



*Los Angeles Gateway Region  
Integrated Regional Water Management  
Joint Powers Authority*

## **AGENDA**

**Regular Meeting of the Board of Directors  
Thursday, July 8, 2021 at 12:00 p.m.**

**Meeting Remote Location  
via WebEx**

***<https://koiconsultinginc.my.webex.com/koiconsultinginc.my/j.php?MTID=m077a88204fabd5a8ed768d4accbd7f56>***

***or via phone  
1-415-655-0001***

**Meeting number: 182 495 0965**

**Password: GatewayH2O (42839294 from phones or video systems)**

**(There will be no physical attendance at Progress Park)**

- 1. Roll Call**
- 2. Determination of a Quorum**
- 3. Additions to Agenda (Govt. Code Sec. 54954.2(b))**
- 4. Oral Communications to the Board**

This is an opportunity for members of the public to address the Board on any item under the jurisdiction of the agency. Depending upon the subject matter, the Board may be unable to respond until the item can be posted on the agenda at a future meeting in accordance with provisions of the Brown Act.
- 5. Consent Calendar: (Acted as one item unless withdrawn by request)**
  - a. Minutes of the Board Meeting of June 19, 2021 (Enclosure).
  - b. Approve the Warrant Register for July 2021 (Enclosures).
  - c. Receive and File the Updated Expenditures for Legal Counsel Services (Enclosure).
- 6. Discussion/Action Regarding 2015 Proposition 84 Grant Project 1 – Advanced Water Meter Replacement (Enclosure)**
  - a. Approve the Second Amendment to Subrecipient Agreement with Long Beach Water Department, and the Mutual Termination of Subrecipient Agreement with the City of Cerritos for the 2015 Proposition 84 Grant Program.
  - b. Authorize the Chair to sign and execute the Second Amendment to Subrecipient Agreement with Long Beach Water Department, and the Mutual Termination of Subrecipient Agreement with the City of Cerritos.

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**7. Discussion/Action for GWMA to Serve as Lead Agency for Phase 2 of the Gateway Area Pathfinding Analysis**

- a. Approve GWMA's role as Lead Agency for Phase 2 of the Gateway Area Pathfinding Analysis and authorize GWMA's name to be added to the Measure W funding application for the proposed study. If awarded, GWMA's official role as the study's Lead Agency is contingent upon Board Approval of an Agreement between Los Angeles County Flood Control District and GWMA that sets forth each agency's role and funding obligation.

**8. Safe Clean Water Program - Oral Reports**

- a. Lower Los Angeles River WASC – Gina Nila
- b. Lower San Gabriel River WASC – Melissa You

**9. Gateway Region Watershed Management Groups - Oral Reports**

- a. Lower Los Angeles River Upper Reach 2 (LAR UR2) Watershed Group
- b. Lower Los Angeles River (LLAR) Watershed Group
- c. Lower San Gabriel River (LSGR) Watershed Group
- d. Los Cerritos Channel (LCC) Watershed Group

**10. Executive Officer's Oral Report**

**11. Directors' Oral Comments/Reports**

**12. Adjournment to Regular Board Meeting on August 12, 2021.**

**NOTICE:** GWMA will hold Board Meetings via video conference to meet social distancing recommendations or meet in person at its regular location at Progress Park in Paramount, depending on recommendations from local and State officials. The physical location or video-conference information will be posted with each Board Agenda which can be found at [www.gatewaywater.org](http://www.gatewaywater.org) 72 hours in advance of the meeting.

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**MINUTES OF THE GATEWAY WATER MANAGEMENT AUTHORITY  
LOS ANGELES GATEWAY REGION  
INTEGRATED REGIONAL WATER MANAGEMENT JOINT POWERS AUTHORITY  
BOARD  
VIA VIDEO CONFERENCING  
THURSDAY, JUNE 10, 2021**

A regular meeting of the Board of Directors of the Gateway Water Management Authority was held on Thursday, June 10, 2021 at 12:00 p.m. via WebEx and Phone Conference.

Chair Lisa Rapp called the meeting to order at 12:03 p.m. Roll was called by Executive Officer Grace Kast and a quorum of the Board was declared.

**BOARD MEMBERS PRESENT:**

Fionna Graham (alternate)	Artesia
Veronica Sanchez (alternate)	Bell Gardens
Len Gorecki	Bellflower
Alex Rojas	Central Basin Municipal Water District
Mike O'Grady	Cerritos
Michelle Chambers (alternate)	Compton
Cesar Roldan	Cudahy
Mark Stowell	Huntington Park
Lisa Rapp	La Mirada
Melissa You	Long Beach
Jillian Croci	Long Beach Water
Lorry Hempe (alternate)	Lynwood
Adriana Figueroa	Paramount
Monica Heredia	Pico Rivera
Janna Morimoto (alternate)	Port of Long Beach
Sarina Morales-Choate (alternate)	Santa Fe Springs
Kelli Tunnickliff	Signal Hill
Gladis Deras (alternate)	South Gate
Jazmine Hooks (alternate)	Vernon
Esther Rojas (alternate)	Water Replenishment District
Vicki Smith	Whittier

**STAFF AND GUESTS ON SIGN-IN SHEET:**

Grace Kast	Executive Officer
Traci Gleason	Program Administrative Manager
Nicholas Ghirelli	Legal Counsel
Kekoa Anderson	Funding/Grants Program
Grissel Chavez	City of Bell Gardens
Whitford Marin	City of Huntington Park
Nina Turner	Port of Long Beach
Julia Guy	(Unknown)

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**ITEM 3 - ADDITIONS TO THE AGENDA**

None.

**ITEM 4 - ORAL COMMUNICATIONS TO THE BOARD**

None.

**ITEM 5 - CONSENT CALENDAR**

Director Figueroa motioned to approve the consent calendar. The motion was seconded by Director Tunnichliff and was approved by the following voice vote:

**AYES: Sanchez, Gorecki, A. Rojas, Roldan, Stowell, Rapp, You, Croci, Hempe, Figueroa, Morales-Choate, Tunnichliff, Hooks, E. Rojas, Smith**

**NOES: None.**

**ABSTAIN: Graham, O’Grady, Heredia, Morimoto (Minutes only).**

**ITEM 6 – GWMA MEMBERSHIP REDUCED DUES FOR FY 2021-2022**

The Board previously adopted a membership dues policy in 2017 that defined the eligibility requirements for reduced dues for JPA Members. The cities of Artesia, Bell, Cudahy and Maywood currently have memberships with reduced dues. These same four entities in addition to the City of Compton submitted their applications with supporting documents for reduced membership dues for fiscal year 2021-2022.

