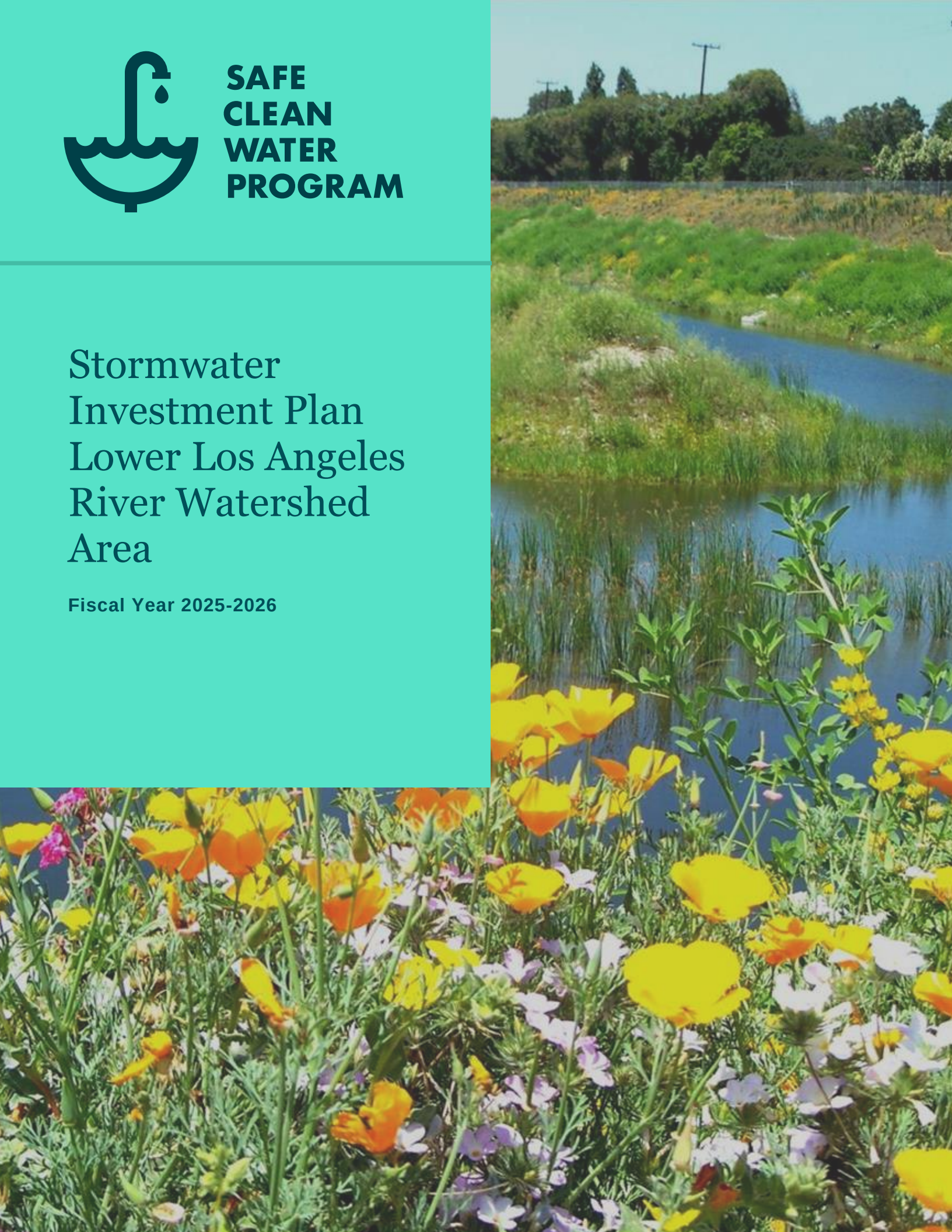
SAFE CLEAN WATER PROGRAM

Stormwater Investment Plan Lower Los Angeles River Watershed Area

Fiscal Year 2025-2026



SAFE CLEAN WATER PROGRAM

Stormwater Investment Plan
Lower Los Angeles River Watershed Area

The Stormwater Investment Plan (SIP) is an annual five (5) year plan developed by each Safe, Clean Water Program (SCWP) Watershed Area Steering Committee (WASC) that recommends funding allocations for Projects and Programs in the Regional Program's Infrastructure Program, Technical Resources Program, and Scientific Studies Program.

The purpose of the SIP is to capture recommended programming for the upcoming fiscal year as well as anticipated recommendations for the next four subsequent years.

The following sections include details regarding the recommended SIP:

Attachments:

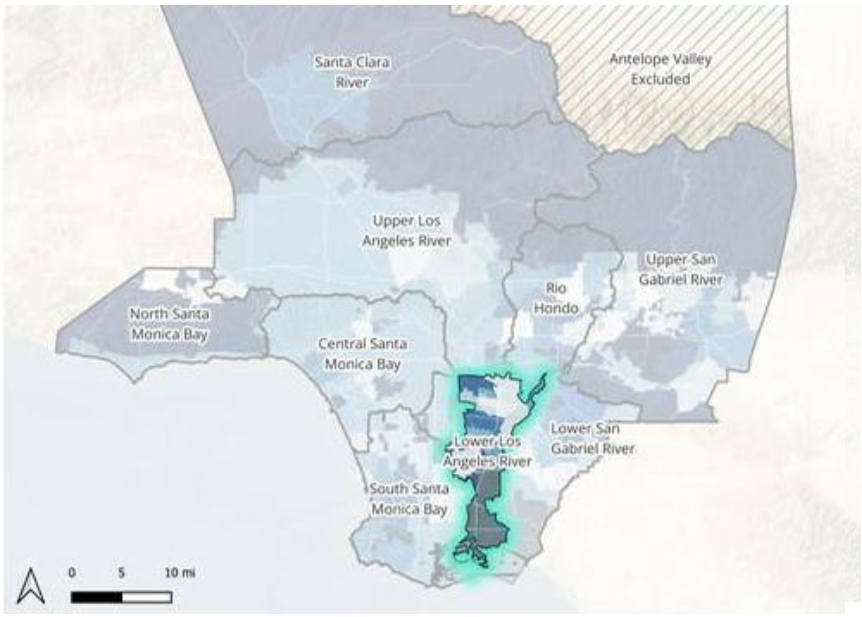
- Attachment A – Final Recommended SIP
- Attachment B – Summary to Date
- Attachment C – Project Modification Requests Forms

Please review the recommended SIP and select one of the following:

	Regional Oversight Committee (ROC) concurs with the recommended SIP as-is
	Refer to ROC meeting minutes for comments

Lower Los Angeles River Watershed Area Background

The Lower Los Angeles River (LLAR) Watershed Area is located in the southern portion of Los Angeles County, including much of the Gateway Region, and is within LA County Supervisorial Districts 2 and 4. The watershed overlies the Central groundwater basin and a small portion of the West basin, and includes the Lower Los Angeles River, which drains to the Pacific Ocean.



Waterways

The main water body is the Lower Los Angeles River, which is approximately 13.3 miles long. Its main tributaries are Compton Creek and the Rio Hondo. Much of the Lower Los Angeles River channel is lined with concrete, except for a soft-bottomed stretch below Willow Street in Long Beach.

Cities & Demographics

The Watershed Area includes 17 municipalities and unincorporated areas of Los Angeles County, including: Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Lynwood, Maywood, Paramount, Pico Rivera, Signal Hill, South Gate, and Vernon. 42 percent of the watershed is a disadvantaged community block group. The median household income of the LLAR watershed ($40,511) is 40.5 percent lower than the Los Angeles County household income.

"The vast majority of the LLAR Watershed Area is covered by roads, buildings, and other paved surfaces; it is approximately 95% developed. The LLAR WASC has allocated a significant portion of its budget and is focused on support for new and continuing projects that are advancing key priorities including school greening, brownfield redevelopment, and water recycling."

– LLAR WASC Co-Chair Madeline Chen

1 Executive Summary

The LLAR WASC requests that the ROC advance the recommended Fiscal Year 2025-2026 (FY25-26) SIP to the Board of Supervisors for approval. The recommended SIP includes funding for one new scientific study (SS), all continuing projects including one Project Modification Request (PMR) with additional funding request, and the Watershed Coordinator. The recommended SIP allocates 98% of available funding in FY25-26 (Table 1-1).

The included Projects were selected based on information drawn from applications and proponent presentations, and robust discussion of Project benefits, anticipated future funding requests, and available funding. The recommended SIP addresses the required funding thresholds including ratio of funding allocated to Infrastructure Program (IP) Projects, Technical Resources Program (TRP) Project concepts, and SS (Table 4-1) and the required disadvantaged community benefits ratio of 67% (Table 4-2).

During deliberations, the WASC discussed that a higher funding allocation for FY25-26 and FY26-27 will result in limited available funding for new and ongoing Projects that may return for construction and O&M costs in the future, particularly given that many ongoing Projects are currently only funded for design.

Three key topics were the focus of the WASC:

- The WASC discussed the 80% funding allocation recommendation and reflected that previous SIP decisions made it difficult to meet this goal.
- Considering the most useful and effective studies while recognizing the need to retain future funding flexibility.
- Significant discussion about one project modification request. Due to a pause in IP project funding requests this year, the project submitted a PMR to cover O&M costs. The PMR Project Developer confirmed abilities to use municipal funds to cover costs due to limitations with WASC funding availability.

During the March 25, 2025 meeting, the WASC voted to approve the recommended SIP with 15 votes in favor, 0 opposed, 0 in abstention, and 2 absent at time of vote. Meeting minutes are available here with in depth summary of the deliberation and vote.

1.1 Summary of Anticipated Benefits

Development of additional project benefit metrics are currently being incorporated through ongoing adaptive management efforts, including updates to the Reporting and Application Modules and Initial Watershed Planning. Based on the best available data, the following anticipated benefits are expected to be created through this SIP:

- Area managed by Projects: 29,387 acres
- Project Storage Capacity: 151 acre-feet
- Annual Average Stormwater Capture: 2,415 acre-feet

A full summary of estimated aggregate benefits for continuing IPs in previously approved SIPs is included in Table 2-1.

Table 1-1 Summary of SIP FY25-26 Allocations

SIP Allocations						
	FY25-26 Budget	FY26-27 Projection	FY27-28 Projection	FY28-29 Projection	FY29-30 Projection	Totals
Anticipated Available Funds[1]	$17.0M	$12.6M	$12.5M	$14.3M	$17.9M	-
Total Allocated to IP	$16.0M	$12.0M	$10.2M	$8.4M	$133k	$46.7M
Total Allocated to SS	$572k	$159k	$80k	$85k	$0	$897k
Total Allocated to TRP	$200k	$200k	$200k	$200k	$200k	$1M
Total Allocation	$16.7M	$12.4M	$10.5M	$8.7M	$333k	$48.6M
Percent Allocated	**98%**	**98%**	**84%**	**61%**	**2%**	**-**

[1]**Anticipated Available funds includes annual regional program funds collected, carryover from previous SIPs, and unused funds returning to the Watershed Area.**

Refer to Attachment A or the SIP tool for the Final Recommended SIP with additional project details.

Below is a summary of the total funding allocated to projects in the recommended SIP, including both new projects and previously approved projects.

1.2 Newly Submitted Projects, Studies, and Concepts

The recommended SIP includes full funding for 1 of the 2 submitted SS. More detail about SS that were considered but not funded is provided in Section 6.

Table 1-2 Summary of New Funding Allocations in Recommended SIP

New Funding Allocations				
Submitted	Included in SIP	Funded project name	Funding Allocations FY25-30	Program
0	0	*(There was no Call for Projects for Infrastructure Program in FY25-26)*		Infrastructure Program (IP)
0	0	*(No TRP were submitted in this watershed area for FY25-26)*		Technical Resources Program (TRP)
2	1	Maximizing Impact of Minimum Control Measures	$270,000	Scientific Studies (SS)
		Data-Driven Resource Optimization and Planning System (DROPS) for Los Angeles County	$0	
2	**1**		**$270,000**	**Total**

1.3 Continuing Projects and Studies

The recommended SIP includes funding for all continuing projects, including 6 continuing IPs, 2 continuing SS, and TRP funding for the Watershed Coordinator. Continuing Project and Scientific Study Developers represent 5 municipalities, 1 university, and 2 agencies. Below is a summary of continuing projects and anticipated total funding remaining between FY25-30. Additional details about anticipated project benefits are included in Table 2-1.

Table 1-3 Summary of Continuing Projects and Studies in Recommended SIP

Continuing Projects, Studies			
Funded project name	Project Developer	Anticipated total remaining FY25-30	Program
Lynwood City Park Stormwater Capture Project	City of Lynwood	$21,700,000	Infrastructure Program (IP)
Spane Park	City of Paramount	$9,356,564	
Long Beach Municipal Urban Stormwater Treatment (LB-MUST) – Phase 2	City of Long Beach	$7,698,310	
Salt Lake Park Infiltration Cistern	City of Huntington Park	$2,200,000	
Furman Park Stormwater Capture and Infiltration Project	City of Downey	$5,402,803	
Urban Orchard Project	City of South Gate	$346,000	
LLAR Watershed Coordinator	Los Angeles County Flood Control District	$1,000,000	Technical Resources Program (TRP)
Identifying Best Practices for Maintaining Stormwater Drywell Capacity	California State Polytechnic University, Pomona	$328,882	Scientific Studies (SS)
Regional Pathogen Reduction Study	Gateway Water Management Authority	$297,990	
Total		**$48,330,549**	

1.4 Project Modification Requests (PMRs)

The LLAR WASC received one consistent PMR and one inconsistent PMR for IP projects, the latter of which requested additional funding. The final SIP recommends no additional funding request.

