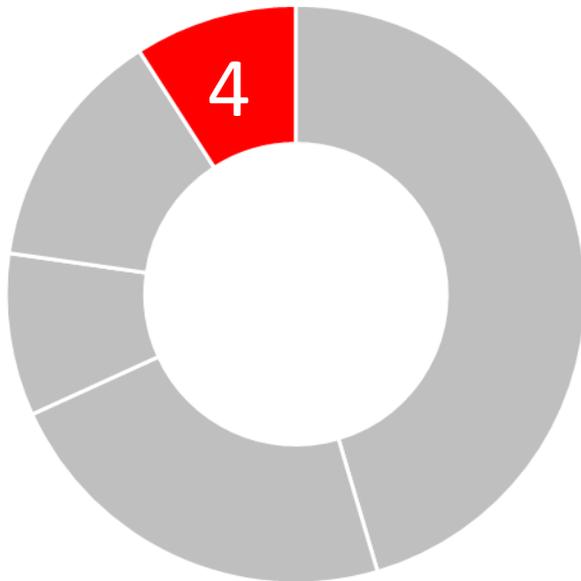


The Scoring Committee confirmed this score on October 17, 2022.

- **Community Investment Benefits**
 - New greenspace replaces light industrial building
 - Recreational amenity for the local DAC/EDA and connects neighborhood and public access to the LA River
 - Improves flood management through extension of an existing bioswale
 - Reduces heat island effect and increases shade through the planting of 30 trees & vegetation in the park
 - Provide connectivity between LA-River, LB-MUST Wetland, and Drake-Chavez Park by way of walking/bike paths
- **Nature Based Solutions**
 - Impervious parcel will be replaced with greenspace and underground cistern for irrigation
 - Bioswale will be constructed within the park to extend an existing bioswale, providing a natural flow pathway to a catch basin.



Leveraging Funds and Community Support



The Scoring Committee confirmed this score on October 17, 2022.

- Leveraging Funds
 - Proposition 1 Storm Water Grant: \$3,973,140.
 - City of Long Beach: \$3,973,140 (using Measure W Local Return funding).
 - 43.3% funding matched
- Community Support
 - Local community involvement since project inception including two charettes and community meetings.
 - Local community support, including the Willmore City Heritage Association and Friends of the LA River
 - Project facilities will be used as platforms to educate the public on water quality issues and measures to address them.
 - Long Beach Conservation Corps support and involvement



Community Outreach

- Phase 1 Outreach informed Facility & Wetland.
- Continue to build community Outreach & Engagement:
 - May 2021 Community Meeting
 - March 2022 K-12 Outreach: Stormwater and LB-MUST Wetlands
 - September 2022 Sustainable Infrastructure Presentation
- Greenspace & Cistern is supported by additional outreach
 - 2019: 9 Public Workshops and Surveys.
 - 2021: Community Report. Residents and visitors living in the Willmore City and Downtown neighborhoods were reengaged for December report.



Questions?

Ed Othmer

Colin Averill



Ground Truth: Guiding a Soils-Based Strategy for Impactful Nature-Based Solutions

Scientific Studies Program

Fiscal Year 2023-2024

Lower Los Angeles River Watershed

TreePeople, Dustin Herrmann, PhD



Study Overview

A study delivering mechanisms, calculations, sites, and designs for leveraging impactful nature-based solutions

Motivation

Soils in the LLAR watershed have excellent potential to meet SCWP goals

SCWP Goals

Water quality, community benefits, and resilience

Methods

Derive models that optimize soils using on the ground measures

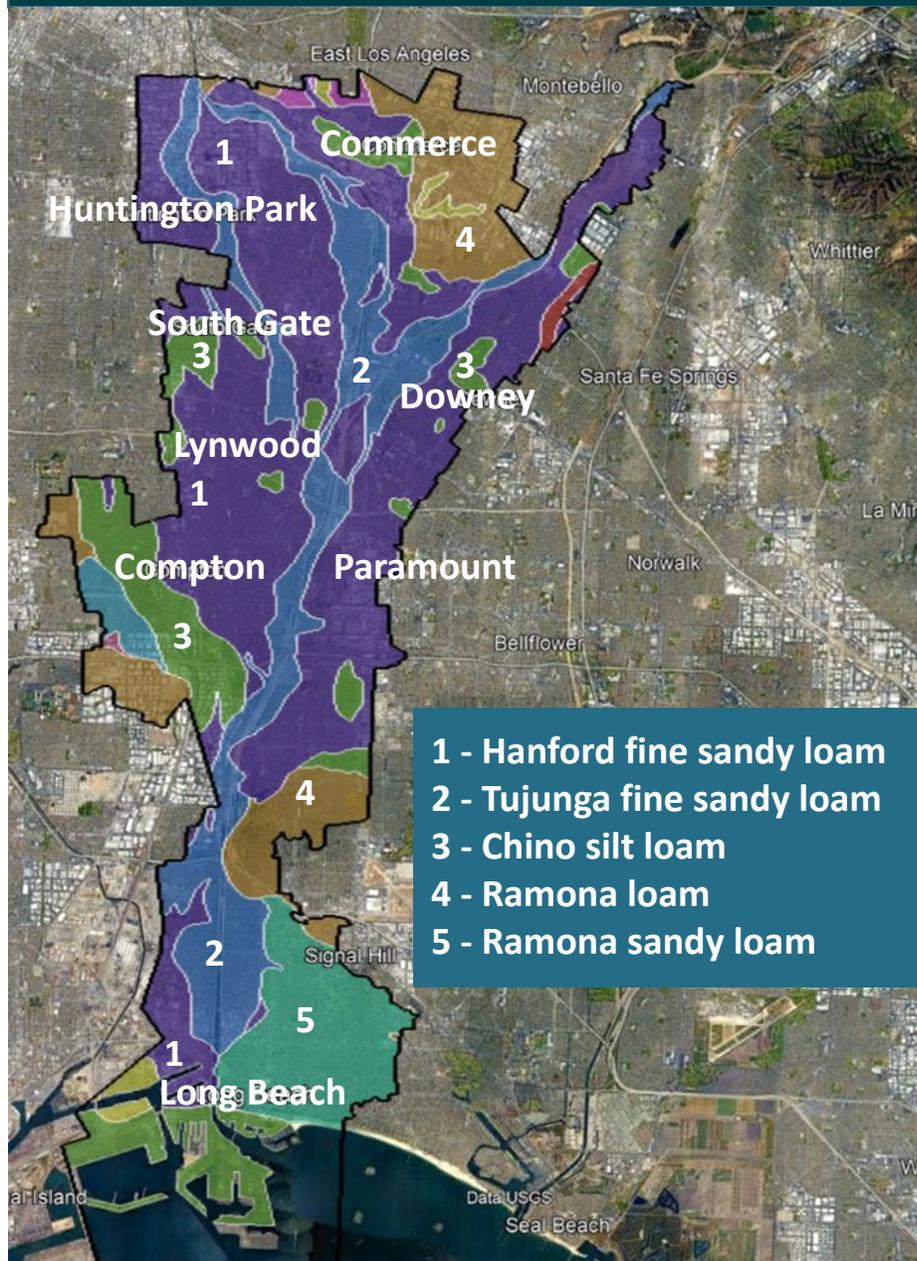
Outcomes

Designs for implementation with calculated performance parameters





Study Location: A Whole Watershed Approach



- 25 Sites Across the Watershed
- Characterize soil properties across land uses and the five soil types that represent 97% of the watershed



Study Team

TreePeople

Project management, urban ecosystem science, and professional landscape architecture



Soil science and soil hydrology modeling



Watershed modeling and LA County/SCWP stormwater management expertise



Study Details: Problem Statement

Soil is a high-capacity lever to meet water quality, water supply, and community benefits targets.



