

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	<input checked="" type="checkbox"/> Infrastructure Program Project <input type="checkbox"/> Scientific Studies Program <input type="checkbox"/> Technical Resources Program
Project/Study Name	Encanto Park Stormwater Capture Project
Project/Study Lead	Rio Hondo/San Gabriel River Water Mgt Authority
Watershed Area(s)	Rio Hondo
Current Project Phase	Design
Estimated Completion Date of Funded Activity	9/30/2026
Approved Stormwater Investment Plan Fiscal Year	FY 2020-21
Transfer Agreement ID (e.g., 2020RPULAR52)	2020RPUSGR03

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:

Impact on scope or benefits?

- | | |
|-------------------------------------|---|
| <input type="checkbox"/> Improved | <input checked="" type="checkbox"/> Neither |
| <input type="checkbox"/> Diminished | <input type="checkbox"/> 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.

The Rio Hondo San Gabriel River Water Management Authority (RHSGR WMA) is leading the effort to design and implement the Encanto Park Stormwater Capture Project. Encanto Park is an 11-acre park owned and operated by the City of Duarte, a member of the RHSGR WMA.

The objective of this project is to improve the water quality within the San Gabriel River and enhance the existing park surface features. The primary mechanisms to address water quality will be through runoff/pollutant capture, infiltration, filter, and release.

The Encanto Park SW Project was funded under the Safe Clean Water Regional Infrastructure Program in the amount of \$2.48 Million for both the Design and Construction Phases beginning in FY 2020-21. The Project design is 60% complete, however, due to construction costs escalating since 2020, the project requires additional funding in order to construct this project.

The proposed project modifications are summarized and discussed in detail in the enclosed "Attachment B. Project Modification Request - Supplemental Information."

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 <i>If applicable, include description of unused funds</i>
2020-21	702,860			Design
2021-22	827,000			Construction allocation
2022-23	952,388			Construction allocation
2023-24		0		
2024-25		0		
2025-26		2,527,754	2,527,754	Final Design and Construction
2026-27		2,455,938	2,455,938	Construction
TOTAL				

A: Approved Total Funding Allocations	2,482,248
B: Revised Estimate of Total Funding from Regional Program	7,465,940
Regional Program Funds Received to date	2,482,248
Regional Program Expenditures to date	426,552
Difference between B and A	4,983,692
Percent change between B and A	200%

Would the additional funding request be the only option that would allow the project to be implemented? Please describe.	<input checked="" type="checkbox"/> YES
<p>The RHSGR WMA has pursued grant funding from the Clean CA Local Grant for additional funding but was not selected. The RHSGR WMA has reached out to the Senator Grace Napolitano's Office requesting for Federal support for this project. Federal sources will not provide the funding shortfall required for this project. However, if successful, the RHSGR WMA will use this funding to reduce the request in subsequent SIP discussions/updates. As a result, the additional funding from the Safe, Clean Water Program is the only option for the RHSGR WMA for this project.</p>	
Would delaying funding allocations impact the project's ability to be implemented? Please describe.	<input checked="" type="checkbox"/> YES
<p>Yes, the project design is at 60% complete. The Administrative Draft CEQA document has been completed and under review. The delay in additional funding would delay the ability to construct this project.</p>	
Would funding only a portion of the additional funding request impact the project's ability to be implemented? Please describe.	<input checked="" type="checkbox"/> YES
<p>Yes, partial funding would prevent this project from moving forward.</p>	
Has the Recipient considered other funding sources? Please describe. Include type of funding, status, and amount.	<input checked="" type="checkbox"/> YES
<p>The RHSGR WMA has applied for \$2.5 Million in grant funding from the Clean CA Local Grant for additional funding but was not selected. The RHSGR WMA has reached out to the Senator Grace Napolitano's Office requesting for \$700k in Federal support for this project.</p>	

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.

Not applicable

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.

Attachment B. SCWP Encanto Park SW Project Modification Supporting Information
Attachment C. Detailed Cost Estimate

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
Alex Tachiki	Monrovia Public Works Director	atachiki@ci.monrovia.ca.us
Oliver Galang	Principal, Craftwater	oliver.galang@craftwater.com
Courtney Semlow	Project Manager, Craftwater	courtney.semlow@craftwater.com

I certify the information and supporting documentation provided is accurate and true.	<input checked="" type="checkbox"/> YES
I certify the modified Project complies with all requirements described in the Feasibility Study Guidelines.	<input checked="" type="checkbox"/> YES
I understand this is a request and it is under the WASC's discretion to consider requested modifications.	<input checked="" type="checkbox"/> YES

Name Oliver Galang, PE
Principal, Craftwater

Organization Craftwater on behalf of the City of
Monrovia and the RH/SGR
Watershed Mgt Authority

Signature 

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.	<input type="checkbox"/> YES	
Scope/benefits of the modified Project or Study requires reapproval in the SIP. If yes, select all that apply:	<input checked="" type="checkbox"/> YES	1/17/2025
Budget/schedule modifications would impact future SIP funding allocations. If yes, select all that apply:	<input checked="" type="checkbox"/> YES	1/17/2025
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 <u>after</u> the next	<input type="checkbox"/> YES	-
Project or Study abandoned the proposed modifications	<input type="checkbox"/> YES	
Project or Study was withdrawn from consideration by the WASC and shall issue repayment of unspent funds	<input type="checkbox"/> YES	
Proposed scope/benefit modifications were recommended for approval in the SIP	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
Modifications to the Project or Study's funding allocations were recommended for approval as identified in the SIP	<input type="checkbox"/> YES <input type="checkbox"/> PARTIAL <input type="checkbox"/> 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.	<input type="checkbox"/> 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:	<input type="checkbox"/> 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.	<input type="checkbox"/> YES	-
SCWP staff to abandon the proposed modifications and proceed with the Project concept included in the SIP.	<input type="checkbox"/> YES	-

Attachment B
ENCANTO PARK STORMWATER CAPTURE PROJECT
Project Modification Request - Supplemental Information

This document is provided as a supplemental narrative to ***Attachment A: Project Modification Request Form***.