Table 1-4 Summary of PMR Submissions and Additional Funding Awards

PMR Submissions*				
Project name	Modification Details	Original funding award	Additional funding request	New funding total– WASC approved
Gateway Area Pathfinding Analysis (GAP Analysis) – Phase 2	Consistent – minor schedule change, estimated completion date unchanged	$230,000	$0	$230,000
Long Beach Municipal Urban Stormwater Treatment (LB-MUST) Phase 1	Inconsistent – increased funding request	$10,800,000	$5,000,000 (+46% increase)	$10,800,000 (no additional funding approved)
Total		**$11,030,000**	**$5,000,000 (+45% increase)**	**$11,030,000**

***For more information on PMR's, see Sections 3.1.5 and 3.1.6.**
Consistent – PMR consistent with previously approved SIP
Inconsistent – PMR inconsistent with previously approved SIP

2 Projected Watershed Area Benefits

Below is a summary of the estimated aggregate benefits for Infrastructure Program (IP) Projects included in the approved FY20-21, FY21-22, FY22-23, FY23-24, FY24-25, and recommended FY25-26 SIP.

Table 2-1. Summary of estimated benefits for IP Projects to date.

Number of IP Projects Providing Benefits	
Stormwater Benefits	
29,387.30	Area Managed by Projects (acres)
151.45	Project Storage Capacity (acre-feet)
2,415	Annual Average Stormwater Capture (acre-feet)
5.78	Dry Weather Inflow to Projects (cubic feet per sec)
Primary Pollutant Addressed	
8	Zinc
0	Bacteria
0	Nitrogen
5	Other*
Water Supply Benefits	
7	Connected to Aquifer
1	Sends to WW Treatment Plant for Reuse
5	Uses Water Onsite

Number of IP Projects Providing Benefits	
Community Investment Benefits	
12	Reduces Heat Island Effect
12	Provides Recreational Opportunities
13	Increases Shade and Trees
12	Improves Flood Protection
8	Improves Waterways Access
12	Enhances Habitat or Park Space
5	Enhances Green Spaces at Schools
Nature-Based Solutions	
13	Mimics Natural Processes
13	Uses Natural Materials
Leveraging Funds	
7	Leverages Shared Funds

***Primary Pollutant Addressed does not apply to Dry Weather Projects. Therefore, Dry Weather Projects are categorized as "Other".**

3 SIP Deliberation Process

The Call for Projects for FY25-26 funding ended on July 31, 2024. Facilitated by Los Angeles County Public Works (PW) staff, the WASC held 6 meetings between July 2024 and March 2025, at which they discussed and reviewed all necessary items to ultimately develop their recommended FY25-26 SIP. Refer to the Lower Los Angeles River WASC webpage for the current list of WASC members, meeting dates, and meeting materials. Refer to the Lower Los Angeles River WASC Archive webpage for all past meeting information and materials.

3.1 Summary of Meetings

3.1.1 July 23, 2024

The SCWP Watershed Planning staff facilitated a workshop in which WASC members identified strategies they would like to see implemented through future Projects and Studies to meet SCWP goals in the LLAR Watershed Area.

For more information, refer to the July 23, 2024 Meeting Minutes.

3.1.2 August 27, 2024

The WASC received a presentation by the Gateway Water Management Authority. The presentation provided background on the group and share planning documents as they overlap with the SCWP Watershed Planning efforts.

The WASC received a WASC Roles and Responsibilities presentation that informed new members, and reminded returning members, of their obligations and goals as members of the WASC.

The WASC voted to reselect co-chairs (Asha Kreiling and Madeline Chen).

For more information, refer to the August 27, 2024 Meeting Minutes.

3.1.3 October 22, 2024

The SCWP Watershed Planning staff provided an update on the Initial Watershed Plan Framework and the Community Strengths and Needs Assessment (CSNA)

For more information, refer to the October 22, 2024 Meeting Minutes.

3.1.4 January 28, 2025

The WASC received presentations from the submitted Scientific Study applicants:

- Maximizing Impact of Minimum Control Measures
- Data-Driven Resource Optimization and Planning System (DROPS)

Each applicant was allotted 10 minutes of presentation time with 10 minutes for questions and answers; additional time for presentation or Q&A was accommodated when necessary.

The Watershed Coordinator presented the FY24-25 Q3 Presentation and provided the corresponding report to the SCW website

For more information, refer to the January 28, 2025 Meeting Minutes.

3.1.5 February 25, 2025

The WASC received an overview of the Project Modification Request (PMR) process based on the Project Modification Guidelines. One PMR form was submitted for a previously approved Project and one PMR form was submitted for a previously approved Study. Each PMR form was reviewed by PW staff and determined either consistent or inconsistent with the approved SIP. Ultimately, 1 PMR form was deemed

consistent (Gateway Area Pathfinding Analysis (GAP Analysis) – Phase 2) with the approved SIP, while the 1 was deemed inconsistent (Long Beach Municipal Urban Stormwater Treatment (LB-MUST) – Phase 1). PMRs that were deemed consistent with the approved SIP required no further action from the WASC. PMRs that were determined inconsistent with the approved SIP were returned to the WASC for discussion on inclusion in the pending SIP as described in Section 7 Previously Approved Projects, Project Concepts, and Studies.

The PMR submitted by Gateway Water Management Authority for the Gatweway Area Pathfinding Analysis (GAP Analysis) Phase 2 Scientific Study was deemed consistent by PW staff as their proposed modification was a schedule change that did not impact the funded activity completion date.

The PMR deemed inconsistent was due to an increase in funding requested. The City of Long Beach's *Long Beach Municipal Urban Stormwater Treatment (LB-MUST) - Phase 1*, originally funded for $10.8M, requested an additional $5M. The Project Developer for the PMR requested five years of Operation and Maintenance (O&M) funding at $1M per year. Typically, Project Modification Requests cannot be used to request funds for a phase that was not included in the original application. However, due to the pause in the Infrastructure Program Call for Projects for FY25-26, PW allowed the Project Developer to request one year of O&M funds for the project. The WASC was informed that this inconsistent PMR will be referred to WASC for deliberation and initial funding request of $5M was reduced to $1M for one year of O&M.

The WASC received a Peer Review Summary of FY25-26 Scientific Studies, where CASC Engineering evaluated objectives, technical approaches, and whether each of the Studies met the goals of the SCWP.

- Data-Driven Resource Optimization Planning System (DROPS) – FY25-26 Peer Review Summary
- Maximizing Impact of Minimum Control Measures – FY25-26 Peer Review Summary

For more information, refer to the February 25, 2025 Meeting Minutes.

3.1.6 March 25, 2025

The WASC received a summary and presentation of FY23-24 Quarter 3 and 4 progress and expenditure reports that showcased a more streamlined process for reviewing progress and expenditure reports from continuing Projects and Studies.

The WASC deliberated on the SIP. Ahead of this meeting, PW Staff provided WASC members with a Summary of Resources for FY25-26 LLAR SIP, which included links to all information discussed in meetings that helped them have a robust discussion and make an informed decision. WASC members provided preliminary rankings of the New Studies and PMR under consideration via an online survey. The results are summarized in the tables below and were intended to set a starting point for SIP deliberations.

Table 3-1. Preliminary WASC Scientific Studies rankings

Program	Study Name	Number of Committee Rankings	Points*	Program Place
SS	Maximizing Impact of Minimum Control Measures	9	27	1
SS	Data-Driven Resource Optimization and Planning System (DROPS)	2	4	2

***Note: These values are NOT project scores but rather a weighted representation of the committee's preliminary rankings to help prioritize funding considerations and discussion.**

Table 3-2. Preliminary WASC PMR scores and rankings

Program	Project Name	Number of Committee Rankings	Points*	Program Place
PMR (IP)	Long Beach Municipal Urban Stormwater Treatment (LB-MUST) – Phase 1	9	24	1

***Note: These values are NOT project scores but rather a weighted representation of the committee's preliminary rankings to help prioritize funding considerations and discussion.**

The WASC held an in-depth discussion, which included many follow-up questions of the Study applicants and PMR Developers, and deliberated several different scenarios on the SIP Tool.

For LB-Must – Phase 1, some WASC members expressed concern over the significant increase in funding requested, especially for O&M, which would typically need to apply through the IP application process. WASC members questioned the project developer regarding the potential to partially fund the PMR or identifying leveraged funding opportunities.

Ultimately, the WASC recommended funding the Top Scientific Study based on the preliminary ranking results (Maximizing Impact of Minimum Control Measures). They also decided not to include the additional funding requested for PMR LB-Must Phase 1, citing a lack of available regional program funds available to support the modification and highlighting the importance of leveraged funds for SCWP Projects.

For more information, refer to the March 25, 2025 Meeting Minutes.

3.2 Summary of Public Comment

The WASC received public comments which are available in the WASC meeting minutes on the SCWP website. The WASC did not receive any strong public comments contrary to the SIP or any of the Studies or PMRs under consideration.

4 Infrastructure Program (IP)

4.1 Discussion of Criteria

As noted in previous sections, new IP applications were not accepted for FY25-26. Only continuing IP Projects from previously approved SIP are included in this final recommended SIP. Per LACFCD Code Ch18.07.B.2, the SIPs shall be developed by the WASC in accordance with the criteria described below.

4.1.1 Regional Program Allocations

Compliant with LACFCD Code Ch18.07.B.2.a

Below is a summary of the Regional Program allocations over the 5-year SIP, which includes previously approved projects.

Table 4-1. Regional Program allocations over the 5-year SIP

Funding Program	Total SCWP Funding Allocated FY25-30	Funding Distribution for Subprograms FY25-30*
Infrastructure Program (≥85%)	$46,703,677.40	96.1 %
Scientific Studies (<5%)	$896,872.08	1.5 %
Technical Resources Program (<10%)	$1,000,000.00	1.6 %
Grand Total	$48,600,549.48	

***Note: The funding distribution for the IP is based off of the total funding allocated over the 5-year period. The funding distributions for SS and TRP are based on the total revenue collected for the 5-year period.**

4.1.2 Disadvantaged Communities (DAC) Benefits

Compliant with LACFCD Code Ch18.07.B.2.c.

Based on the total IP funding allocations for the SIP and the ratio of the DAC population to the total population in each Watershed Area, funding for Projects that provide DAC Benefits over the 5-year SIP shall not be less than the value shown below. Below is an overview of Funding Allocated for DACs from FY25-30.

Table 4-2. Funding allocated for DACs over the 5-year SIP

Disadvantaged Community (DAC) Allocation	
Required DAC Ratio	67.4%
Required Funding for DACs FY25-30 (110%)	$34,626,106.42
Funding Allocated for DACs FY25-30	$46,703.677.40

***Note: These figures are based on the 2020 US Census and will be updated periodically.**

As shown, the total SCWP Funds benefiting DACs over a rolling 5-year period for the recommended SIP is greater than the required funding for DACs for this Watershed Area. To better assist with and standardize this determination in the future, the PW staff updated interim guidance for implementing Disadvantage Community Policies in the Regional Program. Interim guidance is available on the SCWP website.

4.1.3 Leveraged Funds and Community Support

Although Infrastructure Program applications were not accepted for FY25-26, Project Developers for continuing projects continue to seek leveraged funding opportunities to complement SCWP funding.

4.1.4 Long Term Planning Considerations

The WASC incorporated long term planning by considering anticipated future construction costs for previously approved projects during SIP development. In the past, future anticipated construction costs were estimated and confirmed by project applicants. This year, an enhanced hypothetical scenario was developed that includes potential construction costs and O&M for projects that have only been funded for design, inflation costs, and a 50% assumption of leveraged funds. Actual future SCW funding requests for construction may differ due to updated project estimates, leveraged funding, awarded grants, or local match.

In addition, the annual O&M projections provided in the Project applications for previously approved Projects were included in the SIP Tool and shown below. The recommended SIP anticipates a total annual O&M cost of $2.1M of the anticipated $12.3M annual Regional Program funds collected and will be accounted for in future SIPs.

Below is a summary of the total funding allocated per year in the recommended SIP, including estimated construction costs for previously approved projects. This represents the theoretical SIP projections based on currently anticipated additional funding requests to cover subsequent phases.