To take advantage, designed soil solutions must be robust, predictable, and reliable.



With guidance, the LLAR watershed is an ideal location for leveraging existing soil resources.

2" water
holding capacity
per foot of soil



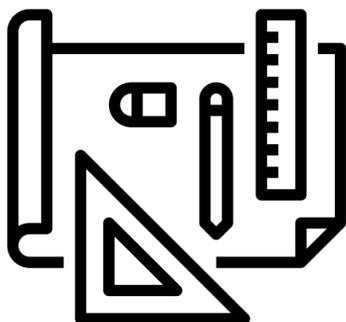
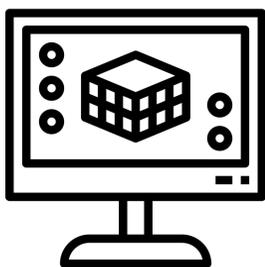
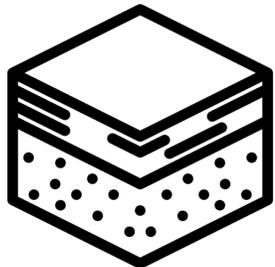


Study Details: Objectives

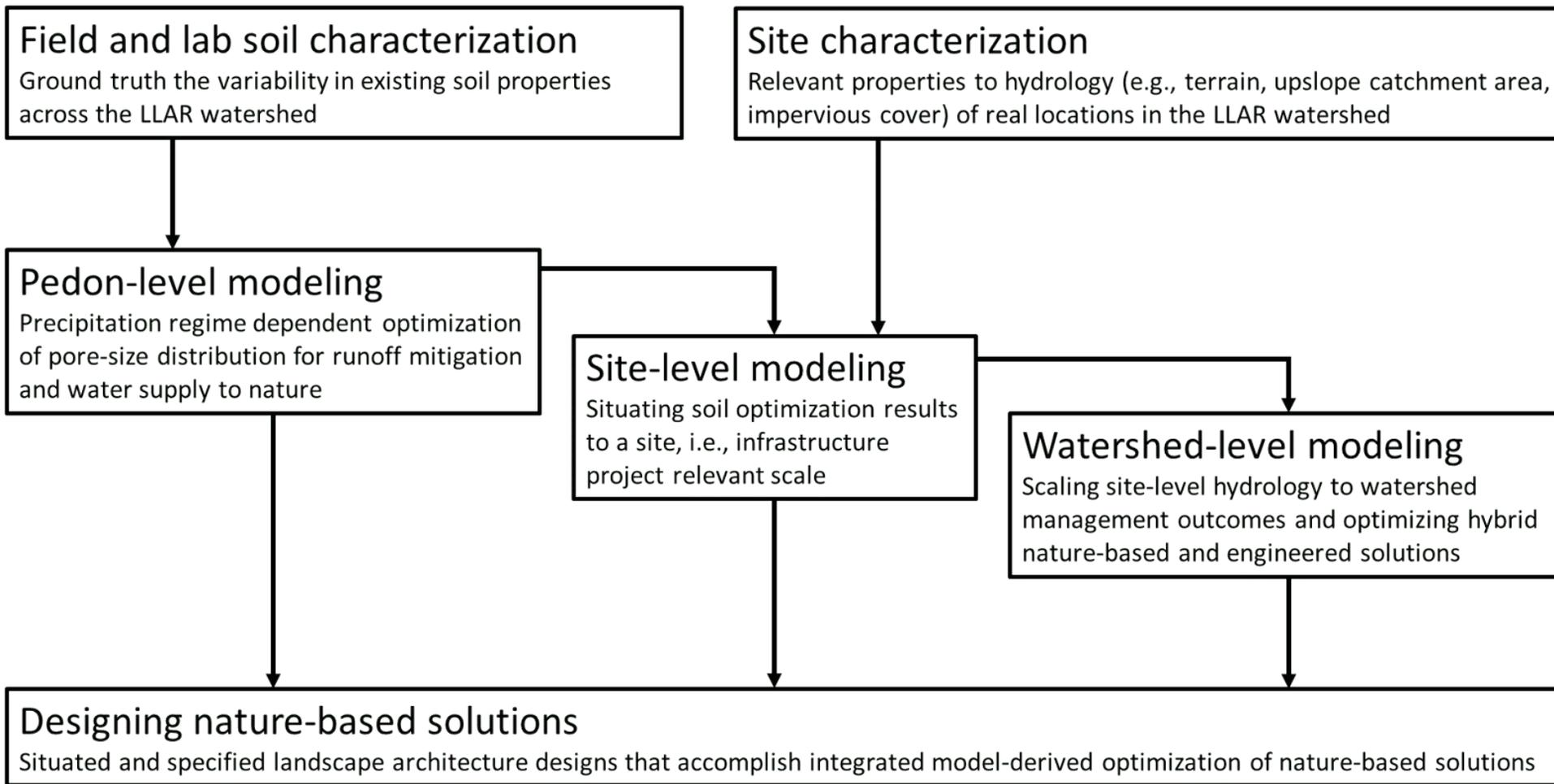
- 1. Quantify LLAR watershed soil's potential for water cycle management**
 - Identify soil properties and simulate modifications that optimize stormwater management and support vegetation.
 - Quantify the magnitude of stormwater capture, urban runoff avoided, and soil water storage to determine benefits of soil modifications for representative soils across the watershed.
- 2. Integrate soil knowledge in more efficient hybrid watershed level strategies**
 - Model watershed-level strategies by ground truthing the conditions and capacities of soils to scale up to regional impacts.
 - Identify opportunities for approaches to watershed management that integrate centralized water capture installations with distributed Nature-Based Solutions.
- 3. Guide implementation through landscape designs**
 - Develop field validated, scientific model-derived, feasible, and fully specified landscape designs to be adopted into practice.
 - Designs will emphasize native species supportive ecosystems that sustain and improve intended hydrologic functioning through natural soil forming processes.