Project Overview

The Rio Hondo/San Gabriel River Water Management Authority (RHSGR WMA) is a watershed-based coalition of cities working together to implement the Watershed Management Program (WMP). The RHSGR WMA members include the Cities of Arcadia, Bradbury, Duarte, Monrovia, and Sierra Madre. As part of its efforts to implement the WMP, the RHSGR WMA is leading the development of the Encanto Park Stormwater Capture Project in the City of Duarte. The City of Monrovia, on behalf of the RHSGR WMA, submitted this project for design and construction in response to the FY2020-21 Call for Projects.

The primary purpose of this Project Modification Request is to request additional funding for the Encanto Park Stormwater Project since the construction estimate was based on 2019 construction costs and construction costs have escalated significantly in the last 5 years.

The objective of the Encanto Park Stormwater Capture Project is to improve the water quality within the San Gabriel River and enhance the existing park surface features. The primary mechanisms to address water quality will be through runoff/pollutant capture, infiltration, filter, and release.

This stormwater capture project was identified in the Rio Hondo/San Gabriel River WMP is located at Encanto Park in the City of Duarte directly west of the San Gabriel River. Active use parks provide unique opportunities for multi-benefit regional projects because of the large available public space where a subsurface infiltration gallery can be constructed beneath an existing park and then restored back to the same, or better condition. Encanto Park has two large storm drainpipes that converge on the west side of the property before discharging to the San Gabriel River. This project proposes a storm drain diversion to intercept stormwater and convey it to a subsurface infiltration gallery beneath the park that will reduce pollutant loading to the San Gabriel River. This project complements the dry creek and bioretention basin already installed at Encanto Park.

Project Modifications Requested

The following describes the **types of modification requests** identified in Attachment A.

1. Functionally Equivalent BMP modifications

- **BMP Configuration – NO CHANGE.** During the preparation of the Preliminary Design report, the **water quality modeling was updated from WMMS 1.0 to the current WMMS 2.0.** The configuration submitted for the Encanto Park Stormwater Capture remains as a capture, infiltrate, treat, and release facility consisting of a diversion structure, pump station, pretreatment unit, subsurface storage reservoir, and a post-treatment filtration unit to discharge treated water back to the storm drain. The proposed system will treat the 85th percentile flow and volume at this location, providing 80% pollutant load reduction for the primary (zinc) and secondary (lead) pollutants.
- **Project Type – NO CHANGE.** The original project was classified as a **WET Weather** project and the proposed design will remain as a WET WEATHER project.
- **Drainage Area – NO CHANGE.** The drainage area treats a drainage area of 189 acres.

2. Change in amount or status of leveraged funding

Reason: Since the original cost estimate was developed in October 2020, the design has advanced to 60% design development. Construction costs have significantly escalated due to inflation and supply shortages. Additionally, smaller scale regional projects are much more sensitive to cost increases for individual components and manufacturing.

Table 1. Updated Project Cost Table

<i>Phase</i>	<i>Activity</i>	<i>2020 Cost Estimate</i>	<i>Updated Cost Estimate</i>
<i>Design</i>	<i>Professional Design Services (30/60/90/100)</i>	<i>\$ 304,408</i>	<i>\$ 845,158</i>
<i>Design</i>	<i>Environmental Planning and Permitting</i>	<i>\$ 40,588</i>	<i>\$ 84,516</i>
<i>Design</i>	<i>Community Outreach</i>	<i>\$ 33,456</i>	<i>\$ 56,344</i>
<i>Design</i>	<i>Agency Management (Design)</i>	<i>\$ 30,441</i>	<i>\$ 112,688</i>
<i>Construction</i>	<i>Construction Administration</i>	<i>\$ 263,527</i>	<i>\$ 845,158</i>
<i>Construction</i>	<i>Agency Management (Construction)</i>	<i>\$ 30,441</i>	<i>\$ 137,688</i>
<i>Construction</i>	<i>Construction Contract</i>	<i>\$ 2,029,388</i>	<i>\$ 5,634,389</i>
	<i>Total</i>	<i>\$ 2,732,248</i>	<i>\$ 7,715,940</i>