Four of the agencies qualified for reduced dues. The eligible agencies with the recommended membership dues per the adopted policy for Fiscal Year 2021-2022 are as follows:

City of Artesia	\$7,500
City of Bell	\$7,500
City of Cudahy	\$7,500
City of Maywood	\$6,500

These amounts would be granted for one year to each agency and will be re-considered for the next fiscal year.

Director Figueroa motioned to approve the reduced dues for the four eligible cities. The motion was seconded by Director A. Rojas and was approved by the following voice vote:

**AYES: Graham, Sanchez, Gorecki, A. Rojas, O’Grady, Chambers, Roldan, Stowell, Rapp, You, Croci, Hempe, Figueroa, Heredia, Morimoto, Morales-Choate, Tunnichliff, Hooks, E. Rojas, Smith**

**NOES: None.**

**ABSTAIN: None.**

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**ITEM 7 – GWMA OPERATING BUDGET**

Director Deras entered at 12:21 PM

Executive Officer Grace Kast reviewed the proposed operating budget for FY 2021-2022, the basis of the budget, the reserve policy, direct and indirect administrative fee collection, and highlights. The administrative budget is supported by membership dues and revenues from agreements and grants.

The proposed budget for FY 2021-2022 reflects actual costs and projections through the end of this fiscal year. In doing so, staff anticipates an FY 2021-2022 Ending Fund Balance of \$743,953.

In support of the budget, staff recommended the annual membership dues for FY 2021-2022 remain at \$15,000, except for the agencies that had been approved by the Board for reduced dues. Dues from member agencies are expected to be \$404,000 in FY 2021-2022. This administrative budget does not include MOU project costs or grant project costs. However, it does reflect the administrative and legal costs associated with the MOUs.

Director A. Rojas motioned to approve the annual membership dues of \$15,000, except for the agencies that had been approved by the board for reduced dues, and to adopt the GWMA FY 2021-2022 Operating Budget. The motion was seconded by Director E. Rojas and was approved by the following voice vote:

**AYES:**        **Graham, Sanchez, Gorecki, A. Rojas, O’Grady, Chambers, Roldan, Stowell, Rapp, You, Croci, Hempe, Figueroa, Heredia, Morimoto, Morales-Choate, Tunncliff, Deras, Hooks, E. Rojas, Smith**

**NOES:**        **None.**

**ABSTAIN:**    **None.**

**ITEM 8 – LEGISLATIVE ORAL REPORTS**

Executive Officer Grace Kast reported that AB377 bill is on hold until January 2022. Mr. Ghirelli noted that the bill was held in committee in the first house, and did not make it out of the house of origin.

**ITEM 9 – SAFE CLEAN WATER PROGRAM ORAL REPORT**

Director Rapp reported the Lower San Gabriel River (LSGR) WASC completed work on the SIP for Round 2. It was voted on May 11<sup>th</sup> and on June 8<sup>th</sup>.

**ITEM 10 - GATEWAY REGIONAL WATERSHED MANAGEMENT GROUPS ORAL REPORT**

Lower Los Angeles River Upper Reach 2 (LARUR2) Watershed Group

None.

LLAR Watershed Group

None.

LSGR Watershed Group

None.

Los Cerritos Channel (LCC) Watershed Group

None.

**ITEM 11 – EXECUTIVE OFFICER’S ORAL REPORT**

None.

**ITEM 12 – DIRECTORS’ ORAL COMMENTS/REPORTS**

None.

The meeting adjourned at 12:33 p.m.

The next regular Board Meeting of the Directors of the Gateway Water Management Authority will be on Thursday, July 8, 2021 at 12:00 p.m. The meeting will be held via video conference to meet social distancing recommendations or will be held in person at its regular location at Progress Park in Paramount, depending on recommendations from local and State officials. The physical location or video conference information will be posted with each Board Agenda which can be found at [www.gatewaywater.org](http://www.gatewaywater.org) 72 hours in advance of the meeting.

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Lisa Ann Rapp, Vice Chair

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Date



*Los Angeles Gateway Region  
Integrated Regional Water Management  
Joint Powers Authority*

July 8, 2021

## **AGENDA ITEM 5b – Approve the Warrant Register for July 2021**

### **SUMMARY:**

The Warrant Register is a listing of general checks issued since the last warrant register. Warrants will be signed by 2 of the 3 Board Officers and released by Traci Gleason, serving as the Administrative/Accounting Manager of the Gateway Water Management Authority, upon Board Approval.

### **DISCUSSION:**

The Warrant Register for expenditures dated July 2021 in the amount of \$329,385.50 is submitted for approval. Invoices and supporting documentation are available for review at the office of the GWMA.

### **FISCAL IMPACT:**

The Warrant Registers total \$329,385.50. Funds to cover payment are available in the GWMA budget.

### **RECOMMENDATION:**

Approve the Warrant Register for July 2021.

**Lisa Rapp (Lakewood), Board Chair • Adriana Figueroa (Paramount), Vice-Chair • Kelli Tunnicliff (Signal Hill), Secretary/Treasurer**  
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WARRANT REGISTER  
DISBURSEMENT JOURNAL  
July 2021