	Budget	Projections					
	FY25-26	FY26-27	FY27-28	FY28-29	FY29-30	TOTAL	Annual O&M
A.1 Anticipated Annual Regional Program Funds Collected	$12.3M	$12.3M	$12.3M	$12.3M	$12.3M	$61.5M	
A.2 Carryover from Previous SIP	$4.7M	$-730.8k	$-11.7M	$-21M	$-26.3M		
A.3. Removed Projects and Unused TRP Funds	$0	$0	$0	$0	$0		
A. Anticipated Regional Program Funds Available (A.1 + A.2 + A.3)	$17M	$11.6M	$621k	$-8.7M	$-14M		
B.1 Total Allocated in Previous SIP(s)	$17.5M	$23.2M	$21.6M	$17.7M	$4.1M	$84M	$2.1M
B.2 Total Recommendation in Current SIP	$270k	$0	$0	$0	$0	$270k	$0
B. Total Allocated and Recommendation in SIP (B.1 +B.2)	$17.7M	$23.2M	$21.6M	$17.7M	$4.1M	$84.3M	Total: $2.1M
C. Carryover in Current SIP (A - B)	$-730.8k	$-11.7M	$-21M	$-26.3M	$-18.1M		
D. Percent Allocated (B / A)	104%	201%	3475%	304%	129%	127%	

Note: This is not the recommended SIP.

A is the sum of Total Anticipated Annual Regional Program Funds Available and B is the sum of Total Recommended in Current SIP and Total Allocated in Previous SIP(s).

C is the Remaining Balance.

Figure 4-1. SIP Tool final funding scenario annual budget, including theoretical construction and O&M costs with leveraged funding for FY25-30.

Refer to the SIP tool or the “Final – 3/25/25 with Potential Future IP Costs” scenario. As shown in the theoretical SIP, other funding sources will be required to bring all projected Projects to completion, and most of the members in the WASC were confident in the Watershed Area’s ability to do so. If unable to do so, the WASC understands they will need to defer the construction of certain Projects to occur in later years.

4.1.5 Other Considerations

As previously noted, the SCWP did not accept any applications for the IP for FY25-26. The only IP Projects included in the SIP are those continuing Projects that were earmarked funds in FY25-30 in previous SIP’s. The WASC had several opportunities to inquire about the status of these Projects. The WASC was presented progress report summaries for these Projects at both the June 25, 2024 and March 25, 2025 meetings. Project Developers were present at both meetings to respond to any questions or concerns from the WASC. For more details on these Projects, see Section 7.

5 Technical Resources Program (TRP)

Per LACFCD Code Ch18.07.D, the purpose of the TRP is to provide Technical Assistance Teams to assist with the development of Feasibility Studies and to provide Watershed Coordinators.

5.1 Submitted and Recommended Project Concepts

There were no Project concepts submitted to the FY25-26 TRP for this Watershed Area. A placeholder to fund one Watershed Coordinator for up to for $200k/year was included in the recommended SIP.

Refer to Attachment A or the SIP Tool for the Final Recommended SIP with additional project concept details.

5.2 Discussion

The WASC did not receive any TRP applications for Project concepts in FY25-26. The WASC recommended funding 1 Watershed Coordinator.

6 Scientific Studies (SS) Program

Per LACFCD Code Ch18.07.E, the purpose of the SS Program is to provide funding for scientific and technical activities.

6.1 Submitted and Recommended Studies

Below is a list of all studies submitted to the FY25-26 SS Program for this Watershed Area. Studies shown in white have been included in the recommended SIP.

Table 6-1. Summary of submitted and recommended Scientific Studies for FY25-26

Project Name	Project Developer	Included in SIP	Total Funding Allocated in this WASC
Data-Driven Resource Optimization and Planning System (DROPS) for Los Angeles County	Foothill Municipal Water District	Not Included	$49,111.00
Maximizing Impact of Minimum Control Measures	Not Yet Decided	Included in SIP	$270,000.00

Refer to Attachment A or the SIP Tool for the Final Recommended SIP with additional SS details.

6.2 Discussion

The WASC received presentations from the Scientific Studies Program applicants during the WASC meeting on January 28, 2025. The District hired CASC Engineering to provide independent, rapid, and unbiased evaluation (summary) of the technical adequacy of each scientific study proposal, which were shared with the project applicants and WASC members. The WASC decided to recommend funding Maximizing Impact of Minimum Control Measures.

7 Previously Approved Projects, Project Concepts, and Scientific Studies

All previously approved Projects, Project concepts, and Studies were evaluated as described above in Section 3 Summary of Meetings and Process.

PW received 2 PMR forms from previously approved Projects and Studies for this Watershed Area. Please refer to the PMR Guidelines for more details.

Below are lists of previously approved Infrastructure Program Projects, Technical Resources Program Project concepts, and Scientific Studies recommended in the SIP

for this Watershed Area. Projects, Project concepts, and Studies that are still active and continuing as previously approved are shown in white.

Table 7-1. Summary of previously approved Infrastructure Program Projects

Project Name	Project Developer	SIP Year	Status of Funded Activity	SCWP Funded Phase(s)	Remaining Funding Request
Long Beach Municipal Urban Stormwater Treatment (LB-MUST) - Phase 1	City of Long Beach	FY20-21	Continuing	Planning, Design, Construction	$0.00
John Anson Ford Park Infiltration Cistern	City of Bell Gardens	FY20-21	Continuing	Planning, Design, Construction	$0.00
Spane Park	City of Paramount	FY21-22	Continuing	Design	$0.00
Furman Park Stormwater Capture and Infiltration Project	City of Downey	FY21-22	Continuing	Design, Construction	$5,402,803
Compton Blvd Et. Al. Project	Los Angeles County	FY21-22	Continuing	Construction	$0.00
Urban Orchard Project	City of South Gate	FY21-22	Continuing	Construction, O&M	$0.00
Lynwood City Park Stormwater Capture Project	City of Lynwood	FY21-22	Continuing	Design	$0.00
Apollo Park Stormwater Capture Project	City of Downey	FY22-23	Continuing	Design	$0.00
Willow Springs Park Wetland Restoration and Expansion Project	City of Long Beach	FY22-23	Continuing	Design	$0.00

Project Name	Project Developer	SIP Year	Status of Funded Activity	SCWP Funded Phase(s)	Remaining Funding Request
Salt Lake Park Infiltration Cistern	City of Huntington Park	FY22-23	Continuing	Planning, Design, Construction	$2,200,000
Spane Park	City of Paramount	FY23-24	Continuing	Construction	$9,356,654
Long Beach Municipal Stormwater Treatment (LB-MUST) – Phase 2	City of Long Beach	FY23-24	Continuing	Design, construction	$7,698,310
Lynwood City Park Stormwater Capture Project	City of Long Beach	FY24-25	Continuing	Construction	$21,700,000

Table 7-1. Summary of previously approved TRP Project Concepts

Project Name	Project Applicant	SIP Year	Status of Feasibility Study	Notes
Lower Los Angeles River Watershed Coordinator	Los Angeles County Flood Control District	FY20-21	Continuing	N/A
Willow Springs Park: Wetland Restoration Expansion	Los Angeles County Public Works	FY21-22	Complete	Submitted to Infrastructure Program FY22-23 and Approved
Parque Dos Rios Bioswale	Watershed Conservation Authority	FY20-21	Withdrawn	

Table 7-3. Summary of previously approved Scientific Studies

Project Name	Project Developer	SIP Year	Remaining Funding Requested	SIP Status
Gateway Area Pathfinding Analysis (GAP Analysis)	Gateway Water Management Authority	FY21-22	$0.00	Complete
Gateway Area Pathfinding Analysis (GAP Analysis) - Phase 2	Gateway Water Management Authority	FY22-23	$0.00	Continuing
Microplastics in LA County Stormwater	Dr. Andrew Gray, University of California Riverside	FY22-23	$0.00	Continuing
Regional Pathogen Reduction Study	Gateway Water Management Authority	FY22-23	$297,990	Continuing
Ground truth: guiding a soils-based strategy for impactful nature-based solutions	Treepeople	FY23-24	$0.00	Continuing
Identifying Best Practices for Maintaining Stormwater Drywell Capacity	California State Polytechnic University, Pomona	FY24-25	$328,882.00	Continuing

8 Next Steps

To best accelerate the effective adaptive management of the SCWP and ensure the most strategic investments going forward, certain new efforts must be prioritized, while certain existing efforts must be modified so that they can proceed according to evolved information, best practices, and tools. Doing so is a critical aspect for advancing the recently adopted County Water Plan's vision of a shared, inclusive, regional path

forward to achieve safe, clean, and reliable water resources sustainably and equitably for Los Angeles County

PW continues to develop guidance documents, as part of adaptive management efforts, to further inform and support the annual SIP development process. Various tools are regularly updated and maintained to assist with the WASC's decision making. PW is advancing regional and watershed-based planning through the development of Initial Watershed Plans and an online planning tool. The Initial Watershed Plans build upon the SCWP's foundation and support future strategic decision making. The plans align with broader regional and local planning efforts; and will establish baseline of benefits, set quantitative targets, and define tailored strategies and opportunities. Committee members, Municipalities, Project and Program proponents and other interested parties will have the opportunity to use the Plans upon their release in early 2026.

The WASC requests the Regional Oversight Committee (ROC) to advance the recommended SIP to the Board of Supervisors for approval.

Next WASC meeting(s):

- June 24, 2025 from 1:00 pm – 3:00 pm (to consider ROC feedback, if available)
- Additional meeting to be scheduled to consider ROC feedback, if necessary.

Attachment A
Final Recommended SIP

Watershed Area	Lower Los Angeles River
Included in SIP?	Yes

Row Labels	Project Lead	DAC	FY 25-26 Budget	FY 26-27 Projection	FY 27-28 Projection	FY 28-29 Projection	FY 29-30 Projection	Anticipated SCW Funding FY 25-30
FY20-21								
Technical Resource			**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$1,000,000.00**
Lower Los Angeles River Watershed Coordinator WC: TBD	**Los Angeles County Flood Control District**	No	$200,000.00	$200,000.00	$200,000.00	$200,000.00	$200,000.00	$1,000,000.00
FY21-22								
Infrastructure Project			**$5,748,803.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$5,748,803.00**
Furman Park Stormwater Capture and Infiltration Project	**City of Downey**	Yes	$5,402,803.00	$0.00	$0.00	$0.00	$0.00	$5,402,803.00
Urban Orchard Project	**City of South Gate**	Yes	$346,000.00	$0.00	$0.00	$0.00	$0.00	$346,000.00
FY22-23								
Infrastructure Project			**$600,000.00**	**$800,000.00**	**$800,000.00**	**$0.00**	**$0.00**	**$2,200,000.00**
Salt Lake Park Infiltration Cistern	**City of Huntington Park**	Yes	$600,000.00	$800,000.00	$800,000.00	$0.00	$0.00	$2,200,000.00
Scientific Study			**$220,810.57**	**$77,179.51**	**$0.00**	**$0.00**	**$0.00**	**$297,990.08**
Regional Pathogen Reduction Study	**Gateway Water Management Authority**	No	$220,810.57	$77,179.51	$0.00	$0.00	$0.00	$297,990.08
FY23-24								
Infrastructure Project			**$8,375,467.00**	**$7,679,407.40**	**$1,000,000.00**	**$0.00**	**$0.00**	**$17,054,874.40**
Long Beach Municipal Urban Stormwater Treatment (LB MUST) - Phase 2	**City of Long Beach**	Yes	$2,964,559.00	$3,733,751.00	$1,000,000.00	$0.00	$0.00	$7,698,310.00
Spane Park	**City of Paramount**	Yes	$5,410,908.00	$3,945,656.40	$0.00	$0.00	$0.00	$9,356,564.40
FY24-25								
Infrastructure Project			**$1,250,000.00**	**$3,522,168.00**	**$8,397,167.00**	**$8,397,167.00**	**$133,498.00**	**$21,700,000.00**
Lynwood City Park Stormwater Capture Project	**City of Lynwood**	Yes	$1,250,000.00	$3,522,168.00	$8,397,167.00	$8,397,167.00	$133,498.00	$21,700,000.00
Scientific Study			**$81,181.00**	**$82,176.00**	**$80,937.00**	**$84,588.00**	**$0.00**	**$328,882.00**
Identifying Best Practices for Maintaining Stormwater Drywell Capacity	**California State Polytechnic University, Pomona**	No	$81,181.00	$82,176.00	$80,937.00	$84,588.00	$0.00	$328,882.00
FY25-26								
Scientific Study			**$270,000.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$270,000.00**
Maximizing Impact of Minimum Control Measures	**Not Yet Decided**	No	$270,000.00	$0.00	$0.00	$0.00	$0.00	$270,000.00
Grand Total			**$16,746,261.57**	**$12,360,930.91**	**$10,478,104.00**	**$8,681,755.00**	**$333,498.00**	**$48,600,549.48**