Study Details: Methods

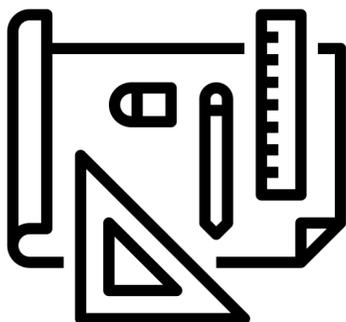
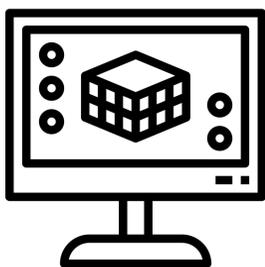
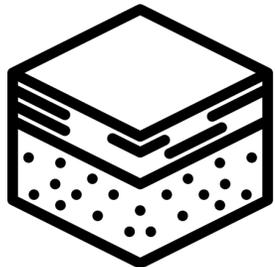


Ground Truth Project Diagram

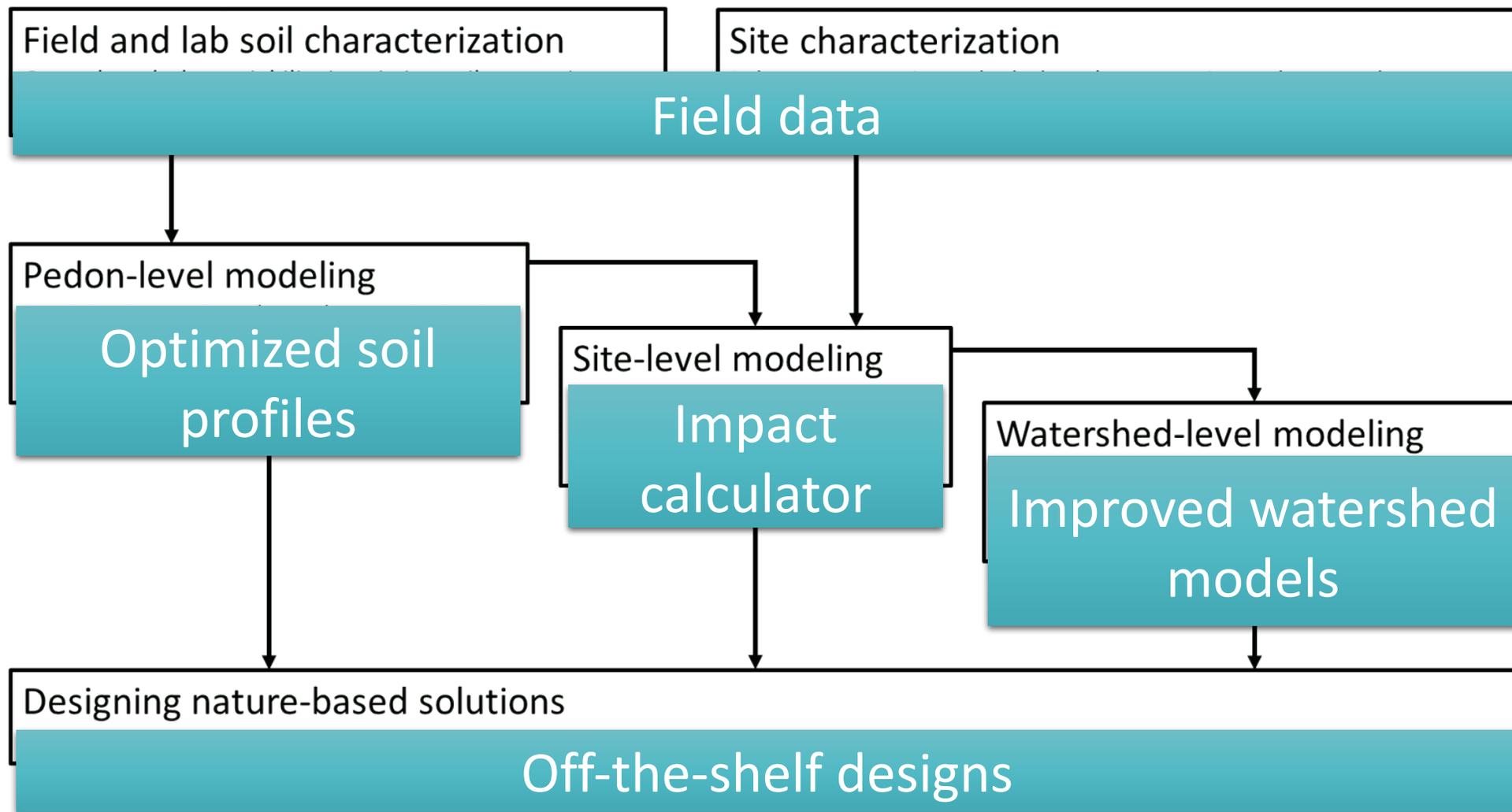




Study Details: Outcomes



Ground Truth Project Diagram





Cost & Schedule

Phase	Description	Cost	Completion Date
1	Identify community partners and sampling sites	\$113,568	June 2024
2	Complete field sampling and lab analyses	\$113,569	December 2024
3	Complete pedon- and site-level modeling	\$135,645	June 2025
4	Complete watershed-level modeling and landscape designs	\$67,823	September 2025
5	All project deliverables complete	\$67,823	December 2025
TOTAL		\$ 498,430	December 2025

Funding Request

WASC	Year 1	Year 2
LLAR	\$227,137	\$271,293
TOTAL	\$227,137	\$271,293



Summary of Benefits

Water Resource Benefits

Water quality

- Reduce runoff pollution
- Pollutants transformed into ecological resources

Water quantity

- Water supply to nature
- Development of framework to value this benefit



Community Benefits

Enhanced Community Investments

- Guidance on leveraging soil for nature-based solutions
- Reliable options in watershed management portfolios
- Creating more resilient community investments
- Improve soil health
- Soil remediation

A person is seen from the side, pointing at a wall covered in numerous sticky notes. The scene is dimly lit, with a blueish tint, suggesting a meeting or brainstorming session. The sticky notes contain various handwritten notes and diagrams.

Questions?

Dustin Herrmann

Daniel Hirmas

Emily Tyrer

Hoori Ajami

Thom Epps

Brad Wardynski

Manny Gonez

Cindy Montañez



GAP Analysis (Phase 1) Scientific Study Update | November 2022

STUDY OVERVIEW

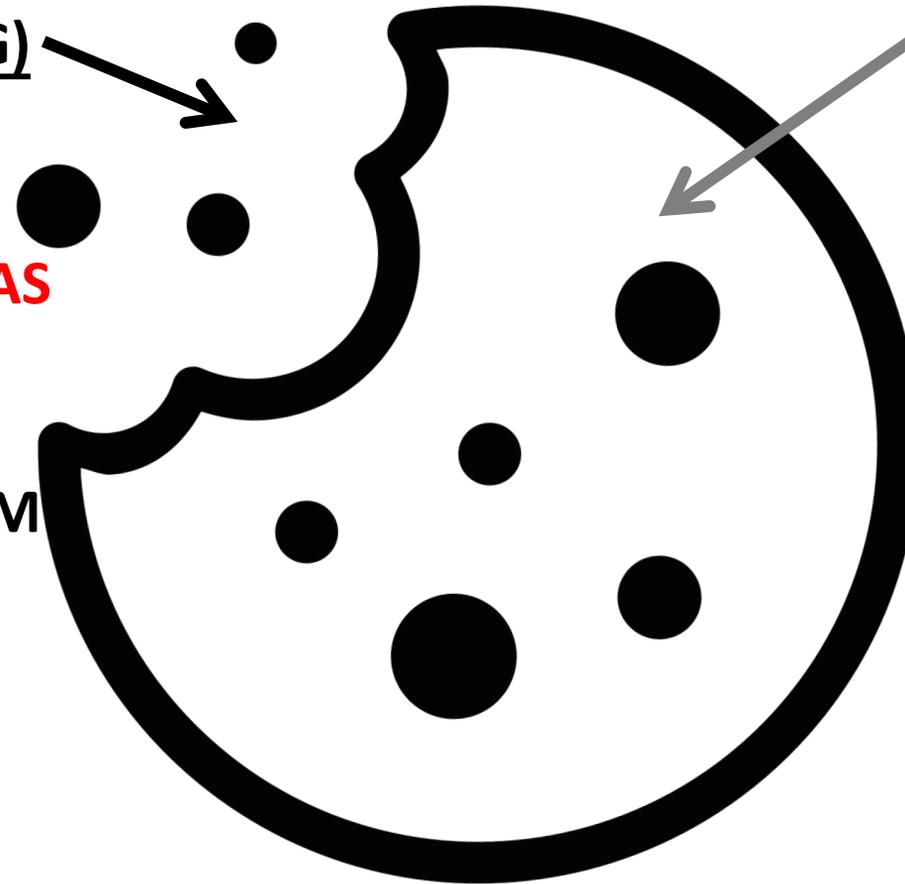
Goal:

Find and analyze new projects in a watershed context to plot a coordinated, project-by-project pathway to safe, clean water

Phased Strategy

PHASE I (ONGOING)

- ~~TEST METHODS IN PILOT AREA~~
- **ALL WATERSHED AREAS**
- CONDUCT DESKTOP ANALYSIS
- GENERATE NEAR-TERM PROJECT CLARITY (2- TO 5-YEAR HORIZON)
- **ANALYZE PROJECTS SUBMITTED FOR FY23/24 FUNDING**



PHASE 2 (APPROVED)

- EXPAND ANALYSIS TO FILL OUTSTANDING GAPS
- CONDUCT ENGINEER SITE VISITS
- GENERATE LONGER-TERM PROJECT CLARITY (**5- TO 50-YEAR HORIZON**)
- SYNTHESIZE ADAPTATION & PLAN RECOMMENDATIONS
- **ANALYZE PROJECTS SUBMITTED FOR FY24/25 FUNDING**

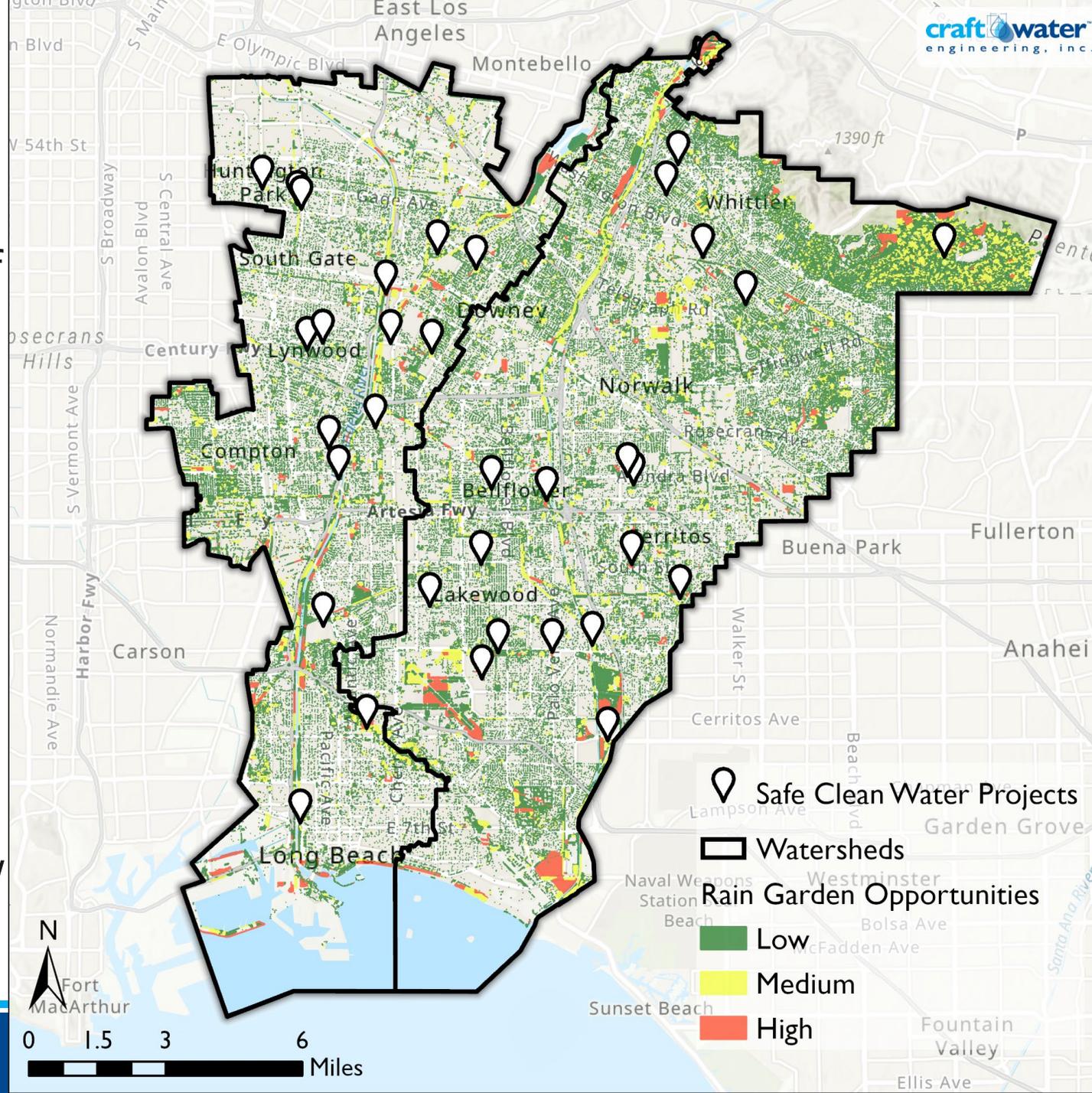
Task 1: ID & Reconcile Opportunities

 **Objective:** Build detailed list of project opportunities for the studied area

 **Method**

-  Compile known/planned projects
-  Run automated screening to find new opportunities
-  Conduct engineering review

 **Deliverable:** Web map



Task I: Existing/Planned Projects

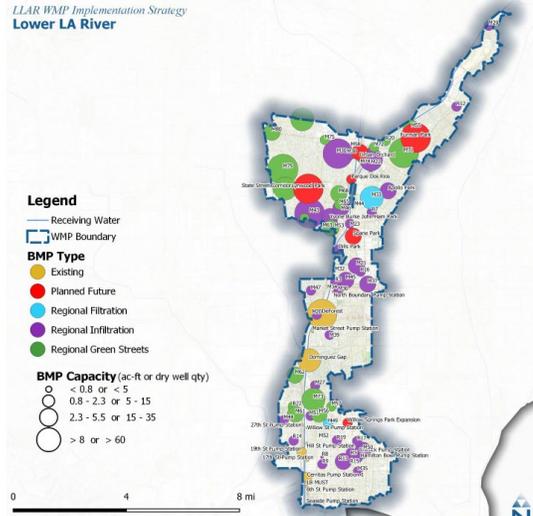


Figure 4-3. Map of regional BMPs that compose the LLAR WMP Implementation Strategy for final compliance by 2037.