Invoice Date	Vendor	Invoice Number	Description	Amount	
5/27/2021	Alliant Insurance Services, Inc.	ACIP226	Government Crime Insurance (7/1/2021-7/1/2022)	\$ 1,158.00	✓
5/25/2021	Anchor QEA	02406 REV	Harbor Toxic Downstream FY 20/21 (Dec 2020-Mar 2021)	\$ 55,105.59	✓
7/1/2021	City of Paramount	4633	Rent (July 2021)	\$ 363.80	✓
6/10/2021	Civiltec Engineering	44381	Adv Water Meter Replacement (through May 31, 2021)	\$ 6,055.00	✓
6/25/2021	Clifton Larson Allen	2919896	Accounting Support (June 2021)	\$ 1,500.00	✓
6/30/2021	Gateway Cities Council of Governments	06-30-21	Office Supplies & Fed Ex	\$ 113.96	✓
6/8/2021	John L Hunter and Associates, Inc.	GWM1GHR12105	Harbor Toxics (May 2021)	\$ 2,393.60	✓
6/8/2021	John L Hunter and Associates, Inc.	GWM1LLA12105	LLAR WMP (May 2021)	\$ 87,640.94	✓
6/8/2021	John L Hunter and Associates, Inc.	GWM1LSG12105	LSGR WMP (May 2021)	\$ 84,408.59	✓
6/28/2021	Koa Consulting, Inc.	K114-01-43	COG Water-Related Coordination Activities and Executive Officer Services, DAC Chair and DACIP Co-Chair (June 2021)	\$ 33,908.00	✓
6/8/2021	Richard Watson & Associates	21-192-003-006	LCC WMP CIMP (May 2021)	\$ 55,973.02	✓
6/15/2021	Richards Watson Gershon	232177	Legal Services (through <sup>May 31</sup> Apr 30, 2021)	\$ 765.00	✓
Total				\$ 329,385.50	

Reviewed and Approved by:

  
Kelli Tunnicliff, GWMA Secretary and Treasurer





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July 8, 2021

**AGENDA ITEM 5c – Status of Total Legal Expenditures for General Legal Counsel Services for Fiscal Year 2020-2021**

**SUMMARY:**

At the Board meeting in June 2020, the Board approved the budget for legal counsel services of \$30,000 for Fiscal Year (FY) 2020-2021 to address legal issues. The Board has previously directed staff to provide monthly updates on total expenditures for legal counsel services.

Legal Counsel Services Update:

\$ 30,000.00	FY 2020-2021 Budget amount for Legal Counsel services
<u>\$ 10,079.20</u>	Expenditures for Legal Counsel services through May 31, 2021
\$ 19,920.80	Remaining budget amount available through June 30, 2021

**FISCAL IMPACT:**

The total expenditures for Legal Counsel services for FY 2020-2021 through May 31, 2021 total \$10,079.20. Sufficient funds to cover payment for legal counsel services are remaining in the GWMA FY 2020-2021 budget.

**RECOMMENDATION:**

Receive and file the status the updated expenditures for Legal Counsel Services.

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**AGENDA ITEM 6 – Discussion/Action Regarding 2015 Proposition 84 Grant  
Project 1 - Advanced Water Meter Replacement**

**BACKGROUND:**

The 2015 Proposition 84 Integrated Regional Water Management (IRWM) Implementation Grant provides funding from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 to Los Angeles County Flood Control District to assist in financing implementation projects associated with the Greater Los Angeles County Region Integrated Regional Water Management Plan. For the Region's IRWM projects funded under the Grant Agreement, the LACFCD has been designated as the regional entity to apply for grants on behalf of all proposed projects for the Region through the IRWM Process.

The Advanced Water Meter Replacement Project is one of four GWMA projects that was awarded funding under this Grant. The project budget is \$1,145,902.00, in which \$745,902 is the grant funding amount, and \$400,000 is the required matching funds.

The project will save approximately 423 acre-feet per year (AFY) of water supply and improve regional water use efficiency by replacing an estimated 4,199 water meters at customer service connections with Advanced Meter Reading (AMR) units that have advanced reading technology capabilities. The project originally encompassed the service areas of 12 participating GWMA entities including the cities of Bellflower, Cerritos, Commerce, Downey, Lakewood, Norwalk, South Gate, Vernon and Whittier, as well as the Pico Rivera Water Authority, Long Beach Water Department and the Pico Water District. Subrecipient Agreements with all 12 agencies were prepared in 2016. Prior to all of the subrecipient agreements being executed, the City of Vernon withdrew from the program due to changes occurring within the city. The 319 meters that the City had committed to installing was re-distributed among the remaining participants for the project. Therefore, an amendment was prepared and executed with the remaining eleven subrecipients.

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## **DISCUSSION:**

Recently, the City of Cerritos notified GWMA they wish to withdraw from the project. The City of Cerritos prefers to convert all of their meters in lieu of a fraction of the meters in their system. However, the City does not have the funds to convert all of the meters at this time.

In order to accommodate Cerritos' request to withdraw from the project, Staff conducted a thorough review of all project participants including a table prepared by the project management team that shows each participant, their local match amounts and percentages, the number of meters required under the grant, total grant amount per agency, and total costs per each agency. When comparing the agencies minimum local match percentage, Long Beach Water Department had the highest local match percentage requirement at 76% which was significantly higher than the other participants. During the course of the research, it was also noted that Long Beach Water Department had previously submitted detailed documentation for many more installed meters than were required per the agreement. By assuming Cerritos' meters, their grant amount and local match requirement will increase, but the local match percentage would be lowered to 68%. This will bring it a little closer to the average local match percentage for other participants which is approximately 40%.

GWMA confirmed that this change was acceptable per the grant agreement with the County of Los Angeles as well as the Department of Water Resources. In order to legally make this change, GWMA must amend the agreement with Long Beach Water Department to accept Cerritos' water meters. Additionally, a mutual termination agreement with Cerritos' is needed, confirming that the City of Cerritos is not entitled to any reimbursement of previously paid administrative fees. Long Beach Water Department and the City of Cerritos have accepted this recommendation and have reviewed and accepted the legal documents presented to the GWMA Board herein.

## **FISCAL IMPACT:**

None.

## **RECOMMENDATION:**

- a. Approve the Second Amendment to Subrecipient Agreement with Long Beach Water Department, and the Mutual Termination of Subrecipient Agreement with the City of Cerritos for the 2015 Proposition 84 Grant Program.
- b. Authorize the Chair to sign and execute the Second Amendment to Subrecipient Agreement with Long Beach Water Department, and the Mutual Termination of Subrecipient Agreement with the City of Cerritos.

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**SECOND AMENDMENT TO SUBRECIPIENT AGREEMENT BETWEEN  
LONG BEACH WATER DEPARTMENT AND THE LOS ANGELES GATEWAY  
REGION INTEGRATED REGIONAL WATER MANAGEMENT  
JOINT POWERS AUTHORITY**

**THIS SECOND AMENDMENT** is made and entered into as of July 8, 2021, by and between the Board of Water Commissioners of the City of Long Beach, acting on behalf of the City of Long Beach and on its own behalf in its official capacity ("Subrecipient") and the Los Angeles Gateway Region Integrated Regional Water Management Joint Powers Authority, a California Joint Powers Authority ("GWMA").