***Note: See Attachment C for Detailed Cost Estimates**

ATTACHMENT C
SCW PROJECT MODIFICATION REQUEST
DETAILED COST ESTIMATE

DESCRIPTION	%	2020 COST ESTIMATE	%	2025-26 COST ESTIMATE	INCREASE	COMMENT
ENCANTO PARK STORMWATER PROJECT, RHSGR WMA						
DESIGN PHASE						
Pre-Design, Design, and Construction Support	15.0%	\$ 304,408	15.0%	\$ 845,158	\$ 540,750	Updated Design Fee and support during construction
Community Outreach during Design	1.5%	\$ 33,456	1.0%	\$ 56,344	\$ 22,888	Updated Outreach budget
Environmental Planning and Permitting	2.0%	\$ 40,588	1.5%	\$ 84,516	\$ 43,928	Updated CEQA budget
Agency Project Management	1.5%	\$ 30,441	2.0%	\$ 112,688	\$ 82,247	RHSGR WMA Management costs
TOTAL DESIGN PHASE COST		\$ 408,893		\$ 1,098,706	\$ 689,813	
CONSTRUCTION PHASE						
CONSTRUCTION COST		\$ 2,029,388		\$ 5,634,389	\$ 3,605,001	Updated Cost Estimate based on current construction cost data and escalation factor
Construction Management	12.0%	\$ 243,527	15.0%	\$ 845,158	\$ 601,632	Estimate based on construction cost
Construction Surveying	1.0%	\$ 20,000		\$ 25,000	\$ 5,000	Updated cost estimate for construction survey
Agency Project Management	1.5%	\$ 30,441	2.0%	\$ 112,688	\$ 82,247	RHSGR WMA Management costs
TOTAL CONSTRUCTION PHASE COST		\$2,323,355		\$ 6,617,235	\$4,293,879	
TOTAL PROJECT BUDGET		\$2,732,248		\$ 7,715,940	\$4,983,692	

ATTACHMENT C
SCW PROJECT MODIFICATION REQUEST
DETAILED COST ESTIMATE

Client: Rio Hondo/San Gabriel River Water Management Authority	Prepared by: PS
Project: Encanto Park Stormwater Capture Project, Duarte	ked by: CS
Status: 60% Cost Estimate	Date: 10/29/2024
Description	Total
Miscellaneous	\$262,623
Storm Drain Diversion, Pretreatment, and Pump Station	\$638,920
Site Preparation and Demolition - Existing Area	\$56,280
Subsurface Storage Reservoir (0.6 AF)	\$932,638
Filter and Outlet	\$509,100
Electrical Service, Controls, Instrumentation	\$468,200
Landscape and Irrigation Modifications	\$583,964
Site Amenities and Improvements	\$79,246
Optional Parking Lot Improvements	\$916,383
	\$120,000
SUBTOTAL	\$4,574,853
	15% Contingency and Escalation \$1,059,536
	Total Construction Costs \$5,634,389
	15.0% Pre-Design, Design, and Construction Support (20%) \$845,158
	1.0% Community Outreach during Design \$56,344
	1.5% Environmental Planning and Permitting (1.5%) \$84,516
	4.0% Agency Project Management (4%) \$225,376
	15.0% Construction Management (15% of construction) \$845,158
	Construction Surveying \$25,000
	Total Soft Costs \$2,081,552
	GRAND TOTAL \$7,715,940

Assumptions and Exclusions
<ol style="list-style-type: none"> 1 This is a rough order of magnitude preliminary opinion of probable construction costs only. Actual costs may vary. 2 The unit cost data is derived from inhouse sources, recent bids on similar construction, and RS Means current construction cost data. 3 This opinion of cost is based on the project program and plans made available at the time of preparation. 4 Material prices are based on current quotations and do not include escalation. 5 This opinion of cost assumes that all improvements will be constructed at one time. 6 Quantity take offs were performed when possible and parametric estimates and allowances are used for items that cannot be quantified at this stage of the design. 7 This opinion has been based on a competitive open bid situation with a recommended 5 - 7 bonafide reputable bids from general contractors and a minimum of 3 bidders for all items of subcontracted work. 8 All unit costs take into account sales tax, general conditions, bonding and insurance, and subcontractor and general contractor overhead and profit. 9 Where applicable, unit costs include the cost of freight.
The following are excluded:
<ol style="list-style-type: none"> 1 Environmental clearances and permits 2 Hazardous spoil disposal, if encountered 3 Property and Right of Way acquisition or easements 4 Legal and accounting fees 5 Plan check, building permit fees 6 Utility Connection Fees 7 Testing and inspection 8 Fire and all risk insurance 9 Removal of unforeseen underground obstructions 10 Relocation of unforeseen subsurface utilities 11 Signage and wayfinding 12 Additional fill or import 13 Loose furniture and equipment 14 Utility connection fees 15 Tel/data system 16 Construction contingency 17 Work done after business hours 18 Design, engineering and consulting fees other than those specifically listed in the above estimate
Items that may affect the cost estimate:
<ol style="list-style-type: none"> 1 Modifications to the scope of work included in this estimate 2 Unforeseen sub-surface conditions 3 Restrictive technical specifications or excessive contract conditions 4 Any other non-competitive bid situations 5 Bids delayed beyond the projected schedule