Attachment B
Summary to Date

Watershed Area	Lower Los Angeles River
Included in SIP?	Yes

Row Labels	Project Lead	DAC	FY 20-21 Budget	FY 21-22 Budget	FY 22-23 Budget	FY 23-24 Budget	FY 24-25 Budget	FY 25-26 Budget	FY 26-27 Projection	FY 27-28 Projection	FY 28-29 Projection	FY 29-30 Projection	Total Anticipated SCW Funding	Total Cost Share
FY20-21			**$9,800,000.00**	**$7,200,000.00**	**$5,000,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$23,400,000.00**	**$34,428,050.00**
Infrastructure Project			**$9,000,000.00**	**$7,000,000.00**	**$4,800,000.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$20,800,000.00**	**$34,428,050.00**
John Anson Ford Park Infiltration Cistern	**City of Bell Gardens**	Yes	$8,000,000.00	$2,000,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$10,000,000.00	$2,500,050.00
Long Beach Municipal Urban Stormwater Treatment (LB MUST) - Phase 1	**City of Long Beach**	Yes	$1,000,000.00	$5,000,000.00	$4,800,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$10,800,000.00	$31,928,000.00
Technical Resource			**$800,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$200,000.00**	**$2,600,000.00**	**$0.00**
Lower Los Angeles River Watershed Coordinator WC: TBD	**Los Angeles County Flood Control District**	No	$200,000.00	$200,000.00	$200,000.00	$200,000.00	$200,000.00	$200,000.00	$200,000.00	$200,000.00	$200,000.00	$200,000.00	$2,000,000.00	$0.00
Parque Dos Rios Bioswale	**Watershed Conservation Authority**	Yes	$300,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$300,000.00	$0.00
Willow Springs Park: Wetland Restoration Expansion	**City of Long Beach**	Yes	$300,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$300,000.00	$0.00
FY21-22				**$5,764,999.00**	**$3,393,664.00**	**$1,346,000.00**	**$4,768,817.00**	**$5,748,803.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$21,022,283.00**	**$19,409,501.44**
Infrastructure Project				**$5,689,999.00**	**$3,393,664.00**	**$1,346,000.00**	**$4,768,817.00**	**$5,748,803.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$20,947,283.00**	**$19,409,501.44**
Compton Blvd Et. Al. Project	**Los Angeles County**	Yes		$300,000.00	$300,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$600,000.00	$4,202,000.00
Furman Park Stormwater Capture and Infiltration Project	**City of Downey**	Yes		$606,386.00	$893,664.00	$1,000,000.00	$4,422,817.00	$5,402,803.00	$0.00	$0.00	$0.00	$0.00	$12,325,670.00	$2,000,000.00
Lynwood City Park Stormwater Capture Project	**City of Lynwood**	Yes		$1,691,629.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,691,629.00	$0.00
Spane Park	**City of Paramount**	Yes		$891,984.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$891,984.00	$0.00
Urban Orchard Project	**City of South Gate**	Yes		$2,200,000.00	$2,200,000.00	$346,000.00	$346,000.00	$346,000.00	$0.00	$0.00	$0.00	$0.00	$5,438,000.00	$13,207,501.44
Scientific Study				**$75,000.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$75,000.00**	**$0.00**
Gateway Area Pathfinding Analysis (GAP Analysis)	**Gateway Water Management Authority**	No		$75,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$75,000.00	$0.00
FY22-23					**$4,748,784.96**	**$1,856,401.00**	**$679,209.54**	**$820,810.57**	**$877,179.51**	**$800,000.00**	**$0.00**	**$0.00**	**$9,782,385.58**	**$6,569,279.12**
Infrastructure Project					**$4,399,783.00**	**$1,533,056.00**	**$400,000.00**	**$600,000.00**	**$800,000.00**	**$800,000.00**	**$0.00**	**$0.00**	**$8,532,839.00**	**$6,500,000.00**
Apollo Park Stormwater Capture Project	**City of Downey**	Yes			$1,699,583.00	$1,133,056.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,832,639.00	$0.00
Salt Lake Park Infiltration Cistern	**City of Huntington Park**	Yes			$1,500,000.00	$400,000.00	$400,000.00	$600,000.00	$800,000.00	$800,000.00	$0.00	$0.00	$4,500,000.00	$6,500,000.00
Willow Springs Park Wetland Restoration and Expansion Project	**City of Long Beach**	Yes			$1,200,200.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,200,200.00	$0.00
Scientific Study					**$349,001.96**	**$323,345.00**	**$279,209.54**	**$220,810.57**	**$77,179.51**	**$0.00**	**$0.00**	**$0.00**	**$1,249,546.58**	**$69,279.12**
Gateway Area Pathfinding Analysis (GAP Analysis) - Phase 2	**Gateway Water Management Authority**	No			$230,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$230,000.00	$0.00
Microplastics in LA County Stormwater	**Dr. Andrew Gray, University of California Riverside**	No			$85,158.75	$86,442.50	$76,150.25	$0.00	$0.00	$0.00	$0.00	$0.00	$247,751.50	$69,279.12
Regional Pathogen Reduction Study	**Gateway Water Management Authority**	No			$33,843.21	$236,902.50	$203,059.29	$220,810.57	$77,179.51	$0.00	$0.00	$0.00	$771,795.08	$0.00
FY23-24						**$9,672,833.00**	**$3,019,086.00**	**$8,375,467.00**	**$7,679,407.40**	**$1,000,000.00**	**$0.00**	**$0.00**	**$29,746,793.40**	**$7,946,280.00**
Infrastructure Project						**$9,456,564.00**	**$2,789,217.00**	**$8,375,467.00**	**$7,679,407.40**	**$1,000,000.00**	**$0.00**	**$0.00**	**$29,300,655.40**	**$7,946,280.00**
Long Beach Municipal Urban Stormwater Treatment (LB MUST) - Phase 2	**City of Long Beach**	Yes				$0.00	$2,689,217.00	$2,964,559.00	$3,733,751.00	$1,000,000.00	$0.00	$0.00	$10,387,527.00	$7,946,280.00
Spane Park	**City of Paramount**	Yes				$9,456,564.00	$100,000.00	$5,410,908.00	$3,945,656.40	$0.00	$0.00	$0.00	$18,913,128.40	$0.00
Scientific Study						**$216,269.00**	**$229,869.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$446,138.00**	**$0.00**
Ground truth: guiding a soils-based strategy for impactful nature-based solutions	**TreePeople**	No				$216,269.00	$229,869.00	$0.00	$0.00	$0.00	$0.00	$0.00	$446,138.00	$0.00
FY24-25							**$579,989.00**	**$1,331,181.00**	**$3,604,344.00**	**$8,478,104.00**	**$8,481,755.00**	**$133,498.00**	**$22,608,871.00**	**$0.00**
Infrastructure Project							**$500,000.00**	**$1,250,000.00**	**$3,522,168.00**	**$8,397,167.00**	**$8,397,167.00**	**$133,498.00**	**$22,200,000.00**	**$0.00**
Lynwood City Park Stormwater Capture Project	**City of Lynwood**	Yes					$500,000.00	$1,250,000.00	$3,522,168.00	$8,397,167.00	$8,397,167.00	$133,498.00	$22,200,000.00	$0.00
Scientific Study							**$79,989.00**	**$81,181.00**	**$82,176.00**	**$80,937.00**	**$84,588.00**	**$0.00**	**$408,871.00**	**$0.00**
Identifying Best Practices for Maintaining Stormwater Drywell Capacity	**California State Polytechnic University, Pomona**	No					$79,989.00	$81,181.00	$82,176.00	$80,937.00	$84,588.00	$0.00	$408,871.00	$0.00
FY25-26								**$270,000.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$270,000.00**	**$0.00**
Scientific Study								**$270,000.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$270,000.00**	**$0.00**
Maximizing Impact of Minimum Control Measures	**Not Yet Decided**	No						$270,000.00	$0.00	$0.00	$0.00	$0.00	$270,000.00	$0.00
Grand Total			**$9,800,000.00**	**$12,964,999.00**	**$13,142,448.96**	**$13,075,234.00**	**$9,247,101.54**	**$16,746,261.57**	**$12,360,930.91**	**$10,478,104.00**	**$8,681,755.00**	**$333,498.00**	**$106,830,332.98**	**$68,353,110.56**

Attachment C
Project Modification Request Forms

ATTACHMENT A: Project Modification Request (PMR) FORM

The purpose of this PMR form is to initiate the Project modification process and provide the District with information necessary to evaluate the Project modification request.

Regional Program	☐Infrastructure Program Project ☑Scientific Studies Program ☐Technical Resources Program
Project/Study Name	Gateway Area Pathfinding Analysis (GAP Analysis) - Phase 2
Project/Study Lead	Gateway Water Management Authority
Watershed Area(s)	Lower LA River and Lower San Gabriel River
Current Project Phase	Study underway
Approved Stormwater Investment Plan Fiscal Year	FY22-23
Transfer Agreement ID (e.g., 2020RPULAR52)	

Has Transfer Agreement or most recent Addendum been executed (i.e., signed by the project lead and the District)? ☑ Yes ☐ No

What type(s) of modification request?

☐ like-for-like modifications
☐ functionally equivalent BMP modifications
☐ modifications to Project or Study components that were not material to the WASC, ROC, or Board's decision to include the Project or Study in the SIP
☐ minor modifications to the budget or schedule of intermediate tasks where the total Funded Activity amount and Funded Activity completion date is unchanged
☐ change in primary or secondary objective
☐ change in Project benefits
☐ change in methodology (e.g., infiltration instead of diversion to sanitary sewer)
☐ decrease in BMP capacity
☐ change in Project or Study location
☐ change in capture area where benefits claimed are diminished or where there is a change in the municipalities that are receiving benefits
☐ updated engineering analysis resulting in a reduction of benefits claimed
☐ increase in Construction Cost or Life Cycle Cost greater than 10%
☐ increase or reallocation of annual funding distribution
☑ change in Funded Activity completion date
☐ other, please describe:

Impact on scope or benefits?

☐ Improved
☑ Neither
☐ Diminished
☐ Not Sure

Description of the proposed modification(s) and the reason(s) why the modification(s) is/are being proposed.

The schedule for Task 1 will be extended through the end of the project to allow for SCWP Quarterly and Annual Report development (included within that task) and to ensure that the Project Library can continue to be adapted throughout the project. There are no anticipated impacts to scope and benefits.

If applicable, list previously approved funding allocations/disbursements and revised funding request:

Note, if some or all of a previously Funded Activity cannot be completed as a result of the proposed modification, please include a description and indicate the amount of unused funds. Any unused funds should be reallocated and accounted for in your revised funding request.

Fiscal Year	Approved Funding Allocations	Revised Funding Request	Description/Phase *If applicable, include description of unused funds*
	NOT APPLICABLE		
Future Funding			
TOTAL			

A: SCWP Approved Total Funding Allocations	
B: Revised SCWP Anticipated Total Funding Request	NOT APPLICABLE
C: Difference between B and A	

If applicable, description of difference in SCWP Anticipated Total Funding Request. As a reminder, annual funding is at the discretion of the WASC, ROC, and ultimately the Board of Supervisors.

Not Applicable

Brief description of Supporting Documentation provided.

Modified Schedule - Attachment A10

I certify the information and supporting documentation provided is accurate and true.	☑ YES
I understand this is a request and it is under the WASC's discretion to consider requested modifications.	☑ YES

Name_____ Organization_____

Signature_____ Date_____

FOR DISTRICT USE ONLY

Proposed Modifications to Projects or Studies:

	Status	Date
Modified Project or Study is **consistent** with the Project or Study included in the current fiscal year's SIP and proposed modifications were **approved** by the District.	☑ YES	1/7/25
Modified Project or Study is **NOT consistent** with the Project or Study included in the current fiscal year's SIP. **If yes, select all that apply**:	☐ YES	
PMR was received **after** October 31 of a fiscal year and the PMR will be considered for approval during the preparation of **subsequent** SIP for the fiscal year after the next	☐ YES	-
For Infrastructure Program Projects, modified Project was sent to **Scoring Committee**. If yes, revised score:	☐ YES	
Project or Study **abandoned** the proposed modifications	☐ YES	
Projector or Study was **withdrawn** from consideration by the WASC and shall issue repayment of unspent funds	☐ YES	
Proposed modifications were **recommended for approval** in the SIP	☐ YES ☐ NO	

Proposed Modifications to Project Concepts:

	Status	Date
Proposed modifications were deemed **consistent** with the Project concept that was approved by the WASC, ROC and Board for inclusion in the SIP and can be addressed within the existing budget. District will proceed to incorporate the proposed modification into the Feasibility Study immediately.	☐ YES	
Proposed modifications were deemed significant enough to result in a **significantly different** Project concept from the one approved by the WASC, ROC and Board for inclusion in the SIP. **If yes, select one:**	☐ YES	
District to **discontinue** work on the Feasibility Study, return unused funds to be programmed in the SIP for the next fiscal year, and advise the proponent to submit the modified Project concept during the Call for Projects for a future fiscal year.	☐ YES	-
District to **abandon** the proposed modifications and proceed with the Project concept included in the SIP.	☐ YES	-

A-10. WORK SCHEDULE AND COMPLETION DATE

Transfer Agreement Guidelines: The Recipient shall submit a detailed schedule, including start and completion dates for all phases and tasks of the scope of work for the Funded Activity. For Funded Activities that will be performed over more than one Fiscal Year, the work schedule must clearly identify the phases and tasks that will be performed in each Fiscal Year.

The original schedule assumed a Notice to Proceed (NTP) of February 1, 2023 for the FY 22-23 SCW Program funding.