1. This Second Amendment is made with respect to the following facts and purposes:

a. GWMA is a member of the Greater Los Angeles County Region ("Region") Integrated Regional Water Management ("IRWM") Group. As a part of the Region's IRWM Plan, the Los Angeles County Flood Control District ("LACFCD") has entered into that certain Grant Agreement dated December 2, 2016 with the Department of Water Resources of the State of California ("DWR"), by which GWMA received Seven Hundred Forty-Five Thousand Nine Hundred and Two Dollars (\$745,902.00) to assist the Cities of Cerritos, Commerce, Downey, Lakewood, Norwalk, South Gate, Vernon, Whittier and Pico Rivera Water Authority, Long Beach Water Department and the Pico Water District ("Subrecipients"), with an Advanced Water Meter Replacement ("AMR") project (the "Project") relating to water conservation and water efficiency, associated with the Gateway Integrated Regional Water Management Plan (the "IRWMP").

b. For the Region's IRWM projects funded under the Grant Agreement, the LACFCD has been designated as the regional entity to apply for grant funds on behalf of all proposed projects, including the Subrecipient's Sub-Project, for the Region through the IRWM process;

c. GWMA has entered into that certain Memorandum of Understanding, dated November 30, 2016 ("MOU") with LACFCD, by which GWMA will serve as the Local Project Sponsor and will receive a total grant of Three Million Nine Hundred Forty-One Thousand Nine Hundred Sixty-Six Dollars (\$3,941,966.00) of which One Million Four Hundred Sixty-Nine Thousand Six Hundred Sixty-Five Dollars (\$1,469,665.00) is earmarked specifically to assist the Subrecipients with the AMR Project.

d. On April 1, 2017, Subrecipient and GWMA entered into that certain Agreement entitled Subrecipient Agreement Between the Board of Water Commissioners of the City of Long Beach and the Los Angeles Gateway Region Integrated Regional Water Management Joint Powers Authority ("Agreement") in the amount of Two Hundred Eight Thousand Dollars (\$280,000), to implement Subrecipient's share of the Project by replacing 800 meters within its jurisdiction with Advanced Meter Reading units ("AMR Units") that have advanced reading technology capabilities.

e. On March 7, 2017, the City of Vernon withdrew from the Project. On April 2, 2017, the Subrecipient and GWMA entered into the First Amendment to the Agreement in order to redistribute the Direct Project Administrative Fees among the remaining Subrecipients that are participating in the Project.

f. The City of Cerritos has elected to withdraw from the Project and no longer desires to install the 579 AMR meters allocated to Cerritos under the Grant Agreement. Subrecipient desires to accept the grant funds previously set aside for Cerritos in order to install

an additional 579 meters as part of the Project. This Second Amendment is intended to modify the number of meters allocated to Subrecipient, modify the fees and grant funding, and extend the Agreement's term.

2. Section 1.1 of the Agreement entitled "Implementation of Sub-Project" is hereby amended to read as follows:

"1.1 Implementation of Sub-Project. Subrecipient shall replace or cause to be replaced water meters at customer service connections with Advanced Meter Reading ("AMR") units that have advanced reading technology capabilities (the "Sub-Project") in accordance with the Work Plan, Budget and Schedule set forth in Exhibits A, B and C, respectively and as amended/extended, of the Grant Agreement, consistent with the Subrecipient's public project bidding procedures and requirements. The Sub-Project shall include the replacement of 1,379 water meters with an equivalent number of AMR units within Subrecipient's jurisdiction. Subrecipient shall act on GWMA's behalf for purposes of management, oversight, compliance, operations and maintenance of the Sub-Project in accordance with the Grant Agreement."

3. Section 1.2 of the Agreement entitled "Commitment to Cost-Share" is hereby amended to read as follows:

"1.2 Commitment to Cost-Share. The total cost of the Sub-Project is estimated to be Four Hundred Eighty Two Thousand Eight Hundred Ninety Dollars (\$482,890.00). Subrecipient shall invest a minimum of Three Hundred Thirty Thousand Three Hundred Twenty Dollars (\$330,320.00) of its own funds, which constitutes sixty-eight percent (68%) of the cost of the Sub-Project, to the Sub-Project, in accordance with the Grant Agreement. Subrecipient shall document and submit documentation reflecting the Subrecipient's internal costs and total Sub-Project costs to GWMA to demonstrate the Subrecipient's required cost share obligations under this Agreement prior to GWMA reimbursing the Subrecipient."

4. Section 1.9 of the Agreement entitled "LACFCD Administrative Fee" is hereby amended to read as follows:

"1.9 LACFCD Administrative Fee. Subrecipient agrees to allow LACFCD to be reimbursed by DWR in an amount not to exceed Three Thousand Eight Hundred Fourteen and Twenty-Five Cents (\$3,814.25), which represents 2.5 percent of Subrecipient's requested grant amount, for grant administrative costs, management, and project oversight efforts with respect to the IRWM and Grant Agreement and MOU requirements, which has been or will be subtracted from the Subrecipient's requested grant amount, as reflected in Exhibit B of the Grant Agreement. Subrecipient thereby agrees that it will be reimbursed One Hundred Forty-Eight Thousand Seven Hundred Fifty-Five Thousand and Seventy-Five Cents (\$148,755.75) by GWMA under this Agreement, consistent with and subject to the provisions of Section 3.1 of this Agreement. Any amounts previously subtracted from the Subrecipient's requested ground amount prior to the effective date of this Second Amendment shall not be subtracted again."

5. Section 3.1 of the Agreement entitled "Maximum Amount of Funds" is hereby amended to read as follows:

“3.1 Maximum Amount of Funds. Upon compliance with the requirements set forth in this Agreement, GWMA shall reimburse Subrecipient an amount not to exceed One Hundred Forty-Eight Thousand Seven Hundred Fifty-Five Thousand and Seventy-Five Cents (\$148,755.75), which shall constitute GWMA’s full obligation to Subrecipient, unless GWMA receives additional funds from DWR for the completion of the Sub-Project. If the funds are insufficient to complete the Sub-Project, Subrecipient shall secure and provide such additional non-Grant funds necessary to complete the Sub-Project. Reimbursement, if any, by GWMA is conditioned upon receipt of such funds by GWMA from DWR and obtaining all required approvals from DWR, including environmental clearances. If DWR funds are not forthcoming from DWR for any reason, GWMA shall not have any obligation to reimburse Subrecipient through any other source of GWMA funds.”