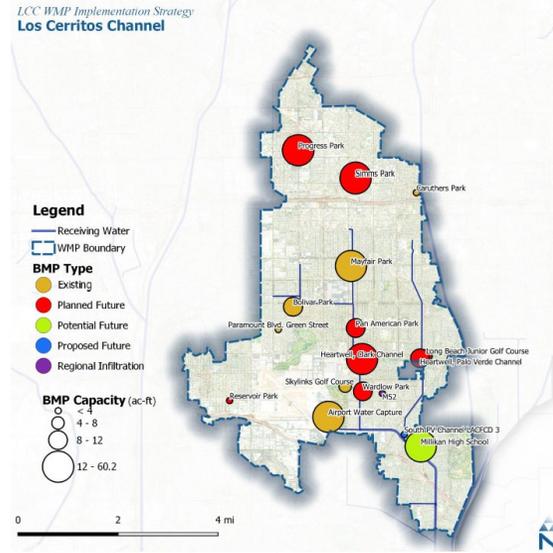


Figure 4-3 (continued). Map of regional BMPs that compose the LCC WMP Implementation Strategy for Final Compliance by 2036.

Figure 4-2: LCC Storm Drain System with Water Capture Projects

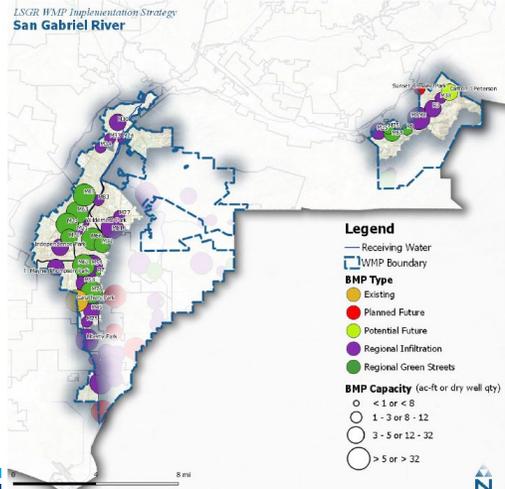
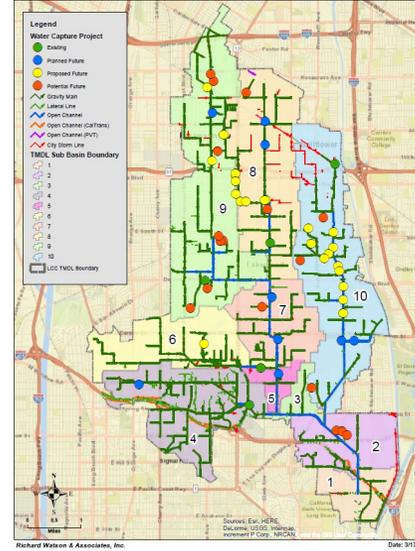


Figure 4-3 (continued). Map of regional BMPs that compose the LSGR WMP Implementation Strategy (specific to Lower San Gabriel River assessment area) for final compliance by 2036.

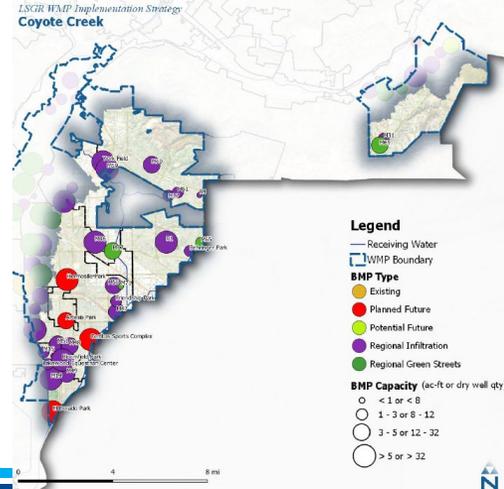


Figure 4-3 (continued). Map of regional BMPs that compose the LSGR WMP Implementation Strategy (specific to Coyote Creek assessment area) for final compliance by 2036.

Nearshore WMP Implementation Strategy

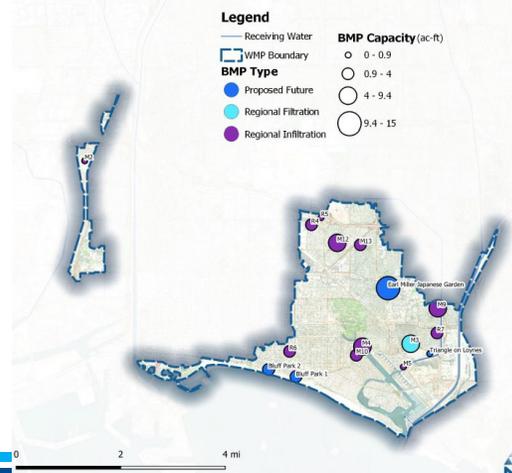


Figure 4-3 (continued). Map of regional BMPs that compose the Long Beach Nearshore WMP Implementation Strategy (including all assessment areas) for Final Compliance by 2040