ATTACHMENT C
SCW PROJECT MODIFICATION REQUEST
DETAILED COST ESTIMATE

Client: Rio Hondo/San Gabriel River Water Management Authority			Prepared by: PS	
Project: Encanto Park Stormwater Capture Project, Duarte			Checked by: CS	
Status: 60% Cost Estimate			Date 10/29/2024	
Description	Qty	Unit	Unit Price	Total
Miscellaneous				\$262,623
Mobilization / Demobilization (5% of Costs)	1	LS	\$262,623.00	\$262,623
Storm Drain Diversion, Pretreatment, and Pump Station				\$638,920
Temporary Diversion	1	EA	\$20,000.00	\$20,000
Drop Inlet Structure w/ Grate	1	EA	\$45,000.00	\$45,000
Wet Well Installation (Includes excavation & shoring)	1	LS	\$110,000.00	\$110,000
Submersible Pumps and Valves (5 cfs)	1	LS	\$250,000.00	\$250,000
Manhole (Includes excavation,backfill & shoring)	1	EA	\$38,000.00	\$38,000
Pretreatment Device (5 CFS) (Includes excavation & shoring)	1	EA	\$110,000.00	\$110,000
Energy Dissipation Structure	1	EA	\$30,000.00	\$30,000
Piping (12-in RCP) from Wet Well (Includes excavation,hauling,backfill & shoring)	75	LF	\$190.00	\$14,250
Piping (18-in RCP) from Wet Well (Includes excavation,hauling,backfill & shoring)	11	LF	\$470.00	\$5,170
Piping (18-in RCP) from Wet Well (Includes excavation,hauling,backfill & shoring)	24	LF	\$375.00	\$9,000
Flap Gate	1	EA	\$5,000.00	\$5,000
Pipe Connection to Underground Infiltration Gallery	1	EA	\$2,500.00	\$2,500
Site Preparation and Demolition - Existing Area				\$56,280
Clearing and Grubbing	63,507	SF	\$0.65	\$41,280
Tree Removal	10	EA	\$1,500.00	\$15,000
Subsurface Storage Reservoir (0.6 AF)				\$932,638
Underground Infiltration Gallery Precast Structures	31,620	CF	\$15.00	\$474,300
12"Gravel bedding	196	CY	\$85.00	\$16,660
Excavation	3,580	CY	\$45.00	\$161,100
Installation	1	LS	\$125,000.00	\$125,000
Backfill and Compaction	2,409	CY	\$50.00	\$120,444
Hauling	1,171	CY	\$30.00	\$35,133
Filter and Outlet				\$509,100
Pipe Connection to Underground Infiltration Gallery	1	EA	\$2,500.00	\$2,500
Piping (12" RCP) to Outfall (Includes excavation,hauling,backfill & shoring)	107	LF	\$190.00	\$20,330
Piping (12" RCP) to Outfall (Includes excavation,hauling,backfill & shoring)	19	LF	\$330.00	\$6,270
Manhole (Includes excavation,backfill & shoring)	2	EA	\$40,000.00	\$80,000
Treatment Filter Unit (2.88 cfs) (includes excavation, hauling, and shoring)	1	EA	\$350,000.00	\$350,000
Flow Meter and Vault	1	EA	\$50,000.00	\$50,000
Junction Structure	1	EA	\$7,500.00	\$7,500
Electrical Service, Controls, Instrumentation				\$468,200
Electrical Service	1	LS	\$100,000.00	\$100,000
Control Panel and PLC Programming	1	LS	\$80,000.00	\$80,000
Conduit & Wiring	1	LS	\$150,000.00	\$150,000
NEMA 4 Junction Box, 6"x6"x6" (1 each for 480V and 120V conduits)	6	EA	\$2,200.00	\$13,200
Misc. Conduit Fittings, Elbows, Core Drilling and Sealing, etc.	1	LS	\$60,000.00	\$60,000
Instrumentation	1	LS	\$65,000.00	\$65,000
Landscape and Irrigation Modifications				\$583,964
Tree Replacement	10	EA	\$3,500.00	\$35,000
Shrubs, Perennials, and Grasses	12,407	SF	\$7.00	\$86,849
Finish Grading	88,697	SF	\$0.50	\$44,348
Turf/Sod Replacement	81,008	SF	\$4.00	\$324,030
Irrigation system replacement ⁹	39,368	SF	\$2.00	\$78,736
90-Day Plant Establishment Period	1	LS	\$15,000.00	\$15,000
Site Amenities and Improvements				\$79,246
AC Paving remove and replace	600	SF	\$28.00	\$16,800
DG Path New	5,413	SF	\$8.50	\$46,006
DG Path remove and replace	1,566	SF	\$10.50	\$16,440
Optional Parking Lot Improvements				\$916,383
Concrete Pavement Removal	1,486	SF	\$5.90	\$8,767
Interlocking Pavers	1,486	SF	\$35.00	\$52,010
Concrete Pavement Remove and replace	180	SF	\$35.00	\$6,300
AC Pavement 2" Mill and Overlay	16,471	SF	\$5.10	\$84,002
AC Pavement Removal (full depth)	19,319	SF	\$2.00	\$38,638
Permeable Pavers w/ underdrain	19,319	SF	\$35.00	\$676,165

ATTACHMENT C
SCW PROJECT MODIFICATION REQUEST
DETAILED COST ESTIMATE

Client: Rio Hondo/San Gabriel River Water Management Authority			Prepared by: PS	
Project: Encanto Park Stormwater Capture Project, Duarte			Checked by: CS	
Status: 60% Cost Estimate			Date 10/29/2024	
Description	Qty	Unit	Unit Price	Total
New Educational Kiosk	1	EA	\$22,000.00	\$22,000
Water Bottle Filling Station	1	EA	\$6,500.00	\$6,500
Art Installations	2	EA	\$11,000.00	\$22,000
Start-up, Testing, Prepare Operations & Maintenance Manuals, and Prepare Record Drawings				\$120,000
SWPPP Implementation	1	LS	\$50,000.00	\$50,000
Start-up and Testing	1	LS	\$50,000.00	\$50,000
O&M Manuals	1	LS	\$10,000.00	\$10,000
Record Drawings	1	LS	\$10,000.00	\$10,000
SUBTOTAL				\$4,574,853
			15% Contingency	\$686,228
			*4% Escalation per year of Subtotal, used compound amount factor: (1+i)^n	\$373,308
			Total Construction Costs	\$5,634,389
GRAND TOTAL				\$5,634,389
* Assuming start of construction is in 2026				