6. Section 4.3 of the Agreement entitled “Term” is hereby amended to read as follows:

“4.3 Term. This Agreement shall commence on the Effective Date and shall be terminated when all of the following have occurred, unless earlier terminated in accordance with Section 8.2 of this Agreement: (i) the entirety of the Sub-Project has been completed, (ii) all audits and reports have been submitted by Subrecipient to GWMA pursuant to the Grant Agreement and the MOU and (iii) LACFCD has released final disbursement to GWMA and Subrecipient has received final disbursement of the Funds from GWMA pursuant to this Agreement; or by June 30, 2024, whichever event occurs first. In the event that the June 30, 2024 deadline is extended pursuant to any agreement between DWR and GWMA, the new deadline shall take the place of “June 30, 2024” in the preceding sentence.”

7. Except for the changes specifically set forth herein, all other terms and conditions of the Agreement and First Amendment shall remain in full force and effect.

SIGNATURES ON NEXT PAGE

**IN WITNESS WHEREOF**, the parties hereto have caused this Second Amendment to be executed the day and year first above written.

GWMA

Los Angeles Gateway Region Integrated  
Regional Water Management Joint Powers  
Authority, a California Joint Powers  
Authority

By: \_\_\_\_\_  
Name: Lisa Ann Rapp  
Title: Board Chair

Approved as to form:

By: \_\_\_\_\_  
Name: Nicholas R. Ghirelli  
Title: General Counsel

Subrecipient

Board of Water Commissioners of the City of Long  
Beach

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

Attest:

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
\_\_\_\_\_

Approved as to form:

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**MUTUAL TERMINATION OF SUBRECIPIENT AGREEMENT BETWEEN  
THE CITY OF CERRITOS AND THE LOS ANGELES GATEWAY  
REGION INTEGRATED REGIONAL WATER MANAGEMENT  
JOINT POWERS AUTHORITY**

**THIS MUTUAL TERMINATION AGREEMENT** is made and entered into as of July 8, 2021, by and between the City of Cerritos, a California municipal corporation ("City") and the Los Angeles Gateway Region Integrated Regional Water Management Joint Powers Authority, a California Joint Powers Authority ("GWMA").

1. This Mutual Termination Agreement is made with respect to the following facts and purposes:

a. GWMA is a member of the Greater Los Angeles County Region ("Region") Integrated Regional Water Management ("IRWM") Group. As a part of the Region's IRWM Plan, the Los Angeles County Flood Control District ("LACFCD") has entered into that certain Grant Agreement dated December 2, 2016 with the Department of Water Resources of the State of California ("DWR"), by which GWMA received Seven Hundred Forty-Five Thousand Nine Hundred and Two Dollars (\$745,902.00) to assist the Cities of Cerritos, Commerce, Downey, Lakewood, Norwalk, South Gate, Vernon, Whittier and Pico Rivera Water Authority, Long Beach Water Department and the Pico Water District ("Subrecipients"), with an Advanced Water Meter Replacement ("AMR") project (the "Project") relating to water conservation and water efficiency, associated with the Gateway Integrated Regional Water Management Plan (the "IRWMP").

b. For the Region's IRWM projects funded under the Grant Agreement, the LACFCD has been designated as the regional entity to apply for grant funds on behalf of all proposed projects for the Region through the IRWM process;

c. GWMA has entered into that certain Memorandum of Understanding, dated November 30, 2016 ("MOU") with LACFCD, by which GWMA will serve as the Local Project Sponsor and will receive a total grant of Three Million Nine Hundred Forty-One Thousand Nine Hundred Sixty-Six Dollars (\$3,941,966.00) of which One Million Four Hundred Sixty-Nine Thousand Six Hundred Sixty-Five Dollars (\$1,469,665.00) is earmarked specifically to assist the Subrecipients with the AMR Project.

d. On January 25, 2017, the City and GWMA entered into that certain Agreement entitled Subrecipient Agreement Between the City of Cerritos and the Los Angeles Gateway Region Integrated Regional Water Management Joint Powers Authority ("Agreement") in the amount of One Hundred Seventy-Five Thousand Dollars (\$175,000), to implement City's share of the Project by replacing 500 meters within its jurisdiction with Advanced Meter Reading units ("AMR Units") that have advanced reading technology capabilities.

e. On March 7, 2017, the City of Vernon withdrew from the Project. The City and GWMA thereafter entered into the First Amendment in order to increase the number of AMR Units to be replaced within City's jurisdiction to 579 and to modify the grant amount in order to compensate for Vernon's withdrawal from the Project.

f. City has notified GWMA that it no longer intends to participate in the Project because it has developed an alternative program for installing AMR Units within its jurisdiction. The Long Beach Water Department has agreed to accept the grant funds to install the 579 units previously allocated to City as part of the Project.



g. City and GWMA desire to terminate the Agreement in accordance with the terms set forth below.

2. Mutual Termination. City and GWMA agree that as of July 8, 2021, the Agreement shall be deemed mutually terminated, and without any further rights or obligations under the Agreement by either party. GWMA agrees to accept all previously paid administrative fees pursuant to Section 1.10 and 1.11 of the Agreement as full and complete compensation for its administrative and consultant costs relating to the Project. City is not entitled to any reimbursement of such administrative fees.

**IN WITNESS WHEREOF**, the parties hereto have caused this Mutual Termination Agreement to be executed the day and year first above written.