Task	Task Name	Original Completion Date	Project Modification Request #1 Modified Completion Date	Project Modification Request #2 Modified Completion Date
1	**Identify and Reconcile Watershed-Wide Opportunities and Reporting**	5/24/2023	1/18/2024	8/29/2024
2	**Model Watershed-Scale Project Interactions and SCWP Scoring**	9/13/2023	5/9/2024	5/9/2024
3	**Cross-Reference Projects with Recipes for Compliance and Plot Initial Path to Clean Water**	11/8/2023	7/4/2024	7/4/2024
4	**Stormwater Investment Plan Recommendations**	1/3/2024	8/29/2024	8/29/2024

ATTACHMENT A: Project Modification Request (PMR) Form

The purpose of this PMR form is to initiate the Project modification process and provide the SCWP with information necessary to evaluate the Project modification request.

Regional Program	☒Infrastructure Program Project ☐Scientific Studies Program ☐Technical Resources Program
Project/Study Name	Long Beach Municipal Urban Stormwater Treatment (LB-MUST) Phase 1
Project/Study Lead	City of Long Beach
Watershed Area(s)	Lower Los Angeles River
Current Project Phase	Construction
Estimated Completion Date of Funded Activity	December, 2024
Approved Stormwater Investment Plan Fiscal Year	FY 20-21
Transfer Agreement ID (e.g., 2020RPULAR52)	2020RPLLAR02

Has the Transfer Agreement or most recent Addendum been executed (i.e., signed by the project lead and the District)? ☒ Yes ☐ No

What type(s) of modification request?

☐ like-for-like modifications

☐ functionally equivalent BMP modifications

☐ modifications to Project or Study components that were not material to the WASC, ROC, or Board's decision to include the Project or Study in the SIP

☐ reallocation of annual funding projections in the SIP, provided that the total amount of Regional Program funding for the Project or Study remains unchanged

☐ change in primary or secondary objective

☐ change in Project benefits

☐ change in methodology (e.g., infiltration instead of diversion to sanitary sewer)

☐ decrease in BMP capacity

☐ change in Project or Study location

☐ change in capture area where benefits claimed are diminished or where there is a change in the municipalities that are receiving benefits

☐ updated engineering analysis resulting in a reduction of benefits

☐ increase in community support

☐ reduction or withdrawal of community support

☐ change in amount or status of leveraged funding

☐ any modification resulting in an increase of the total amount of Regional Program funding for the Project or Study

☒ any modification resulting in a decrease of the estimated total amount of Regional Program funding for the Project or Study

☒ other, please describe:

Funding Request for Operations and Maintenance for years 2-6.

Impact on scope or benefits?

☐ Improved

☐ Diminished

☒ Neither

☐ Not Sure

Description of the proposed modification(s), a comparison to the previously approved Project, and the reason(s) why the modification(s) is/are being proposed. Attach additional pages, as needed.

Requesting $5,000,000 increase in SCWP funding for the LB-MUST Project Phase 1 to support Operations and Maintenance (O&M) costs for years 2 - 6 after project completion.

Throughout the life of the project, the City has faced inflation, supply chain challenges, and the ongoing impact of COVID-19 which have strained the City's resources to support O&M, and we are now struggling to bridge the gap.

Although the project has received significant amounts of cost-share funds, the City continues to evaluate additional funding sources to support long-term operations. Some considerations include internal revenue sources from our Low Impact Development (LID) Program, other municipal allocations, and grants.

Proposal for one year of Operations and Maintenance is provided. O&M costs will run approximately $1 million per year. Currently, the City has allocated $1 million of SCWP Municipal funds for O&M to cover the first year of operations. However, LB-MUST will require ongoing maintenance to perform as an effective stormwater BMP, and subsequent years of funding O&M carry uncertainty at this time. The additional $5 million will ensure the project can operate without disrupting facility operations while allowing the City to identify and secure other sources of long-term funding.

If applicable, list previously approved funding allocations/disbursements and revised funding request:

Note, if some or all of a previously Funded Activity cannot be completed as a result of the proposed modification, please include a description and indicate the amount of unused funds. Any unused funds should be reallocated and accounted for in your revised funding request. Attach additional pages, as needed.

SIP Fiscal Year	Approved Funding Allocations	Increase/ Decrease Requested	Revised Funding Request	Description/Phase/Status *If applicable, include description of unused funds*
FY 20/21	$1,000,000	—	—	Design/Construction
FY 21/22	$5,000,000	—	—	Design/Construction
FY 22/23	$4,800,000	—	—	Construction
FY23/24	—	—	—	Construction
FY 24/25	—	—	—	Construction/O&M
FY 25/26	—	$1,000,000	$1,000,000	O&M
FY 26/27	—	$1,000,000	$1,000,000	O&M
FY 27/28	—	$1,000,000	$1,000,000	O&M
FY 28/29	—	$1,000,000	$1,000,000	O&M
FY 29/30	—	$1,000,000	$1,000,000	O&M
TOTAL	$10,800,000	$5,000,000	$15,800,000	

A: Approved Total Funding Allocations	$10,800,000
B: Revised Estimate of Total Funding from Regional Program	$15,800,000
Regional Program Funds Received to date	$10,800,000
Regional Program Expenditures to date	$10,800,000
Difference between B and A	$5,000,000
Percent change between B and A	46%

Would the additional funding request be the only option that would allow the project to be implemented? Please describe.	☒ YES
The City has allocated approximately $1 million to support O&M efforts for the first year of operations, but have been unable to identify additional funding sources for subsequent years. Having the additional amount will ensure the project operates without any disruptions for years 2 - 6 while other funding sources are sought out.	
Would delaying funding allocations impact the project's ability to be implemented? Please describe.	☒ YES
The City has made significant progress and anticipates project completion in December, 2024. The additional funding will avoid disruption in operations and maintenance of the treatment facility and its ability to meet SCWP goals.	
Would funding only a portion of the additional funding request impact the project's ability to be implemented? Please describe.	☐ YES
Securing the requested $5,000,000 for Operations and Maintenance, would allow the project to be operational for the next six years and ensure the project meets SCWP goals. However, Partial funding is still a valuable option as it will allow us to continue our efforts in finding other potential sources to cover long-term O&M costs. Generally, partial funding will only support operations through the years depending on available budget.	
Has the Recipient considered other funding sources? Please describe. Include type of funding, status, and amount.	☒ YES
We are evaluating internal revenue sources from our Low Impact Developemnt (LID) program, municipal funding,and other grant and funding opportunities. (Include estimated amount, and status).	

If applicable, a description of difference in SCWP Anticipated Total Funding Request. As a reminder, annual funding is at the discretion of the WASC, ROC, and ultimately the Board of Supervisors. Attach additional pages, as needed.

The requested additional funds will ensure the project runs as intended. The project is nearing completion and halting operations due to a lack of funding and ongoing expenses would undermine the progress that has been made so far.
Securing the necessary funds will enable us to sustain our efforts and achieve SCWP that the project promised to deliver.

Brief description of Supporting Documentation provided. Please include any documentation needed to support benefits claimed by the modified Project or Study and confirm compliance with the Feasibility Study Guidelines.

1. Years 1 - 6 O&M Cost Estimate
2. O&M Proposal -Year 1

Contact information of persons who should be included in correspondence with the SCWP regarding this Project or Study. Attach additional pages, as needed.

Name	Title	Email Address
Colin Averill	Stormwater Division Manager	colin.averial@longbeach.gov
Cecilia Salazar	Environmental Specialist A.	cecilia.salazar@longbeach.gov

I certify the information and supporting documentation provided is accurate and true.	☒ YES
I certify the modified Project complies with all requirements described in the Feasibility Study Guidelines.	☒ YES
I understand this is a request and it is under the WASC's discretion to consider requested modifications.	☒ YES

Name Colin Averill Organization City of Long Beach Public Works

Signature Colin Averill Date 10/31/2024

FOR SCWP STAFF USE ONLY

Proposed Modifications to Projects or Studies:

	Status	Date
Scope/benefits of the modified Project or Study is **consistent** with the Project or Study included in the current fiscal year's SIP and proposed modifications were **approved** by the SCWP.	☐ YES	
Scope/benefits of the modified Project or Study **requires reapproval in the SIP**. **If yes, select all that apply**:	☑ YES	
Budget/schedule modifications would impact future SIP funding allocations. **If yes, select all that apply**:	☑ YES	
PMR was received **after** October 31 of a fiscal year and the PMR will be considered for approval during the preparation of **subsequent** SIP for the fiscal year after the next	☐ YES	-
Project or Study **abandoned** the proposed modifications	☐ YES	
Projector or Study was **withdrawn** from consideration by the WASC and shall issue repayment of unspent funds	☐ YES	
Proposed **scope/benefit** modifications were **recommended for approval** in the SIP	☐ YES ☐ NO ☐ N/A	
Modifications to the Project or Study's **funding allocations** were **recommended for approval** as identified in the SIP	☐ YES ☐ PARTIAL ☐ NO	

Proposed Modifications to Project Concepts:

	Status	Date
Proposed modifications were deemed **consistent** with the Project concept that was approved by the WASC, ROC and Board for inclusion in the SIP and can be addressed within the existing budget. SCWP staff will proceed to incorporate the proposed modification into the Feasibility Study immediately.	☐ YES	
Proposed modifications were deemed significant enough to result in a **significantly different** Project concept from the one approved by the WASC, ROC and Board for inclusion in the SIP. **If yes, select one:**	☐ YES	
SCWP staff to **discontinue** work on the Feasibility Study, return unused funds to be programmed in the SIP for the next fiscal year, and advise the proponent to submit the modified Project concept during the Call for Projects for a future fiscal year.	☐ YES	-
SCWP staff to **abandon** the proposed modifications and proceed with the Project concept included in the SIP.	☐ YES	-

Public Works - Project Funding / Budget Form (Blue Sheet)

Project Number:	3006040002 O&M	Meeting Date: 5/20/2024
Project Name:	LB-MUST O&M	Attendees: Colin A, Sophia M, Cecilia S.
Project Manager:	Colin Averill	
Administrative Analyst:	Sophia Meng-Chhom	
Estimated Start Date	1/1/2025	
Estimated End Date	12/31/2030	

Project Description:

LB-MUST O&M costs year 1-6.

Funding:

Sources:	Grant #	Amount
Measure W Municipal	FY24/25	$1,000,000
	Total	$1,000,000.00

Uses of Funds (include staff time):	Amount
Year 1 O&M	$ 972,780.00
Year 2 O&M	$ 837,760.00
Year 3 O&M	$ 837,760.00
Year 4 O&M	$ 837,760.00
Year 5 O&M	$ 837,760.00
Year 6 O&M	$ 837,760.00
Contingency	$ 400,000.00
Program Management	$ 300,000.00
Subtotal:	5,861,580.00
CIP Overhead (2.5% of the Subtotal):	146,539.50
Estimated Total:	6,008,119.50
Revenue less Budget:	-$5,008,119.50

Stantec Consulting Services Inc.
9797 Aero Drive, Suite 310
San Diego, CA 92123

May 20, 2024

Colin Averill, PE
Senior Civil Engineer
City of Long Beach
Engineering Bureau
411 W. Ocean Blvd., 5th Floor
Long Beach, CA 90802

Via Email: Mr. Colin Averill, PE, Colin.Averill@longbeach.gov

Reference
Proposal – LB MUST Final Design Change Order No. 4 – Amended for Additional Services

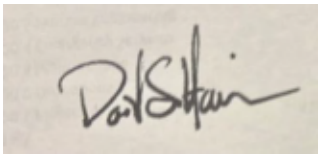
Dear Mr. Averill:

Stantec is pleased to submit Change Order No. 4, which has been amended for additional services for Final Design related to the Long Beach Municipal Urban Stormwater Treatment Project (LB-MUST).

Stantec appreciates the opportunity to submit this Proposal on this important project for the City of Long Beach. Should you have any questions, please do not hesitate to contact Dave Harrison at 626.568.6110, david.harrison@stantec.com or Ed Othmer at 619.279.3682, Ed.Othmer@stantec.com.

STANTEC Consulting Services, Inc.

Ed Othmer, PE, CPESC, CPSWQ, QSP/D ToR, QISP ToR, ENV SP
Project Manager



David Harrison, PE, DEE
Senior Program Manager

Statement of Understanding

This Project will create a facility that will treat urban runoff before it enters the LA River. Water traveling through the City's storm drain system contains a series of pollutants, including bacteria, hydrocarbons, metals, and trash. While the City does provide trash screening at its various pump stations, there is currently no method of treatment for any other pollutants. The proposed LB-MUST facility will meet the Federal and State compliance regulations that mandate cleanup of the LA River and will be in accordance with the City's National Pollutant Discharge Elimination System (NPDES) permit. The LB-MUST Project will improve the water quality within the LA River, the LA River estuary, and the City's beaches. In addition to water quality improvement, the Project will incorporate educational features to inform the public of the Project benefits.