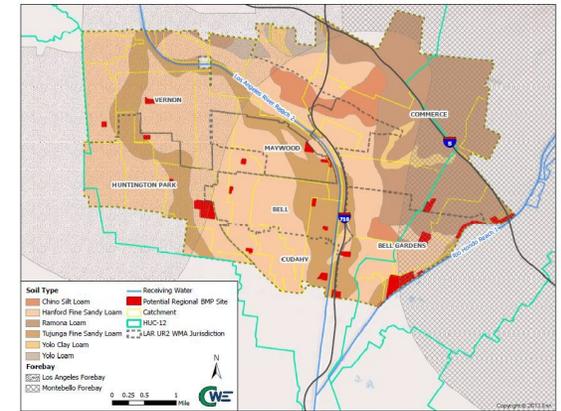
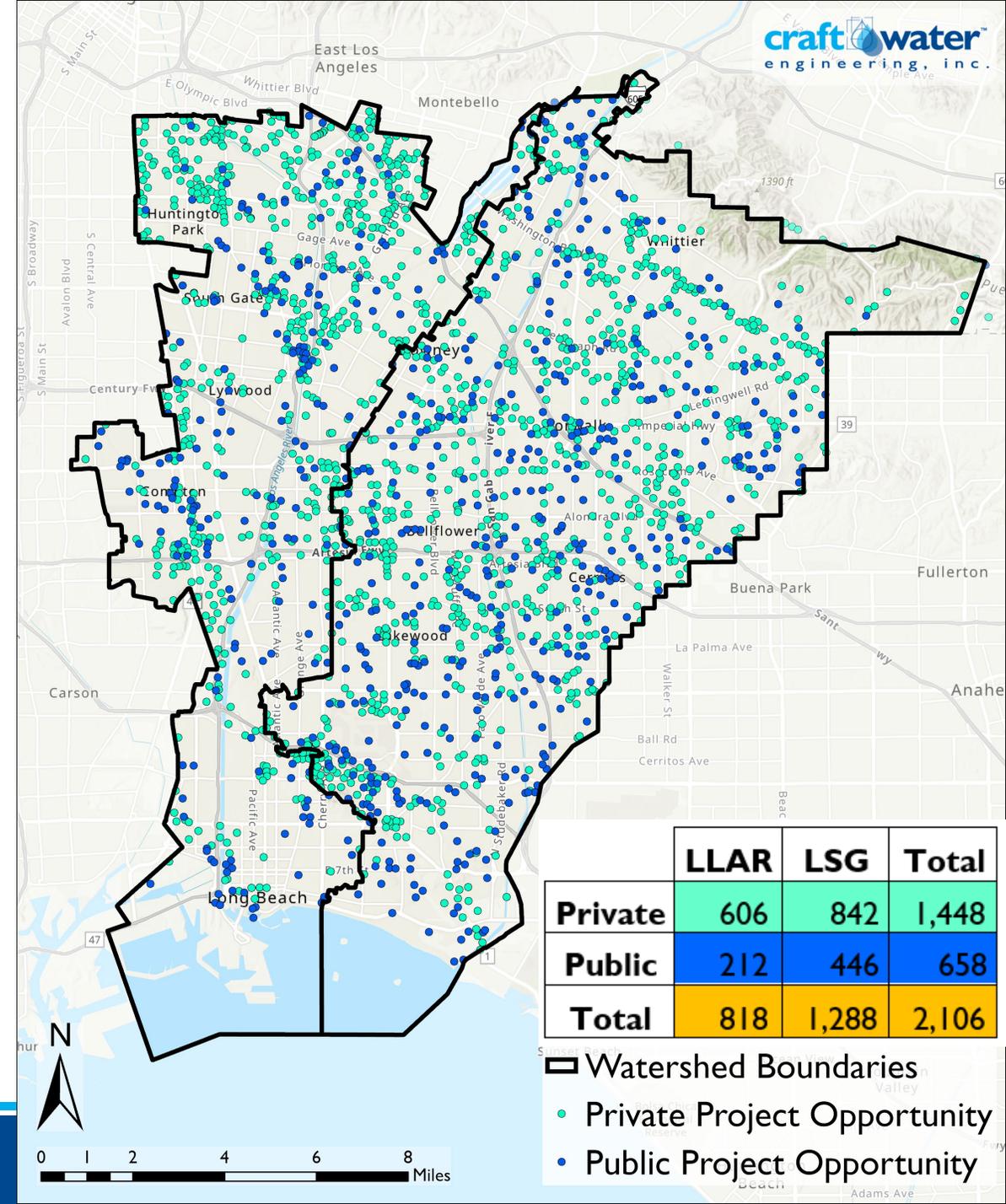
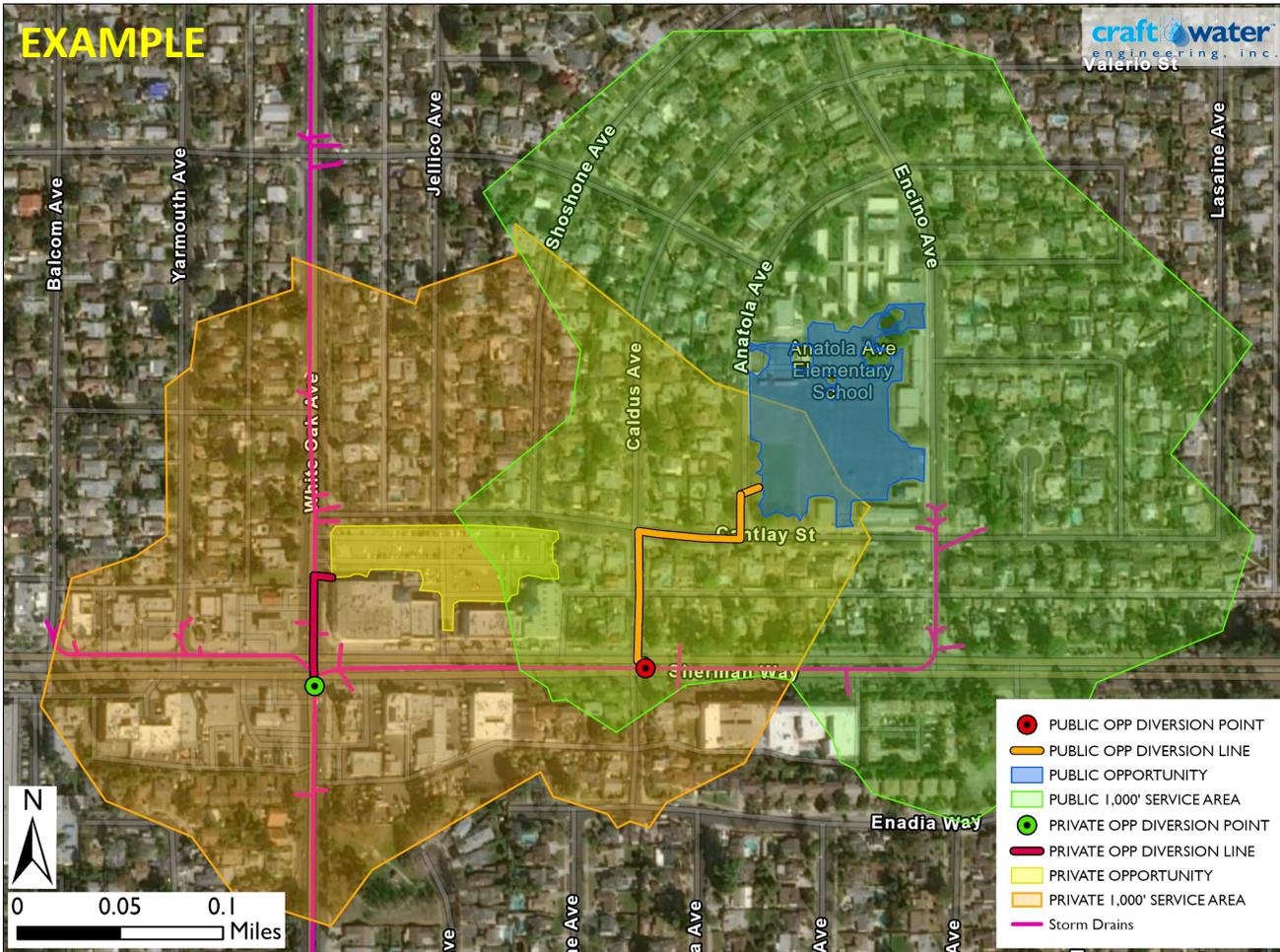