GWMA

Subrecipient

Los Angeles Gateway Region Integrated  
Regional Water Management Joint Powers  
Authority,  
a California Joint Powers Authority

City of Cerritos,  
A California municipal corporation

By: \_\_\_\_\_  
Name: Lisa Ann Rapp  
Title: Board Chair

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

Approved as to form:

Attest:

By: \_\_\_\_\_  
Name: Nicholas R. Ghirelli  
Title: Legal Counsel

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
\_\_\_\_\_

Approved as to form:

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_



*Los Angeles Gateway Region  
Integrated Regional Water Management  
Joint Powers Authority*

July 8, 2021

## **AGENDA ITEM 7 – GWMA to Serve as Lead Agency for Phase 2 of the Gateway Area Pathfinding Analysis**

### **SUMMARY:**

The Safe Clean Water (SCW) Program is soliciting project applications for Year 3 (the FY 2022-2023 funding year) to be paid from its Regional Program funds (50% of SCWP funds). The deadline for applications is July 31, 2021. As part of the Regional Program, 5% is available for Scientific Studies, as set forth in each watershed area's Stormwater Investment Plan ("SIP"). GWMA was requested by three of its watershed groups (the Lower LA River, Lower San Gabriel River and Los Cerritos Channel) to consider serving as the Applicant (Lead Agency) for Phase 2 of the Gateway Area Pathfinding (GAP) Analysis.

### **BACKGROUND:**

In October 2020, the GWMA board approved serving as the Lead Agency for a Phase 1 GAP Analysis Project and authorized GWMA's name to be added to the Measure W funding application for the proposed study. The objectives of this study are as follows:

- Scan the landscape of the Lower Los Angeles River and Lower San Gabriel River Watershed Areas to identify the suite of known and hidden, potential project opportunities;
- Analyze the dynamic interactions between those potential projects;
- Determine the best project-by-project pathway (and timeline) to achieve compliance; and
- Deliver project recommendations that are ideally suited for consideration by the WASC for Safe Clean Water infrastructure funding.

The outcomes of this effort will set the stage for the groups' adaptive management efforts and will help to guide the groups as they prioritize, analyze, design, and build highly efficient projects throughout the region. When the request was presented to the board, it was noted that Phase 2 of the GAP Analysis would likely be requested for consideration for this year's applications. The Phase 1 project was submitted to and approved by the Lower Los Angeles River WASC and the Lower San Gabriel River WASC for Measure W Scientific Studies FY 2021-2022 funding.

**Lisa Rapp (Lakewood), Board Chair • Adriana Figueroa (Paramount), Vice-Chair • Kelli Tunnicliff (Signal Hill), Secretary/Treasurer**  
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Members: Artesia • Bell • Bell Gardens • Bellflower • Central Basin Municipal Water District • Cerritos • Commerce • Compton • Cudahy • Downey  
Hawaiian Gardens • Huntington Park • La Mirada • Lakewood • Long Beach • Long Beach Water Department • Lynwood • Maywood • Montebello • Norwalk • Paramount  
Pico Rivera • Port of Long Beach • Santa Fe Springs • Signal Hill • South Gate • Vernon • Water Replenishment District of Southern California • Whittier

*With Technical Support From The Sanitation Districts Of Los Angeles County*

Phase 2 of the GAP Analysis will scale the approach region-wide over a longer-term horizon of approximately 10-50 years, in collaboration with the Watershed Coordinators and Gateway Groups, including targeted field visits to validate site-specific engineering feasibility assumptions. Outcomes will support the Gateway Region as they adapt their Watershed Management Programs over time and will provide the Lower Los Angeles River and Lower San Gabriel River Watershed Area Steering Committees with supplemental, objective information for consideration when programming future Stormwater Investment Plans.

The grant funding requested for the study is \$460,000 total, in which \$230,000 will be requested independently from each of the Lower Los Angeles River and Lower San Gabriel River Watershed Areas. Phase 2 of the GAP Analysis can advance in each Watershed Area regardless of whether it is funded in the other Watershed Area.

**FISCAL IMPACT:**

Currently, nominal staff time is being expended to assist in preparing the information for Board consideration. Costs to prepare the applications, give presentations to Watershed Groups as well as WASCs are being done by other proponents.

If funding is awarded through Measure W, GWMA staff and legal time will be needed to review and develop the funding agreement(s) between GWMA and Los Angeles County Flood Control District for the GWMA Board to consider. In accordance with GWMA Board Policy, once the legal agreements are executed, GWMA's administrative costs will be covered by Measure W funds.

**RECOMMENDATION:**

- a. Approve GWMA's role as Lead Agency for Phase 2 of the Gateway Area Pathfinding Analysis and authorize GWMA's name to be added to the Measure W funding application for the proposed study. If awarded, GWMA's official role as the study's Lead Agency is contingent upon Board Approval of an Agreement between Los Angeles County Flood Control District and GWMA that sets forth each agency's role and funding obligation.

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# SAFE, CLEAN WATER PROGRAM SCIENTIFIC STUDY OUTLINE

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The following document follows the outlined headings required in the Safe, Clean Water Program module for regional Scientific Study applications.

## I.0 EXECUTIVE SUMMARY

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Study Name	Gateway Area Pathfinding Analysis (GAP Analysis) - Phase 2
Short Description	Phase 2 will scale-up the methods tested in Phase 1 to find and analyze projects in a watershed context to recommend a longer-term, project-by-project pathway to safe, clean water
Abstract	<p>The Gateway area watershed managers are the “last line of defense” before runoff discharges into the ocean from the Los Angeles River, San Gabriel River, and Los Cerritos Channel, and were some of the first agencies to develop and implement Watershed Management Programs (WMPs) to address stormwater quality. Since adoption of their WMPs, the Lower LA River (LLAR), Lower San Gabriel River (LSGR), and Los Cerritos Channel Watershed Groups (Gateway Groups) have made significant progress designing and constructing impactful, multi-benefit stormwater capture infrastructure throughout the region (at least 20 regional projects completed, in construction, being designed, or analyzed for feasibility—totaling over \$100M of funding secured for new infrastructure); however, as more projects successfully come online, the Groups identified the need to better understand how the overall system of projects functions at the watershed scale so that they can efficiently prioritize projects for Safe, Clean Water Program support. While WMPs provided a flexible, watershed- and subwatershed-scale “recipe for compliance,” the longer-term plan is coarse, leaving the Groups in need of implementation-scale details to plot out their project-by-project pathway to clean water (e.g., what additional projects are possible throughout the watersheds, which are the most strategic projects to pursue collaboratively, and in what order should they be designed and built?). Answering these questions will enable the Gateway Groups to make more informed decisions about which projects to fund with taxpayer dollars through the Safe, Clean Water Program, support continue adaptive management of their WMPs, and help them respond to concerns from the State Water Resources Control Board regarding WMP specificity.</p> <p>Phase 1 of the Gateway Area Pathfinding (GAP) study was therefore recommended for Regional Program funding by the LLAR and LSGR Watershed Area Steering Committees to:</p> <ol style="list-style-type: none"><li>(1) <b>identify new, hidden projects</b> throughout the LLAR and LSGR Watershed Areas so that the Groups can fully understand what project opportunities are available and “bookend” the maximum feasible level of implementation;</li><li>(2) use those bookends to <b>explore how projects interact as a system at the watershed scale</b>, including reconciling Safe, Clean Water Program scoring conflicts that have already been identified for projects networked in series;</li></ol>

- (3) begin to **articulate the Groups’ long-term recipes for compliance** by aligning the newly identified, feasible projects with water quality and community priorities; and
- (4) translate the findings into initial **stormwater Investment Plan recommendations** that comprehensively support WMP implementation and safe, clean water goals.