Assumptions and Exclusions	
1 This is a rough order of magnitude preliminary opinion of probable construction costs only. Actual costs may vary.	
2 The unit cost data is derived from inhouse sources, recent bids on similar construction, and RSMeans current construction cost data.	
3 This opinion of cost is based on the project program and plans made available at the time of preparation.	
4 Material prices are based on current quotations and do not include escalation.	
5 This opinion of cost assumes that all improvements will be constructed at one time.	
6 Quantity take offs were performed when possible and parametric estimates and allowances are used for items that cannot be quantified at this stage of the design.	
7 All unit costs take into account sales tax, general conditions, bonding and insurance, and subcontractor and general contractor overhead and profit.	
8 Where applicable, unit costs include the cost of freight.	
9 Irrigation improvements are limited to components removed for installation of the subsurface storage unit within the field	
The following are excluded:	
1 Environmental clearances and permits	
2 Hazardous spoil disposal, if encountered	
3 Property and Right of Way acquisition or easements	
4 Legal and accounting fees	
5 Plan check, building permit fees	
6 Utility Connection Fees	
7 Testing and inspection	
8 Fire and all risk insurance	
9 Removal of unforeseen underground obstructions	
10 Relocation of unforeseen subsurface utilities	
11 Signage and wayfinding	
12 Additional fill or import	
13 Loose furniture and equipment	
14 Utility connection fees	
15 Tel/data system	
16 Construction contingency	
17 Work done after business hours	
18 Design, engineering and consulting fees other than those specifically listed in the above estimate	
Items that may affect the cost estimate:	
1 Modifications to the scope of work included in this estimate	
2 Unforeseen sub-surface conditions	
3 Restrictive technical specifications or excessive contract conditions	
4 Any other non-competitive bid situations	
5 Bids delayed beyond the projected schedule	

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Regional Program	<input type="checkbox"/> Infrastructure Program Project <input checked="" type="checkbox"/> Scientific Studies Program <input type="checkbox"/> Technical Resources Program
Project/Study Name	Maximizing Impact of Minimum Control Measures
Project/Study Lead	San Gabriel Valley Council of Governments
Watershed Area(s)	Rio Hondo, Upper San Gabriel River
Current Project Phase	Finalizing Modeling Tools and Results
Estimated Completion Date of Funded Activity	6/29/2025
Approved Stormwater Investment Plan Fiscal Year	FY22-23
Transfer Agreement ID (e.g., 2020RPULAR52)	2022RPRH51 and 2022RPUSGR51

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
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- other, please describe:

Impact on scope or benefits?

- | | |
|--|-----------------------------------|
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| <input type="checkbox"/> Diminished | <input type="checkbox"/> 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.

A study design for measuring the impact of street sweeping on runoff water quality is proposed, where simulated rainfall events are applied over unswept and swept pavements near each other, runoff is collected from each condition, and water quality results for a range of analytical parameters is compared. The results of this analysis will be used to refine the model inputs representing street sweeping efficiencies under the current study tools developed.

The objective of the proposed modification to the current study is to develop field data documenting runoff water quality from unswept and swept street segments. This data will be used to verify and justify model representation of street sweeping activities and associated pollutant reductions achieved.

Refer to the attached scope for additional details.

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 <i>If applicable, include description of unused funds</i>
FY22-23	\$497,480	\$0	\$497,480	No change
FY23-24	\$939,040	\$0	\$939,040	No change
FY25-26	\$0	\$799,115	\$799,115	Add empirical measurements of street sweeping
TOTAL	\$1,436,520	\$799,115	\$2,235,635	

A: Approved Total Funding Allocations	\$1,436,520
B: Revised Estimate of Total Funding from Regional Program	\$2,235,635
Regional Program Funds Received to date	\$1,436,520
Regional Program Expenditures to date	\$690,182
Difference between B and A	\$799,115
Percent change between B and A	156%

Would the additional funding request be the only option that would allow the project to be implemented? Please describe.	<input checked="" type="checkbox"/> YES
The SCWP is the option available to fund the empirical measurements of local street sweeping. The methods were previously developed under the Southern California Stormwater Monitoring Coalition (SMC).	
Would delaying funding allocations impact the project's ability to be implemented? Please describe.	<input type="checkbox"/> YES
No, the study can proceed as planned; however this additional allocation would provide more robust justification and direct measurements of local street sweeping effectiveness.	
Would funding only a portion of the additional funding request impact the project's ability to be implemented? Please describe.	<input checked="" type="checkbox"/> YES
Funding can be scaled based on the number of test sites, which the current funding request is based on 5 sites. More sites allow for assessment of variable conditions and greater confidence in variability of results.	
Has the Recipient considered other funding sources? Please describe. Include type of funding, status, and amount.	<input checked="" type="checkbox"/> YES
The methods to be utilized under this proposed work were originally funded by the SMC. That funding did not support further implementation of the methods, which is what is being pursued herein.	

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.

An additional \$799,115 is being requested, \$479,469 from the USGR WASC and \$319,646 from the RH WASC. This is requested for FY25-26 to support the additional of empirical measurements of street sweeping.

Refer to the attached scope for details on the additional funding request cost breakdown.

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.

Attached scope includes background, objectives, methods, deliverables, schedule, and budget to be implemented with the additional funding request.