The goal of the LB-MUST Project is to provide a significant improvement to water quality, which will in turn benefit aquatic life and recreational beach activities. By intercepting, diverting, and treating the dry weather urban runoff and the first flush of rainwater runoff, the facility will reduce and/or eliminate pollution that would otherwise discharge into the LA River and spread into City beaches and ocean waters. The alternative water byproduct of the LBMUST Facility will help create and sustain the proposed wetlands riparian habitat, which will function as a retention basin.

The alternative water will supplement potable water for the irrigation of parks.

The purpose of this change order is to provide additional tasks related to the final design and construction services for the treatment facility, wetland, conveyance system, and new facilities at an adjacent parcel.

It is anticipated that these services will extend for a period of 12 months from the date of Notice to Proceed to provide the services. Tasks 20 and 21, described below and in the Attachments to this Change Order proposal shall fully define the scope of work to be performed by Stantec under this Change Order.

Scope of Work

Tasks 1 through – 19

No changes.

Task 20 – Facility Startup and Optimization

Stantec will startup, operate, optimize, and maintain the brackish water train of the LB MUST treatment facility using flow from pumps located at manhole SD-02. Flow from this storm drain manhole is intermittent; it ranges from 0 to 150 gpm depending upon dry weather flow amounts and periodic rainfall. The brackish water train consists of a cartridge filter and a *Purifics* Ceramic Ultrafilter (CUF) module. Stantec will also operate and maintain the LID lift station which consists of two submersible pumps. The startup and optimization period shall be a maximum of three months from the date of the Notice to Proceed for this work.

The following tasks define the scope of work for the Stantec team with respect to this Change Order.

1 **Project Management:** Stantec will manage specific aspects of the plant Operation & Maintenance (O&M) during the startup and optimization phase of the work. Project Management activities are as follows:

1.1 Project Management will consist of managing all operations, maintenance and engineering personnel working on the project under the Stantec contract. This includes all subcontract personnel and authorized suppliers who are working at the plant performing operations and maintenance activities. Management activities will include the following:

1.1.1 Hire and manage staff with appropriate licenses to operate and maintain the plant in accordance with agreed staffing levels.

1.1.2 Optimize facility operation to meet discharge requirements consistently and efficiently.

1.2 Progress Reports: Stantec will prepare and submit to the City monthly written progress reports that will accompany monthly invoices.

1.3 Monthly Invoicing: Stantec will submit monthly invoices detailing all labor and non-labor costs associated with the contractual efforts to operate and maintain the plant. These invoices will include labor, materials, supplies, and analytical laboratory services.

2 **Manufacturer Training:** Engineering and operations personnel shall participate in a maximum of 80 hours of training provide by equipment manufacturers. This will be on site training at the LB MUST facility.

3 **Operations Optimization**: Engineering and operations personnel will work together to evaluate the performance of the LB MUST facility and determine operational protocols that produce the required effluent quality in an efficient and effective manner. These protocols will be incorporated into Task 21 – 1.1.2 - Standard Operating Procedures. Operations staffing during the three-month Operations and Optimization period shall be a maximum of 5 days per week, 7 hours per day.

4 **Maintenance:** Stantec shall provide routine maintenance for all process equipment and systems that are part of the brackish water operation. Stantec shall provide two days per month (7 hrs/day) of maintenance technician's time to provide routine maintenance activities. This shall include:

4.1 Schedule, perform and document routine recommended maintenance work. This includes routine recommended or industry standard maintenance work on idle equipment to maintain good working condition for future use (e.g. pump rotation, lubrication, and other manufacturer-recommended on all equipment at the LB MUST facility).

4.2 Maintain and repair equipment in accordance with manufacturer recommendations.

4.3 Stantec team shall provide maintenance services to keep the operating facility clean and free of trash. Standard weekly trash service will be provided by City via dumpster or bin(s).

5 **Process Chemicals:** Stantec shall procure, store and feed process chemicals into the brackish water treatment system in accordance with Standard Operating Procedures for this system. Details of expected chemical requirements and dosing rates are shown in Attachment No. 1. Any expired process chemicals shall be disposed of and handled in accordance with applicable regulations.

6 **Sampling & Analysis:** Stantec shall arrange for sample collection and laboratory analysis as detailed in Attachment No. 2, Table 2.1. This will include:

- Collection of samples in appropriate containers provided by the analytical laboratory or meeting the requirements of the analytical laboratory.
- Proper storage and transport of the samples to the analytical laboratory.
- Inclusion of sampling results in Monthly Reports.
- Evaluation of sampling results and recommendations for any additional sampling to support plant operations and maintenance.

Task 21 – Facility Operation, Maintenance, Monitoring, and Reporting

Stantec will operate and maintain the brackish water train of the LB MUST treatment facility using flow from pumps located at manhole SD-02. Flow from this storm drain manhole is intermittent; it ranges from 0 to 150 gpm depending upon dry weather flow amounts and periodic rainfall. The brackish water train consists of a cartridge filter and a *Purifics* Ceramic Ultrafilter (CUF) module. Stantec will also operate and maintain the LID lift station which consists of two submersible pumps.

1 **Project Management:** Stantec will manage specific aspects of the plant Operation & Maintenance

(O&M) activities as follows:

1.1 Project Management will consist of managing all operations, maintenance and engineering personnel working on the project under the Stantec contract. This includes all subcontract personnel and authorized suppliers who are working at the plant performing operations and maintenance activities. Management activities will include the following:

1.1.1 Hire and manage staff with appropriate licenses to operate and maintain the plant in accordance with agreed staffing levels.

1.1.2 Develop, review, and maintain the following plans and systems for the LB MUST plant:

1.1.2.1 Safety Program

1.1.2.2 Standard Operating Procedures

1.1.2.3 Spill Prevention Control and Counter Measures Plan

1.1.2.4 Emergency Response Plan

1.1.2.5 Up to date Spare Parts Inventory

1.2 Progress Reports: Stantec will prepare and submit to the City monthly written progress reports that will accompany monthly invoices.

1.3 Monthly Invoicing: Stantec will submit monthly invoices detailing all labor and non-labor costs associated with the contractual efforts to operate and maintain the plant. These invoices will include labor, materials, supplies and analytical laboratory services.

2 Operations: Stantec shall operate the plant to comply with all applicable permits and regulations, including City of Long Beach Department of Health requirements and Los Angeles Regional Water Quality Control Board MS4 Permit (Order No. R4-2021-0105). All CUF blowdown and other waste flows from the plant will be returned to the sewer: these flows must be in compliance with the City of Long Beach Industrial Waste Discharge Permit.

2.1 Operations Staffing: Stantec shall provide one full-time operator defined as 2 or three days per week, 7 hours per day. This staffing level shall be maintained for the duration of the contract.

2.2 Operations Activities: Stantec shall operate the plant in a safe manner consistent with standard industry practices to meet discharge requirements. Operational requirements shall include:

- Set parameters and control systems to optimize treatment plant process control.
- Operate in accordance with manufacturer's recommendations and Standard Operating Procedures developed for the plant.
- Collect all required samples and arrange for an analytical laboratory to perform required analyses of these samples. Stantec shall be responsible for transporting the samples in an appropriate and safe manner to the analytical laboratory. Sampling requirements are as shown in Attachment No. 2.
- Maintain an electronic reporting database of plant operations and maintenance activities and performance. Store all hard copy records of operations and maintenance date at the plant.
- Prepare daily operations logs and daily maintenance logs. Logs will be available at the plant for inspection by the City.

2.3 Sampling Plan: Stantec shall arrange for sample collection and laboratory analysis as detailed in Attachment No. 2. This will include:

i. Collection of samples in appropriate containers provided by the analytical laboratory or meeting the requirements of the analytical laboratory.

ii. Proper storage and transport of the samples to the analytical laboratory.

iii. Inclusion of sampling results in Monthly Reports.

iv. Evaluation of sampling results and recommendations for any additional sampling to support plant operations and maintenance.

2.4 Process Chemicals; Stantec shall procure, store and feed process chemicals into the brackish water treatment system in accordance with Standard Operating Procedures for this system. Details of expected chemical requirements and dosing rates are shown in Attachment No. 1. Any expired process chemicals shall be disposed of and handled in accordance with applicable regulations.

2.5 Health & Safety: Prior to the start of any O&M activities, Stantec shall prepare a Health & Safety Plan suitable for the operation and maintenance of a stormwater treatment facility and shall provide training for all O&M staff on this plan.

3 **Maintenance:** Stantec shall provide routine maintenance for all process equipment and systems that are part of the brackish water operation. Stantec shall provide two days per month (7 hrs/day) of maintenance technician's time to provide routine maintenance activities. This shall include:

- Schedule, perform and document routine recommended maintenance work. This includes routine recommended or industry standard maintenance work on idle equipment to maintain good working condition for future use (e.g. pump rotation, lubrication, and other manufacturer-recommended on all equipment at the LB MUST facility).
- Maintain and repair equipment in accordance with manufacturer recommendations.

Standard weekly trash service will be provided by City via dumpster or bin(s).

4 **Emergency Services:** Stantec shall provide staff to handle any emergency callouts to the plant during non-staffed hours. This includes all hours that the regularly scheduled operations person is not at the plant. The estimated labor required for this effort is 12 hrs/month of an operator's time.

5 **Process Engineering and Regulatory Reporting:** Stantec shall provide the services of qualified process engineers to provide operational support, evaluation of analytical data, and preparation of required monthly regulatory reports. Stantec has estimated the labor effort to prepare the reports noted below and shown in the Cost Estimate for this task. Should additional reporting be required or should the time to complete these reports, as agreed upon with the City of Long Beach, exceed this estimate, then additional compensation may be provided to Stantec. The reporting requirements are estimated at this time to include the following:

5.1.1 Process Optimization: Stantec will optimize the brackish water treatment train to meet discharge requirements as efficiently as possible. The brackish water train is intended to send effluent to the constructed wetland as a Stormwater Best Management Practice. As part of the process optimization work, Stantec will provide recommendations for optimization of the treatment process including chemicals, operational setpoints and flow rates.

5.1.2 Regulatory Reporting: Stantec will prepare performance reports to demonstrate compliance with Los Angeles Regional Water Quality Control Board MS4 Permit (Order No. R4-2021-0105). The frequency of these reports is anticipated to be no more than once per quarter. Additional reports, such as LACSD Industrial Waste discharge report may be required on a semiannual basis.

5.1.3 Grant reporting: Assist in preparation of data for annual reports to support the City's compliance with project grants including the Safe Clean Waer Program and other grants..

ASSUMPTIONS AND EXCLUSIONS

ASSUMPTIONS:

This proposal was based on the following assumptions related to the proposed project:

- Labor estimates are as noted in the Scope of Work above.

- An estimate of $100,000 for emergency repairs is included. The use of these funds would require written authorization from the City of Long Beach.

EXCLUSIONS:

Items not specifically identified in the scope of service sections of this proposal are to be excluded from this work effort and would be considered additional services. Such services would include, but are not limited to, the following:

- Equipment repair or replacement
- O&M labor above the levels noted in the Scope of Work

CITY TO PROVIDE:

- The City of Long Beach will provide the following: water service, electrical power, internet service, and trash service for the operation of the plant and to maintain appropriate environments in the plant area and office areas of the facility.
- The City of Long Beach will provide the maintenance services for the following systems at the plant: HVAC, janitorial, hot water, landscaping, and lighting.

SCHEDULE AND STAFF AVAILABILITY

Stantec will complete these additional services throughout the term of the contract.

PROPOSED COST AND BILLING RATES

Stantec has prepared a detailed cost estimate for the labor and expenses necessary to complete the proposed scope of work and the proposed schedule described in this proposal. A detailed Cost Estimate is provided as a separate file. The total estimated cost for the above scope of work is **$972,780.** Stantec services will be charged on a time-and-materials basis in accordance with the terms and conditions of the Agreement No. 34908 with the City of Long Beach. The schedule of rates presented in Agreement No. 34908, were established for use through March 31, 2026.

City of Long Beach MUST
Cost Estimate - Amendment No. 4
Task 20 Plant Operations and Maintenance
5/20/2024

	Labor Costs									Other Direct Costs						
	Project Mgr/Chief Engineer	Senior Engineer	Engineer	Associate Engineer	O&M Manager	Lead Operator	Operator	Mech/Elect Tech	Emergency Operator	Sampling & Analysis	Maint Mat'ls & Supplies	Process Chemicals	Field Turbidity Meter & composite sampler	Emergency Repairs Allowance	Misc ODCs	TOTAL
	$301	$203	$180	$164	$250	$240	$210	$235	$225							
20 Startup and Optimization																
20.1 Project Mgmt	104		26		8										$2,000	**$39,984**
20.2 Mfr Training	2			80			70	28							$1,000	**$36,002**
20.3 Operations Optimization		208	156			26	455		36				$14,000			**$194,194**
20.4 Maintenance								48			$6,000					**$17,280**
20.5 Process Chemicals												$15,000				**$15,000**
20.6 Sampling & Analysis										$42,000						**$42,000**
																$344,460
21 LB MUST Plant O&M																
21.1 Project Management	144		36	216	140										$9,000	**$129,248**
21.2 Operations						72	850			$9,000		$45,000			$4,500	**$254,280**
21.3 Maintenance								144			$18,000					**$51,840**
21.4 Emergency Services									108					$100,000		**$124,300**
21.5 Process Engineering & Regulatory Reporting		72	144	144	18											**$68,652**
	250	280	362	440	166	98	1,375	220	144							**$628,320**
	$75,250	$56,840	$65,160	$72,160	$41,500	$23,520	$288,750	$51,700	$32,400							
	Stantec	$269,410		WQS	$437,870									**Total**		**$972,780**

Notes: 20.2 - one operator for 2 weeks, 7 hrs/day.
20.3 - full time operator for three months. 5 days/week, 7 hours/day, 39 weeks
20.4 - Mech/Elec techs - 16 hrs/month for three months and maintenance supplies estimated at $2K/month for three months
20.5 - chemicals estimated at $5K/month for three months
20.6 - Optimization sampling at $14K/month for three months

21.1 - includes 100 hours to prepare required plans and manuals per Subtask 21.1.1.2
21.2 - Operational staffing level is one operator, 7 hours/day, three days/week for 39 weeks.
21.3 - sampling/analysis at $2,000/month and chemicals at $5,000/month
21.5 - Regulatory reporting requirements are undefined at this point in time. Estimated time commitment is 16 hrs/month for both Engr and Assoc Engineer plus 8 hrs/month for Sr. Engr.