The first phase of this study (expected to initiate by October 2021) will develop the methods and test the GAP approach in a portion of each Watershed Area to demonstrate regional value over a short-term planning horizon (approximately 5-10 years). The proposed approach for Phase 1 received “unequivocal praise” from a panel of academic experts; one reviewer cited the project’s “enormous potential” to provide “long-term value” as a regional planning tool, while the other noted the project’s potential to prioritize projects in a way that will create “a clearer hierarchy for retrofitting.”

Phase 2 will then scale the approach region-wide and over a longer-term planning horizon (approximately 10-50 years) in collaboration with the Watershed Coordinators and Gateway Groups, including targeted field visits to validate site-specific engineering feasibility assumptions. Outcomes will support the Gateway Groups as they adapt their WMPs over time and will provide the LLAR and LSGR WASCs with supplemental, objective information for consideration when programming future Stormwater Investment Plans.

**Funding  
Requested**

FY 2022/2023: \$230,000 requested independently from each of the Lower LA River and Lower San Gabriel River Watershed Areas (\$460,000 total); the study can advance in each WASC regardless of whether it is funded in the other WASC

**Study Lead**

Gateway Water Management Authority, on behalf of the Gateway Groups

**Additional  
Collaborators**

Lower LA River Watershed Management Group  
 Los Cerritos Channel Watershed Group  
 Lower San Gabriel River Watershed Management Group  
 OhanaVets, LSGR Watershed Coordinators  
 Stephen Groner Associates, LLAR Watershed Coordinators (collaboration pending)

## 2.0 DETAILS

### 2.1 Problem Statement

The Gateway area watershed managers are the “last line of defense” before runoff discharges into the ocean from the Los Angeles River, San Gabriel River, and Los Cerritos Channel, and were some of the first agencies to develop and implement Watershed Management Programs (WMPs) to address stormwater quality. Since adoption of their WMPs, the Lower LA River, Lower San Gabriel River, and Los Cerritos Channel Watershed Groups (herein described as the Gateway Groups) have made rapid, deliberate, and significant strides to plan, design, and construct impactful, multi-benefit stormwater capture infrastructure throughout the region (at least 20 regional projects completed, in construction, being designed, or analyzed for feasibility—totaling over \$100M of funding secured for new infrastructure); however, as more projects successfully come online, the Groups identified the need to better understand how the overall *system* of projects functions at the watershed scale so that they can efficiently prioritize projects for Safe, Clean Water Program support.

While WMPs provided a flexible, watershed- and subwatershed-scale “recipe for compliance,” the longer-term plan is coarse, leaving the Groups in need of implementation-scale details to confidently plot out their project-

by-project pathway to clean water. Additionally, the Groups need a data-driven approach to coordinate which projects have the greatest watershed-scale impact and should be proposed for Regional Safe, Clean Water Program (SCWP) funding to most efficiently leverage taxpayer dollars. Finally, LLAR and LSGR Watershed Area Steering Committee (WASC) members have articulated the challenges of programming defensible Stormwater Investment Plans (SIPs) without additional scientific guidance.

Watershed science must therefore be applied to answer the following questions:

- **What specific portfolio of projects is possible throughout the watersheds?**
- **What are the most strategic projects to pursue individually/collaboratively to meet WMP clean water goals?**
- **How do projects interact at a watershed scale, and how does watershed context impact project design (e.g., how do upstream projects impact downstream projects)?**
- **In what order should the projects be designed and built to most efficiently improve water quality?**
- **Which multi-benefit projects should be proposed for SCWP regional funding and which should be funded with local municipal dollars?**

Answering these questions will enable the Gateway Groups to make more informed decisions about which projects to fund with taxpayer dollars through the SCWP's Municipal Program, come to consensus on which projects to propose for Regional Program funding, support continued adaptive management of the Gateway WMPs, and provide supplemental information to support WASC review of infrastructure project applications.

## **2.2 Objectives**

This study will support the Gateway Groups and other Permittees in the Lower LA River and Lower San Gabriel River Watershed Areas by enhancing their WMP planning with new, implementation-oriented project recommendations. Those recommendations will then be integrated with SCWP Stormwater Investment Planning to help the Groups agree on which projects should be proposed for Regional Infrastructure Program funding. This goal will be accomplished by applying the latest watershed science and tools to meet the following objectives:

- (1) identify hidden projects throughout the Lower LA and Lower San Gabriel River Watershed Areas to supplement existing plans,**
- (2) explore how projects interact in a network at the watershed scale (including reconciling Infrastructure Program scoring conflicts between projects located in series),**
- (3) further articulate the Groups' recipes for compliance by aligning identified, feasible projects with water quality and community priorities, and**
- (4) translate the findings into stormwater Investment Plan recommendations that comprehensively support WMP implementation and safe, clean water.**

The first phase of this analysis was recommended for funding by the LLAR and LSGR WASCs to initiate the approach in a subset of each Watershed Area; this second phase is then intended to scale the approach region-wide and supplement desktop analyses with field visits to assess engineering feasibility of specific projects. Although the study is being proposed specifically by the Gateway Groups, it will also assess areas managed by other Permittees in the Watershed Areas, including the LA River Upper Reach 2 Group, Upper San Gabriel River Group, Long Beach Nearshore Group, and the Cities of Compton and La Habra Heights.

## 2.3 Summary

Phase 2 of the GAP Analysis will follow the same approach as Phase 1, but will scale the methods validated during Phase 1 across the entire watershed areas to build out longer-term project recommendations. Below is a brief description of the methods, and additional detail in response to comments from an independent review panel is provided in the *Additional Information* section.