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
Turner Lott	Senior Management Analyst	tlott@sgvcog.org
Brianna Datti	Director of Science & Policy	brianna.datti@craftwater.com

I certify the information and supporting documentation provided is accurate and true.	<input checked="" type="checkbox"/> YES
I certify the modified Project complies with all requirements described in the Feasibility Study Guidelines.	<input checked="" type="checkbox"/> YES
I understand this is a request and it is under the WASC's discretion to consider requested modifications.	<input checked="" type="checkbox"/> YES

Name Mansa CreterOrganization SGVCOGSignature Mansa CreterDate 10/31/24

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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.	<input type="checkbox"/> YES	
Scope/benefits of the modified Project or Study requires reapproval in the SIP. If yes, select all that apply:	<input checked="" type="checkbox"/> YES	1/17/2025
Budget/schedule modifications would impact future SIP funding allocations. If yes, select all that apply:	<input checked="" type="checkbox"/> YES	1/17/2025
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 <u>after</u> the next	<input type="checkbox"/> YES	-
Project or Study abandoned the proposed modifications	<input type="checkbox"/> YES	
Project or Study was withdrawn from consideration by the WASC and shall issue repayment of unspent funds	<input type="checkbox"/> YES	
Proposed scope/benefit modifications were recommended for approval in the SIP	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
Modifications to the Project or Study's funding allocations were recommended for approval as identified in the SIP	<input type="checkbox"/> YES <input type="checkbox"/> PARTIAL <input type="checkbox"/> 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.	<input type="checkbox"/> 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:	<input type="checkbox"/> 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.	<input type="checkbox"/> YES	-
SCWP staff to abandon the proposed modifications and proceed with the Project concept included in the SIP.	<input type="checkbox"/> YES	-

ATTACHMENT

Empirical Measurement of Street Sweeping Impacts on Runoff Water Quality Maximizing Impact of Minimum Control Measures Project Modification Request

Background

The Maximizing Impact of Minimum Control Measures scientific study is developing research to quantify the positive impact of “minimum control measures” including street sweeping on pollutant loading and concentrations. Empirical evidence quantifying runoff water quality with and without street sweeping is of interest to support tools being developed by the current study to improve Watershed Management Programs and help achieve water quality objectives.

The body of knowledge in literature concurs that street sweepers remove substantial amounts of debris, and that advanced sweeper technologies (e.g. those that use vacuum, pressure washing, or both) are measurably superior to mechanical broom sweepers. However, there is no generally accepted method to translate loads captured by street sweepers during dry weather into reductions in urban runoff event mean concentrations (EMCs). No study identified to date has shown an effect of street sweeping on downstream water quality, e.g., at outfalls, nor has any study definitively quantified differences in stormwater runoff concentrations between swept and unswept streets (Kang et al. 2009; Kang and Stenstrom 2008; Muhammad et al. 2006; Pearson et al. 2018). High event-to-event variability in pollutant build-up and wash-off has been identified as a challenge in measuring downstream benefits (or lack thereof). Study designs may have also prevented conclusive findings at outfalls, since the roadway is usually only a fraction of the total contributing catchment.

The Southern California Coastal Water Research Project (SCCWRP) has developed a field-testing method that uses a portable rainfall generator (RFG) to create and isolate runoff from street surface segments. Use of simulated storms with the RFG enables generating repeatable experimental conditions in-situ to promote development of a statistically robust dataset. The use of simulated storm events eliminates the environmental variability that confounds interpretation of previous studies found in the literature. Specifically, effects of rainfall intensity, duration, frequency in relation to the occurrence of street sweeping, and interference from runoff from the wider catchment are eliminated by using simulated events.

A study design for measuring the impact of street sweeping on runoff water quality is proposed, where simulated rainfall events are applied over unswept and swept pavements near each other, runoff is collected from each condition, and water quality results for a range of analytical parameters is compared. The results of this analysis will be used to refine the model inputs representing street sweeping efficiencies under the current study tools developed.

Objectives

The objective of the proposed modification to the current study is to develop field data documenting runoff water quality from unswept and swept street segments. This data will be used to verify and justify model representation of street sweeping activities and associated pollutant reductions achieved.

Methods

The overall approach (Figure 1) begins with establishing similar initial pavement conditions by sweeping all pavement segments to be tested according to a set antecedent dry period (ADWP). After the end of the ADWP, simulated rainfall is applied to unswept and swept pavements, and samples are collected. Subsequently, only the designated swept pavement segment is swept again after the next ADWP has elapsed. Rainfall is again applied to both swept and unswept pavements, with sample collection. The cycle is repeated as needed.

Each day of testing will include:

- Traffic control established by the municipal partner
- On-site assembly of the RFG by SCCWRP
- Water delivery provided by the municipal partner, if not available on- or near the testing site
- Sweeping of the designated side or segment of the street by the municipal partner
- Applying simulated rainfall to unswept and swept pavement segments, and collecting and aliquoting runoff samples by SCCWRP
- Collection of a range of field blanks by SCCWRP
- Disassembly of the RFG by SCCWRP
- Transportation of samples to SCCWRP for subsequent distribution for analytical services on the following day.

The RFG will be applied consecutively over three adjacent pavement segments to create a unique test per pavement condition. Simulated rainfall will be applied for 15-min over each segment. The duration of rainfall has been determined as a balance between providing adequate time for pollutant wash-off, an ability to test multiple segments to constitute a single event for a pavement condition, and testing multiple events in a single day. Runoff will be captured along the gutter using a peristaltic pump, and collected in a clean 200-L polypropylene barrel to create a whole-of-event composite sample per test event per pavement condition. The composite sample will be aliquoted for subsequent laboratory analysis.