1.0 CHEMICAL FEED SYSTEM

The chemical feed systems include metering pumps, storage tanks, and chemical injection skids. Chemical storage and pumping equipment are located in the Chemical Room of the Treatment Facility Building. The secondary containment sumps are provided below the room finish floor, covered with grating, with volumes sized in compliance with the International Fire Code (IFC, 2013). Incompatible chemicals are divided by isolation walls and two-hour fire rated walls span the peripheral of the room.

Table 3-2 from the OM&M Plan summarizes the chemical pumping requirements and dosing schedule for each application point. Chemicals are either fed continuously to injection points within the treatment train or fed as needed for cleaning. Continuous dosing is based on a flow-paced dose in milligrams per liter, and cleaning flows are controlled by the skid control panels. Dosing is subject to change based on optimization monitoring (refer to Section 6.1.1 of the OM&M Plan).

Table 3-2. Chemical Pump and Dosing Schedule (from OM&M Plan)

Skid	Chemical	Common Name	Purpose	Application Point	Number of Pumps	Typical Flow (gph)	Strength	Sp. Gr.	Dosing	Dose Range	Lifespan of Supply at Average Dose
6	Calcium Polysulfide (CaS_5)	Calmet	Metals Precipitation	Purifics CUF Feed (CUF Influent)	2 (1 per train)	0.03 to 0.30	29%	1.27	Continuous	1-5 mg/L	78 days for (4) 55-gallon drums
3	Sodium Hypochlorite (NaOCl)	Bleach	Disinfection	Effluent Pumps	1 total	0.03 to 0.25	12.5%	1.22	Continuous	0.5-2 mg/L	92 days
4			Cleaning	Purifics CUF TMP	2 (1 per train)	2.6			Intermittent	N/A	
3			Oxidation	Iron/Manganese Influent	2 (1 per train)	0.03 to 0.58			Continuous	0.5-2 mg/L	
5	Ferric Chloride ($FeCl_3$)	N/A	Coagulation, Organics and Metals Removal	Purifics CUF Feed (CUF Influent)	2 (1 per train)	0.004 to 0.3	40%	2.9	Continuous	0.5-20 mg/L	146 days
7	Sodium Hydroxide (NaOH)	Caustic	Cleaning	Purifics CUF TMP	2 (1 per train)	0.6	50%	1.53	Intermittent	N/A	N/A
1	Sulfuric Acid (H_2SO_4)	N/A	Cleaning	Purifics CUF TMP	2 (1 per train)	0.5	98%	1.84	Intermittent	N/A	N/A
				Purifics Photo-CAT Acid Rinse	2 (1 per train)	0.5			Intermittent	N/A	

Key:
CUF= ceramic ultrafiltration
gph = gallons per hour
mg/L= milligrams per liter
N/A = non-applicable
Sp. Gr. = specific gravity
TMP = trans-membrane pressure

2.0 MONITORING

Described herein are excerpts from the Operation, Maintenance, and Monitoring Plan. These excerpts provide clarity on the specific monitoring that must be performed. Monitoring the LB-MUST Facility will include the following:

1. **Optimization monitoring**. Once the system is installed, optimization monitoring will occur immediately following commissioning to determine optimal performance to achieve water quality goals.
2. **Routine water quality monitoring in compliance with the Safe, Clean Water Program.** The Regional Program Transfer Agreement for the Safe, Clean Water Program requires post-construction stormwater quality monitoring data to be collected and reported in a manner consistent with the State Water Resources Control Board database, the California Environmental Data Exchange Network.
3. **Sanitary sewer discharge monitoring in compliance with the LA County Sanitation Industrial Wastewater Permit**. An Industrial Wastewater Discharge Permit has been approved for the LB-MUST Facility for the sewered flow that includes the filter backwash from treating dry weather flows and stormwater runoff and equipment maintenance cleaning. The approved permit (Permit Number 22538) is included in Appendix U of the OM&M Plan and is active from 9/3/2020 through 9/2/2025.

The following sections provide additional details of each element of the monitoring program. The OM&M Plan shall also be consulted.

2.1 OPTIMIZATION MONITORING

Optimization monitoring shall be performed in accordance with Table 2-1 and Figure 2-1 for a period of a minimum of three months.

Table 2-1. Optimization Monitoring

Monitoring Location		Constituent	Treatment Goal	Analytical Method	Frequency	Sample Method	Submit Results To/ Frequency
Sample Point ID	Description of Location						
CUF_01B CUF_02B	CUF Influent CUF Effluent	Mercury	0.51 µg/L (0.00051 mg/L)	EPA 245.1	2 times per week	Grab	Stantec and City Every 2 weeks
		Total Copper[1]	3.1 µg/L (0.0031 mg/L)	EPA 1638 or 1640	2 times per week	Grab	
		Total Lead	8.1 µg/L (0.0081 mg/L)	EPA 200.7	2 times per week	Grab	
		Total Zinc	81 µg/L (0.081 mg/L)	EPA 200.7	2 times per week	Grab	
		Dissolved Copper[1]	3.1 µg/L (0.0031 mg/L)	EPA 1638 or 1640	2 times per week	Grab	
		Dissolved Lead	8.1 µg/L (0.0081 mg/L)	EPA 200.7	2 times per week	Grab	
		Dissolved Zinc	81 µg/L (0.081 mg/L)	EPA 200.7	2 times per week	Grab	
		Iron	300 µg/L (0.3 mg/L)	EPA 200.7	2 times per week	Grab	
		Manganese	50 µg/L (0.05 mg/L)	EPA 200.7	2 times per week	Grab	
		Total Cadmium	3.1 µg/L (0.0031 mg/L)	EPA 200.7	2 times per week	Grab	
		Total Selenium	5 µg/L (0.005 mg/L)	EPA 200.7	2 times per week	Grab	
		Alkalinity all forms as CaCO3	N/A	SM 2320B	2 times per week	Grab	
		Chloride	N/A	SM 1030E	2 times per week	Grab	
		Total Hardness (as CaCO3)	N/A	SM 2340B	2 times per week	Grab	
		Turbidity	5 NTU	PLC	Continuous	Field meter	
		pH	6.0 to 9.0	PLC	Continuous (at least once per minute)	In situ field meter	
		Flow Rate	N/A	PLC	Continuous (at least once per minute)	In situ field meter	
		TMP	N/A	PLC	Continuous	In situ field meter	
		Temperature	N/A	PLC	Continuous	In situ field meter	
CUF_03B	CUF Loop / Blowdown	pH	6.0 to 9.0	PLC	Continuous (at least once per minute)	In situ field meter	
		Flow Rate	7,500 GPD Daily Average Flow Limit 150 GPM 5-Minute Peak Flow Limit	PLC	Continuous (at least once per minute)	In situ field meter	

1. Copper shall be analyzed according to method 1638 or 1640. The commonly used USEPA method 200.7 (Trace Elements-ICP) has been found to give inaccurate copper readings in saline-matrix samples due to interference with the sodium-argon complex, which has a molecular weight similar to copper. Method 1638 (ICP/MS) or 1640 (On-Line Chelation) will eliminate the sodium-argon complex before the sample is tested for copper. No inaccurate readings for other metals in a saline-matrix sample analyzed by method 200.7 are known.

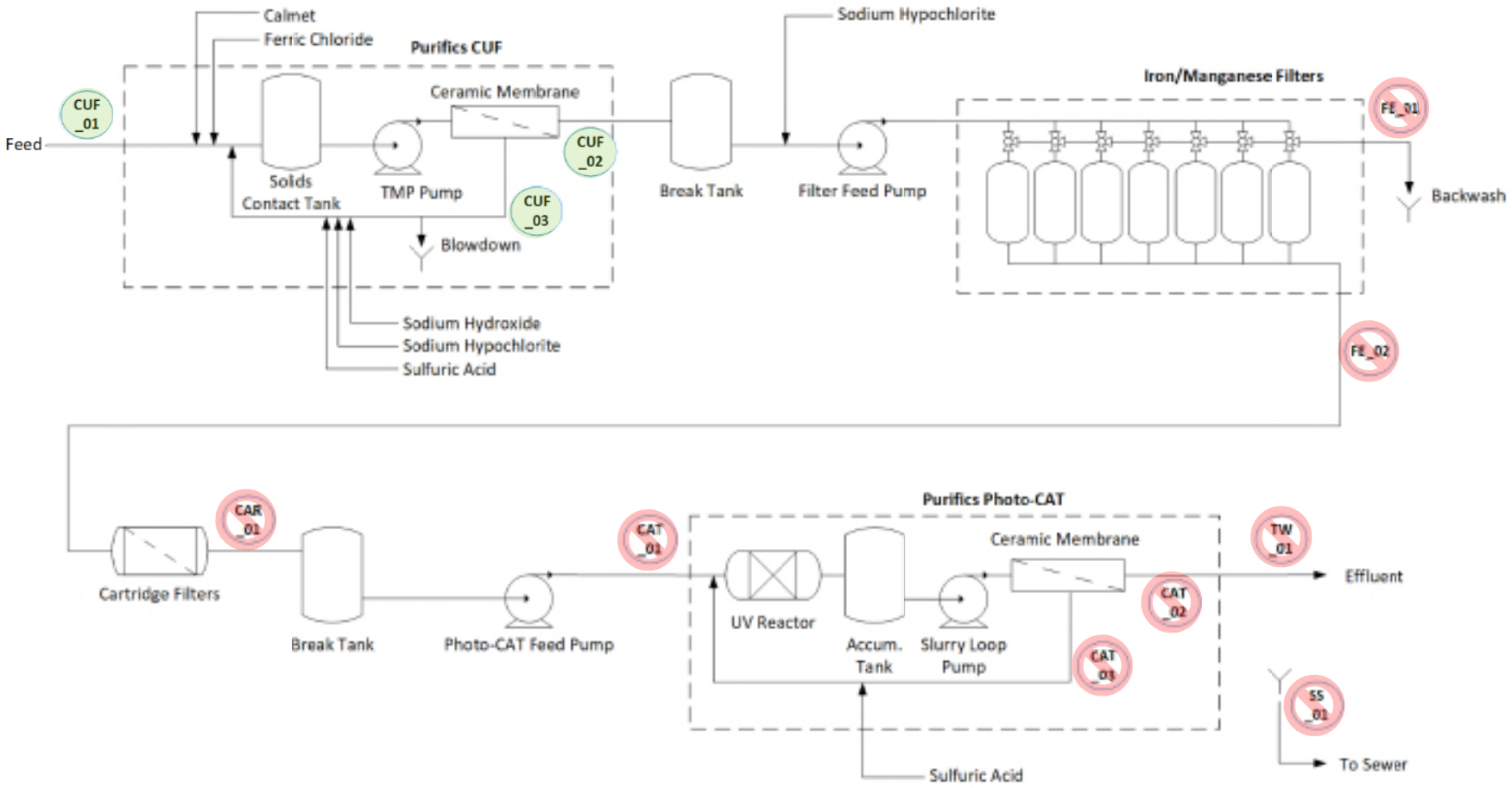


Figure 2-1. Optimization Monitoring Sample Locations

2.2 ROUTINE WATER QUALITY MONITORING

Routine water quality monitoring shall be performed in accordance with Table 2-2 and Figure 2-2 upon completion of the Optimization Monitoring Phase. Monitoring shall be expanded to evaluate the performance of PhotoCat when placed in operation. Monitoring shall be in conformance with the OM&M Plan.