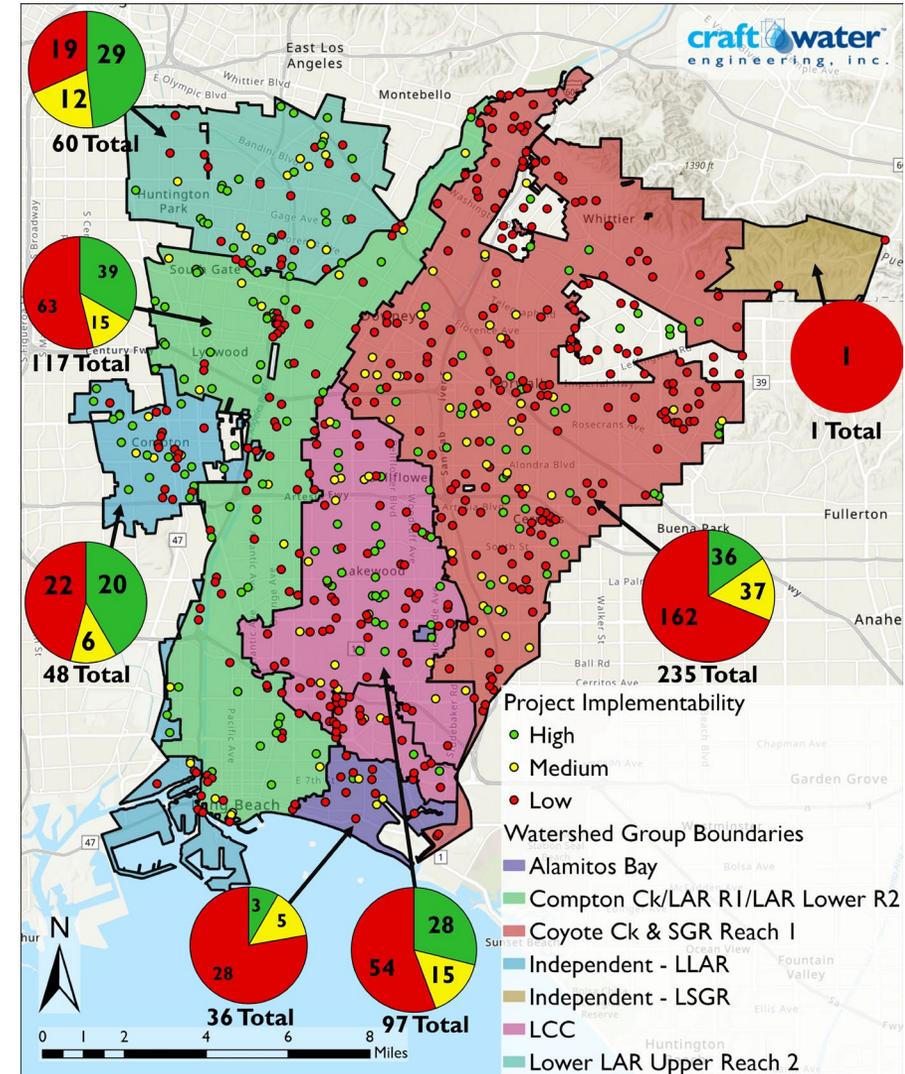
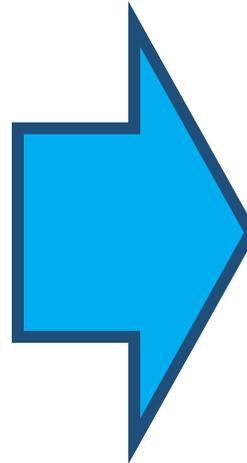
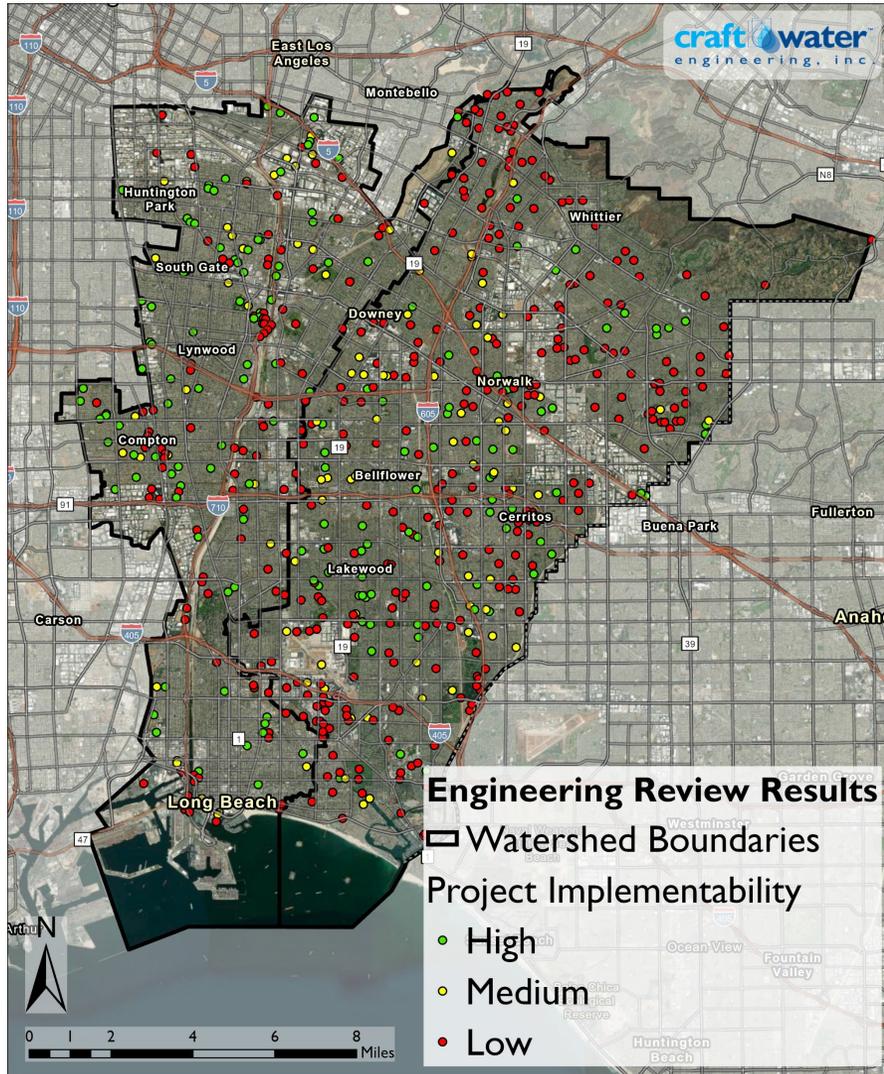