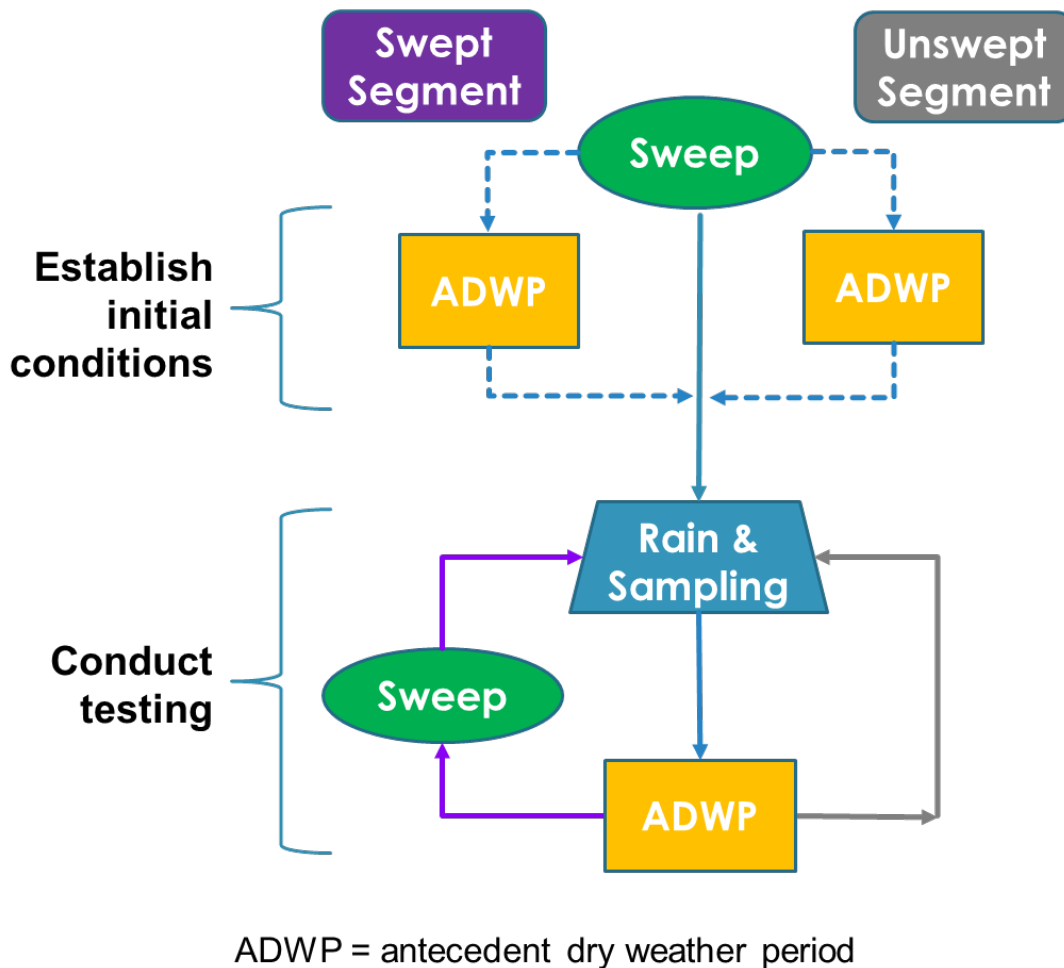


Figure 1. Overall approach to compare runoff water quality from swept and unswept pavements.

Site selection will consider:

- Street segments with a clear slope towards a hard curb (Figure 2).
- At least one driving lane adjacent to the curb.
- Proximity to an accessible water supply is desirable, but not required if the municipal partner is able to provide a water truck or other supply.
- Segments designated as unswept and swept for the purposes of testing must be in close proximity to each other, ideally they are opposite sides of the same street (assuming a center crown), or segments along the same side of the street (Figure 3). This criterion is intended to limit the influence of pavement condition on comparisons between swept and unswept runoff water quality for a given location.
- A candidate list of test locations will be identified in coordination with municipal representatives. SCCWRP will conduct site recon with a municipal representative.



Figure 2. Characteristics of hypothetical test site.

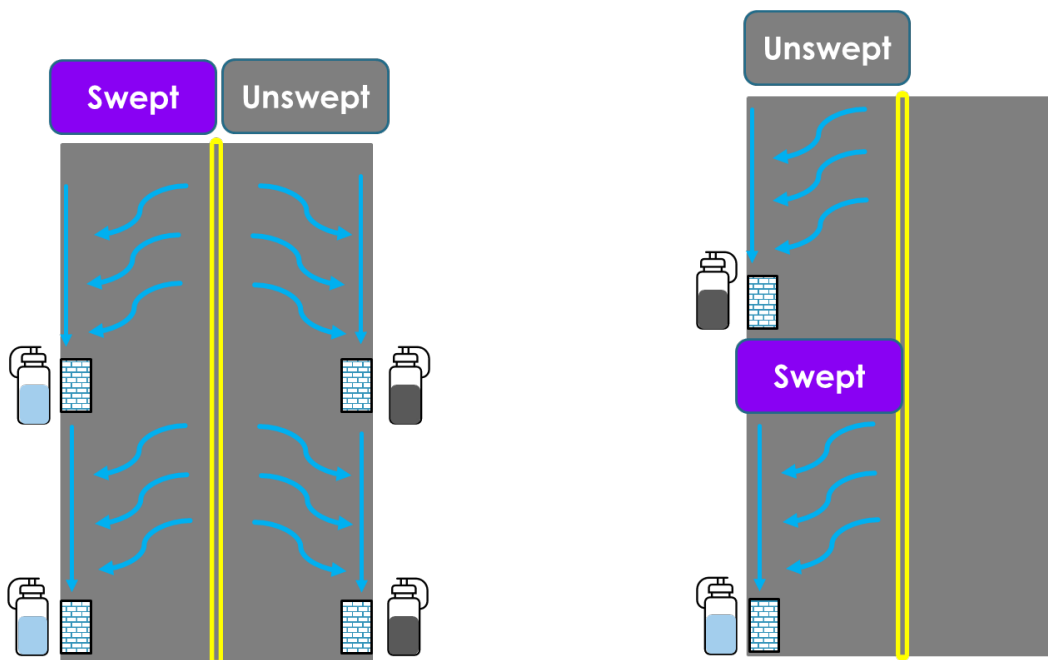


Figure 3. Test location should identify street segments in close proximity to test unswept and swept pavement conditions. Test segments may either be on opposite sides of a street with a center crown (LEFT) or along the same side of a street where a clear designation between unswept and swept areas can be established (RIGHT).