Table 2-2. Routine Water Quality Monitoring

Monitoring Location		Constituent	Treatment Goal	Analytical Method	Frequency	Sample Method	Submit Results To/ Frequency
Sample Point ID	Description of Location						
CUF_01B CUF_02B	CUF Influent CUF Effluent	Mercury	0.51 µg/L	EPA 245.1	Once per month	Grab	Stantec and City Monthly
		Total Copper[1]	3.1 µg/L	EPA 1638 or 1640	Once per month	Grab	
		Total Lead	8.1 µg/L	EPA 200.7	Once per month	Grab	
		Total Zinc	81 µg/L	EPA 200.7	Once per month	Grab	
		Dissolved Copper[1]	3.1 µg/L	EPA 1638 or 1640	Once per month	Grab	
		Dissolved Lead	8.1 µg/L	EPA 200.7	Once per month	Grab	
		Dissolved Zinc	81 µg/L	EPA 200.7	Once per month	Grab	
		Iron	300 µg/L	EPA 200.7	Once per month	Grab	
		Manganese	50 µg/L	EPA 200.7	Once per month	Grab	
		Total Cadmium	3.1 µg/L	EPA 200.7	Once per month	Grab	
		Total Selenium	5 µg/L	EPA 200.7	Once per month	Grab	
		Alkalinity all forms as CaCO3	N/A	SM 2320B	Once per month	Grab	
		Chloride	N/A	SM 1030E	Once per month	Grab	
		Total Hardness (as CaCO3)	N/A	SM 2340B	Once per month	Grab	
		Turbidity	5 NTU	PLC	Continuous	Field meter	
		pH	6.0 to 9.0	PLC	Continuous (at least once per minute)	In situ field meter	
		Flow Rate	N/A	PLC	Continuous (at least once per minute)	In situ field meter	
		TMP	N/A	PLC	Continuous	In situ field meter	
		Temperature	N/A	PLC	Continuous	In situ field meter	
CUF_03B	CUF Loop / Blowdown	pH	6.0 to 9.0	PLC	Continuous (at least once per minute)	In situ field meter	
		Flow Rate	7,500 GPD Daily Average Flow Limit 150 GPM 5-Minute Peak Flow Limit	PLC	Continuous (at least once per minute)	In situ field meter	

1. Copper shall be analyzed according to method 1638 or 1640. The commonly used USEPA method 200.7 (Trace Elements-ICP) has been found to give inaccurate copper readings in saline-matrix samples due to interference with the sodium-argon complex, which has a molecular weight similar to copper. Method 1638 (ICP/MS) or 1640 (On-Line Chelation) will eliminate the sodium-argon complex before the sample is tested for copper. No inaccurate readings for other metals in a saline-matrix sample analyzed by method 200.7 are known.

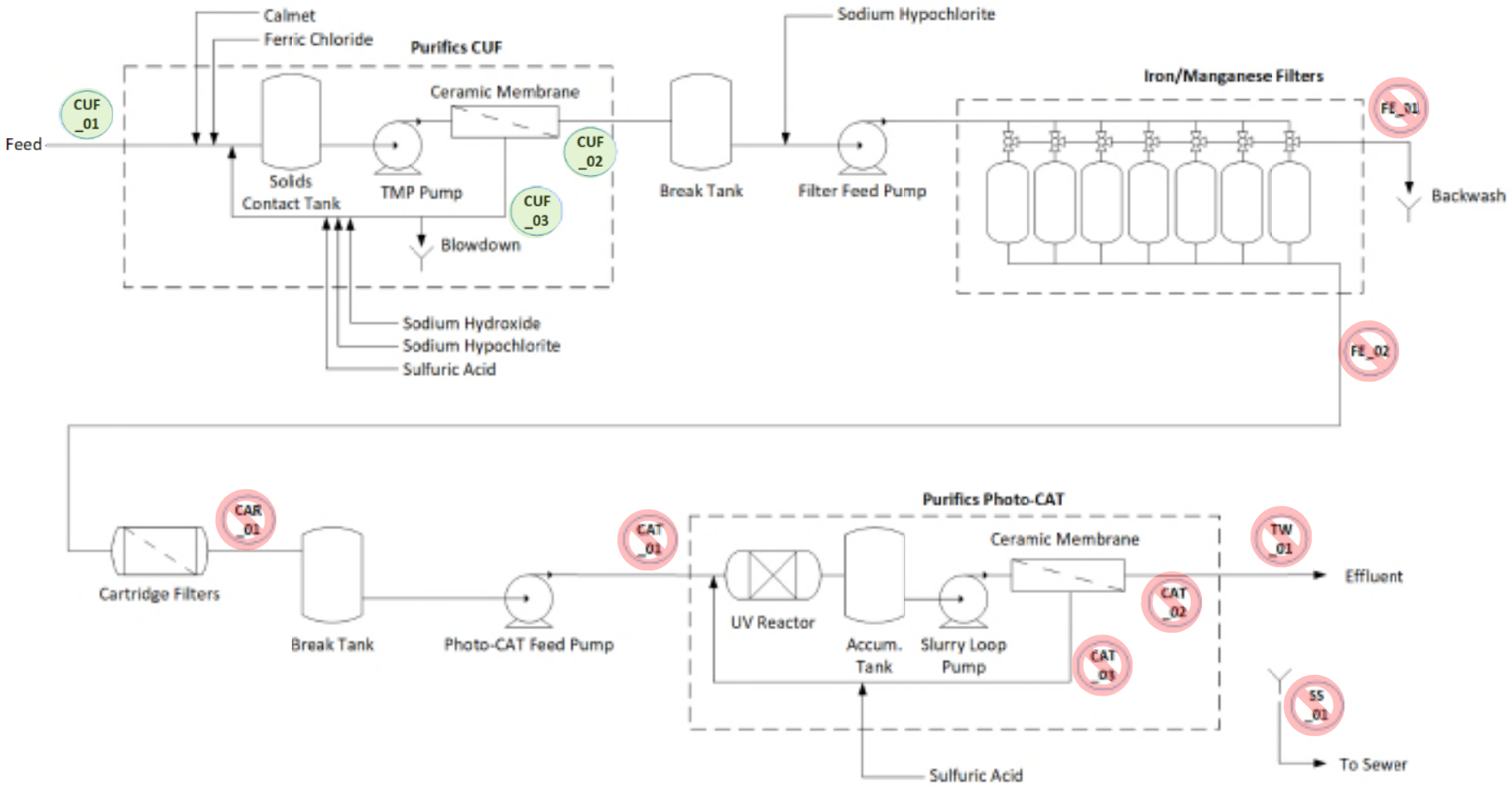


Figure 2-2. Routine Water Quality Monitoring Sample Locations

2.3 SANITARY SEWER DISCHARGE MONITORING

Sanitary sewer discharge monitoring will be performed in accordance with Table 2-3 and Figure 2-3. Monitoring shall be in conformance with the OM&M Plan and the Industrial Wastewater Discharge Permit (Permit Number 22538).

Table 2-3. Sanitary Sewer Discharge Monitoring[1]

Monitoring Location		Constituent	Limit	Analytical Method	Frequency[2]	Sample Method	Submit Results To
Sample Point ID	Description of Location						
SS-01	Sanitary Sewer Discharge at Sampling Box upstream of MH 03-0595	Total Cadmium	15 mg/L	EPA 200.7	Semiannual	24-hr Time-weighted Composite	Stantec and City by: July 1 January 1 Results to be submitted to LA County Sanitation District on agency-provided Self Monitoring Report (SMR) form by: July 15 January 15
		Total Chromium	10 mg/L	EPA 200.7	Semiannual	24-hr Time-weighted Composite	
		Total Chemical Oxygen Demand (COD)	No Limit	EPA 410.4	Semiannual	24-hr Time-weighted Composite	
		Total Copper[3]	15 mg/L	EPA 1638 or 1640	Semiannual	24-hr Time-weighted Composite	
		Total Lead	40 mg/L	EPA 200.7	Semiannual	24-hr Time-weighted Composite	
		Total Nickel	12 mg/L	EPA 200.7	Semiannual	24-hr Time-weighted Composite	
		Oil & Grease	No Limit	EPA 1664A	Semiannual	Grab	
		pH	6.0 Minimum Local 5.0 Minimum Federal	In situ field meter	Semiannual Continuous (at least once per minute)	Grab	
		Total Silver	5 mg/L	EPA 200.7	Semiannual	24-hr Time-weighted Composite	
		Soluble Sulfide	0.1 mg/L	SM 9030B	Semiannual	Grab	
		Total Suspended Solids	No Limit	EPA 160.2	Semiannual	24-hr Time-weighted Composite	
		Total Cyanide	10 mg/L	EPA 335.4	Semiannual	Grab	
		Total Zinc	25 mg/L	EPA 200.7	Semiannual	24-hr Time-weighted Composite	
		Flow Rate	7,500 GPD Daily Average Flow Limit 150 GPM 5-Minute Peak Flow Limit	PLC	Continuous (at least once per minute)	In situ field meter	

1. Per conversation with Los Angels County Sanitation District on December 11, 2023 (562-908-4288, EXT 2916), Surcharge Monitoring is not required.
2. Semiannual Reporting Periods: January 1 – June 30, July 1 – December 31
3. Copper shall be analyzed according to method 1638 or 1640. The commonly used USEPA method 200.7 (Trace Elements-ICP) has been found to give inaccurate copper readings in saline-matrix samples due to interference with the sodium-argon complex, which has a molecular weight similar to copper. Method 1638 (ICP/MS) or 1640 (On-Line Chelation) will eliminate the sodium-argon complex before the sample is tested for copper. No inaccurate readings for other metals in a saline-matrix sample analyzed by method 200.7 are known.

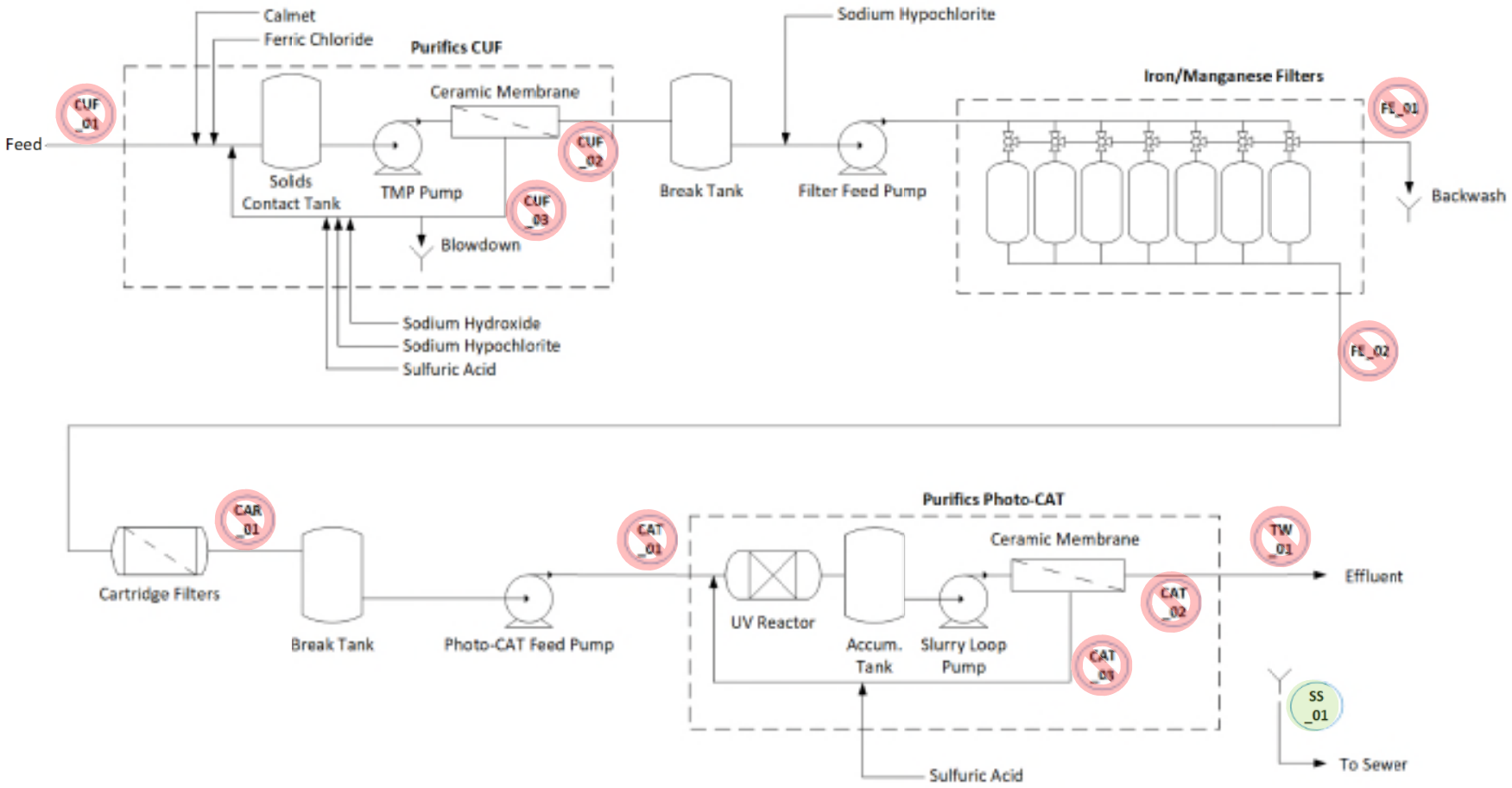


Figure 2-3. Sanitary Sewer Discharge Sample Location