Figure 4-4 Surficial Soil Types, Groundwater Basins, and Potential Regional BMP Sites

Task I: New Projects



Task I: Engineering Review



Task I: Potential Project Dashboard



GAP Project Dashboard



Legend

GAP Watersheds

Project Locations

Project Status

- GAP-Identified Opportunities
- Planning
- Design
- Existing

DAC Boundaries

City Boundaries

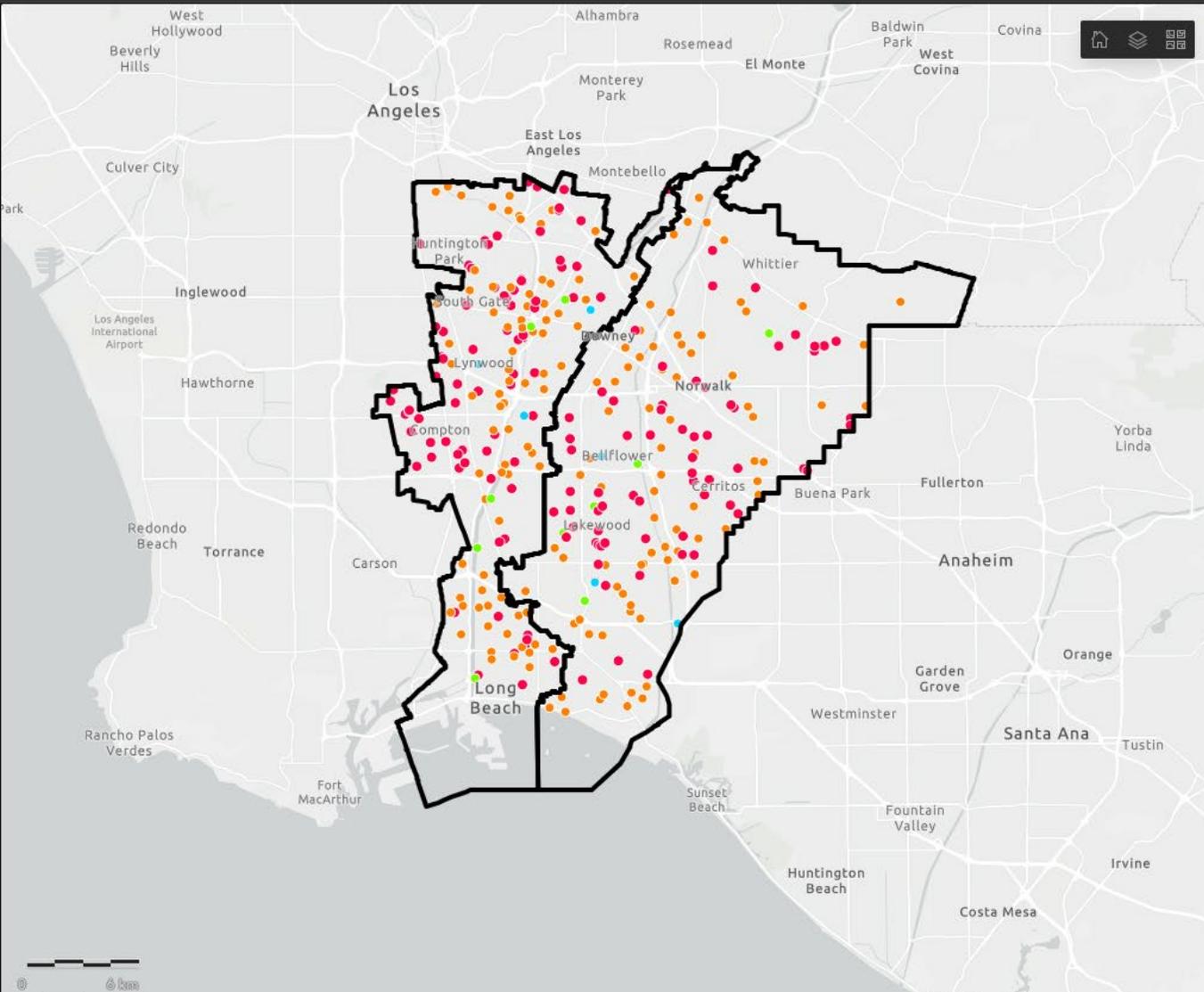
Project Drainage Areas

Project Status

- GAP-Identified Opportunities
- Planning
- Design
- Existing

Parcel-Scale Bioretention Opportunity

RG_Density



Total Count of Projects

320

Number of projects in current field of view

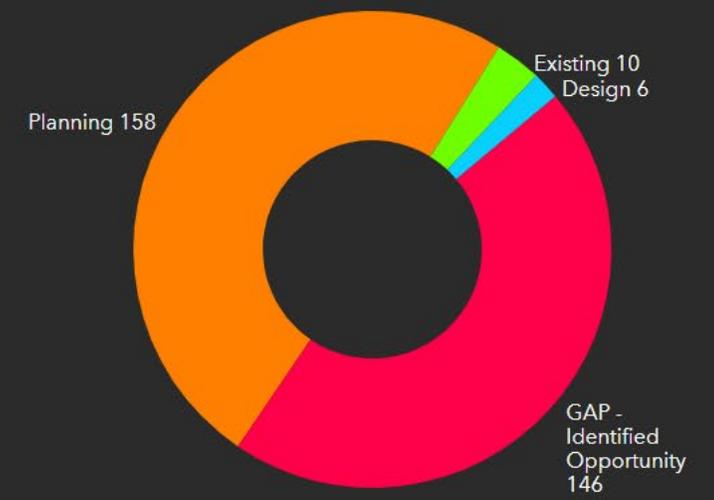
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Total Bioretention Opportunity

15k

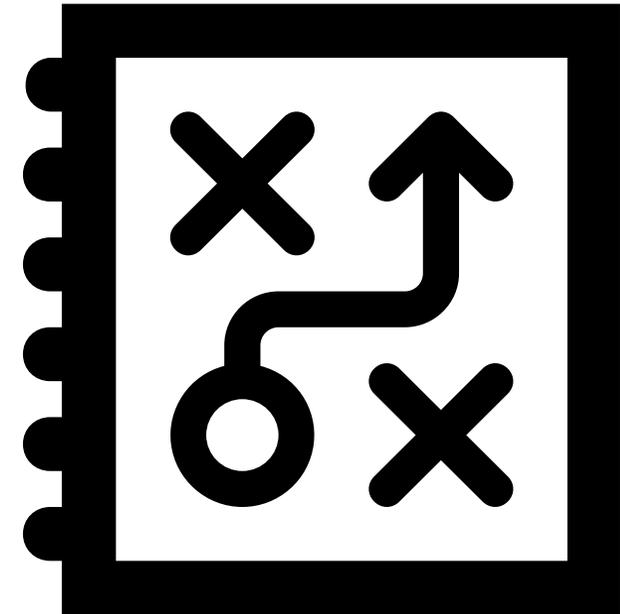
Acres of opportunities in current field of view

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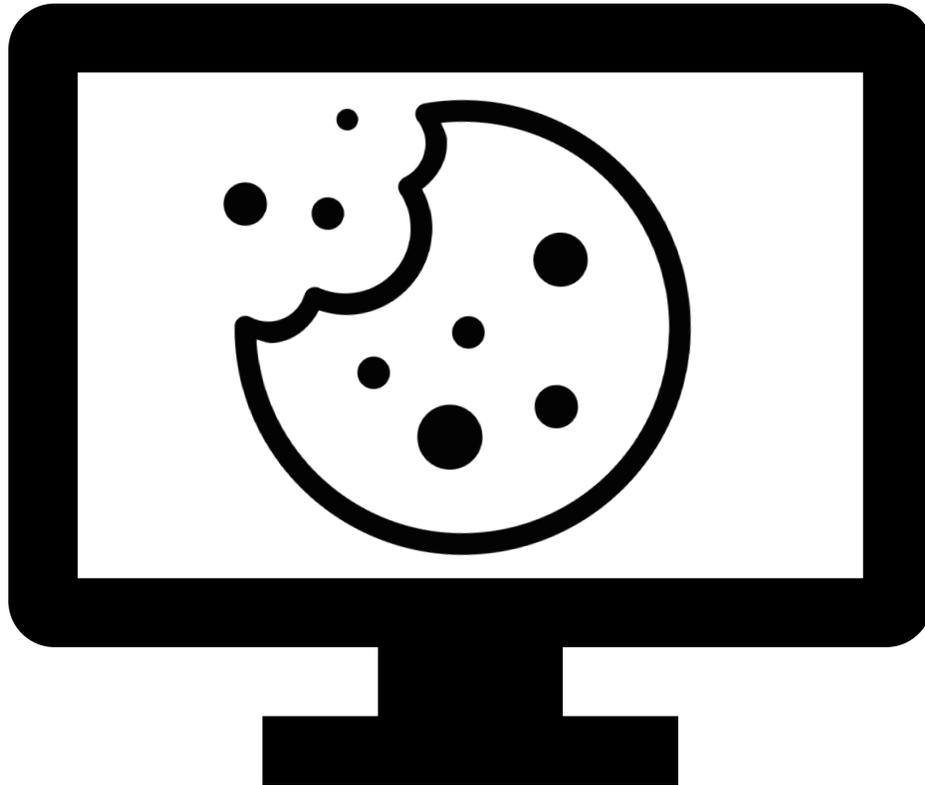


Next Steps

-  **Task 2:** Model Interactions and Scoring
-  **Task 3:** Cross-Reference with Watersheds Management Programs
-  **Task 4:** Stormwater Investment Plan Recommendations



Long-Term Considerations



PHASE 3?

- Platform/tool for adapting pathways
- Routine evaluation of newly proposed SCWP projects



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