At least four pairs of unswept and swept pavements will be tested at each location. Up to two test pairs (4 individual rainfall events) can be conducted in a single test day if there are multiple segments available for each pavement condition, for the example as depicted in the site configuration on the left of Figure 3. Alternative approaches to testing may be developed to conduct multiple tests in a single day of a single pavement condition at a time (i.e. conduct 4 tests on swept street segments in a single day, and return another day to conduct 4 tests on unswept street segments).

ADWP is hypothesized to influence pollutant accumulation, and thus runoff water quality. At a minimum, testing will be conducted according to the street sweeping frequency currently followed by each municipality, i.e., establish water quality according to current conditions.

Number of Tests

A test pair herein refers to a direct comparison between unswept and swept pavement water quality at a given location. The minimum number of test pairs needed to establish statistically defensible differences in runoff water quality between unswept and swept pavements at a given location is estimated as 4-6 test pairs. This estimate is based on analysis of limited data collected during pilot testing of the method by SCCWRP. Consistently performing locations require fewer samples, whereas sites with significant heterogeneity require more samples for statistical confidence. These conditions cannot be identified in advance. In any/all cases, variability in measured water quality in each location will be quantified.

It is hypothesized that pavement condition/level of service and usage, such as average daily traffic, might influence runoff water quality. The most robust overall data set will be established by locations that all reflect similar pavement conditions. However, this type of criteria may limit feasible sites for testing that support the logistics of the test method, thus limiting pavement condition to a narrow range is not recommended as strict criteria for site selection.

The proposed modification includes testing at up to 5 different site locations.

Analyte List

A range of water quality parameters are proposed for analysis (Table 1), representing conventional contaminants (e.g., sediments and nutrients), typical contaminants of concern from streets (e.g., heavy metals and PAHs), and emerging contaminants of concern (e.g., microplastics).

Table 1. Proposed analyte list

Total suspended solids (TSS)		
Total phosphorus (TP)		
Total nitrogen (TN)		
Total hardness		
Total and dissolved heavy metals	Aluminum (Al) Arsenic (As) Cadmium (Cd) Chromium (Cr) Copper (Cu) Iron (Fe)	Lead (Pb) Mercury (Hg) Nickel (Ni) Selenium (Se) Silver (Ag) Zinc (Zn)
Polycyclic aromatic hydrocarbons (PAHs)	1-Methylnaphthalene 1-Methylphenanthrene 2,3,5-Trimethylnaphthalene 2,6-Dimethylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benz[a]anthracene Benzo[a]pyrene Benzo[b]fluoranthene Benzo[e]pyrene	Benzo[g,h,i]perylene Benzo[k]fluoranthene Biphenyl Chrysene Dibenz[a,h]anthracene Dibenzothiophene Fluoranthene Fluorene Indeno[1,2,3-cd]pyrene Naphthalene Perylene Phenanthrene Pyrene
Fecal indicator bacteria (FIB)	<i>Enterococci</i> <i>E. Coli</i> Total coliforms	
Microplastics		

Deliverables

An Empirical Measurements of Street Sweeping technical memorandum will be prepared documenting test locations, site conditions, and the water quality results. Water quality results for all individual tests will be provided, as well as summary statistics such as mean concentrations from each pavement surface with measures of variability such as confidence intervals on the mean and standard deviations. Likewise, %-differences between unswept and swept pavement runoff concentrations will be determined, with a measure of variability. All laboratory analytical results will be provided.

Results of the empirical measurements will be used to update the models representing long-term impacts of street sweeping. The Program Performance Evaluation memorandum under the current study will be updated with these refined results, along with the Technical Platform displaying model results for street sweeping programs.

Schedule

Task	Task Name	Milestone
	Assumed NTP	10/1/2025
1	Stakeholder Progress Meetings	Ongoing
1	Quarterly Report	11/15/2025
1	Annual Report	12/31/2025
1	Quarterly Report	2/15/2026
1	Quarterly Report	5/15/2026
1	Quarterly Report	8/15/2026
1	Quarterly Report	11/15/2026
1	Annual Report	12/31/2026
2	Field Sampling	7/31/2026
2	Lab Analysis (all conventional pollutants, excluding Microplastics)	8/31/2026
2	Lab Analysis (Microplastics)	11/30/2026
2	Technical Report (all conventional pollutants, excluding Microplastics)	9/30/2026
2	Technical Report (w/ Microplastics)	12/31/2026
3	Updated Program Performance Evaluation Memo	11/30/2026
3	Updated Technical Platform	1/29/2027

Budget

Task	Task Name	Total Budget	USGR WASC Budget	RH WASC Budget
1	Project Management and Stakeholder Engagement	\$ 154,047	\$ 92,428	\$ 61,619
2	Empirical Measurements of Street Sweeping Impacts	\$ 585,068	\$ 351,041	\$ 234,027
3	Updated Program Performance Evaluation and Technical Platform	\$ 60,000	\$ 36,000	\$ 24,000
TOTAL		\$799,115	\$479,469	\$319,646