### **Task 1 - Identify and Reconcile Watershed-Wide Opportunities:**

To identify and analyze projects at an appropriate scale for capital planning, the investigators will first use LiDAR data and aerial photograph bands obtained from LA County to generate planimetric data useful for project opportunity assessment. Once surface features are characterized using the high-resolution data, the team will work with the agencies of the Gateway Groups to refine the list of preferred project types and configurations customized to each jurisdiction during Phase 1. Opportunities will be considered on both publicly and privately owned parcels and within the road rights-of-way. This will allow careful evaluation of previous successes and local preferences to select practices well-suited to the physical and regulatory conditions of each jurisdiction.

Once the menu of project types is refined, then potential project opportunities will be identified using a combination of automated geomatic processes and systematic visual review by engineers/planners. This is initiated by first establishing typologies—or areas with common characteristics—where certain project types tend to be feasible. Then specific, site-by-site screening will identify planning-level footprints for each project type across the area of interest. Once suites of potential projects are identified, then the drainage areas to each project, and inter-project routing, will be delineated using a series of automated algorithms and manually reviewed for accuracy.

The preceding steps will produce a list of potential stormwater capture opportunities, their associated maximum footprints, and drainage areas. This process will also generate the routing network between projects so that the pollutant loading to each project can be accurately represented, and thus the potential benefits of strategic project scheduling can be explored. Results will be appended with the recently updated recommendations in the Gateway WMPs and with the initial recommendations generated during Phase 1 of the GAP analysis. Site visits will be conducted for the 10 to 20 highest-impact potential projects to confirm engineering and modeling assumptions.

### **Task 2 - Model Watershed-Scale Project Interactions and SCWP Scoring**

Next, the optimum progress towards meeting WMP and water supply goals will be computed using methods and models consistent with the Gateway WMP Reasonable Assurance Analyses. Using the model results and the general project characteristics established for the menu in Task 1, SCWP scores will also be computed for each project in the context of the overall system of projects. This will allow upstream/downstream dynamics, and their impact on project scoring, to be explored (which is not currently possible with the SCWP Projects Module).

This task will generate the “maximum reasonable” implementation of stormwater capture projects throughout the watershed areas, which will be refined and prioritized in the following Task 3.

### **Task 3 - Cross-Reference Projects with Recipes for Compliance and Plot Initial Path to Clean Water**

Once the universe of potential projects and their performance are characterized, then the investigators can analyze which specific projects represent the most cost-effective pathway to clean water and satisfy the WMP recipes for compliance. This will be accomplished through an iterative modeling process that considers the downstream impacts



when a certain project is turned on/off, and how each project impacts the necessity of additional projects upstream. Phase 2 will expand the initial effort conducted under Phase 1 into a Watershed-Area-wide pathway to clean water. Modeling will also consider how watershed-wide project implementation scenarios impact Water Supply and Community Investment Benefits goals of the SCWP.

#### **Task 4 - Stormwater Investment Plan and Municipal Program Recommendations**

Once the pathway is established and updated SCWP scores are computed for the overall program in the area of interest, shorter-term recommendations initiated during Phase 1 can be expanded into long-term recommendations for the Municipal and Regional SCWPs to support efficient water quality improvement and compliance.

## **3.0 OUTCOMES**

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### **3.1 Nexus**

The GAP Analysis will demonstrate how watershed science can be applied to define a specific pathway to clean water and water supply goals. It will bolster certainty that SCWP investments (i.e., taxpayer dollars) will yield defensible, meaningful, measurable, and achievable improvements to the environment, and subsequently, to local communities.

### **3.2 Outcomes and Benefits**

This scientific study will benefit not only the Gateway Groups, but also the WASCs and Watershed Coordinators by generating new data to objectively inform implementation decisions. The following outcomes and benefits are anticipated:

- A detailed list of new project opportunities for the studied area
- Prioritization of known and new opportunities to meet local preferences, objectives, and budgets
- Field verification of highest priority opportunities
- Reconciliation of planning between Watershed Management Groups in each Watershed Area
- Certainty and accountability to taxpayers that projects proposed for SCWP funding maximize return on investment

The value and benefits of the GAP approach were recognized by an independent review panel of academic experts, as highlighted in the excerpts below:

- All three reviewers agree that the project **effectively supports the SCWP's goals**
- One reviewer noted that the project has the potential to “produce **useful data, minimize conflicts** with other projects and produce **value for taxpayers.**”
- One reviewer described the data-driven technical approach as “**excellent**” and having the potential to serve as **a model regionwide**
- One reviewer described the study as **a “bargain”** given the proposed budget.
- Two reviewers offered **unequivocal praise**: One cited the project’s “**enormous potential**” to provide “**long-term value**” as a regional planning tool, while the other noted the project’s potential to prioritize projects in a way that will create “**a clearer hierarchy for retrofitting.**”
- Of the three SCWP proposals they were asked to review, one reviewer stated that “this was by far **the most thoughtful proposal.**”



The study applicants have also been coordinating with OhanaVets, the LSGR Watershed Coordinators, who have expressed support for this scientific approach to be applied across other SCWP Watershed Areas to support data-drive Stormwater Investment Planning.

## **4.0 BACKGROUND**

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### **4.1 Previous Studies**

The following case studies demonstrate how agencies in the LA Region have already successfully applied implementation-oriented planning concepts to build actionable, achievable, and efficient watershed programs. These proofs of concept demonstrate that past progress throughout the watershed can be leveraged to efficiently compile project opportunities and fashion a feasible, collaborative, and science-driven pathway to clean water. The proposed lead investigator for the GAP Phase 2 analysis (Craftwater Engineering) is the primary technical lead for all of these efforts, which demonstrates the study team's qualifications and continuity of regional knowledge transfer.

#### **4.1.1 Past Studies**

##### **Case Study: Upper LA River Adaptive Watershed Management Screening**

A screening analysis was performed for a 9-square-mile area located in the Upper LA River watershed to test whether site-scale project understanding combined with watershed collaboration could improve EWMP achievability. The results favorably demonstrated that if project partners can be identified and leveraged (in this case, water supply agencies) and if a watershed approach is taken to evaluate project benefits, then the compliance pathway in the pilot area could be drastically streamlined from a recipe of 350 unknown projects to just 3 known regional projects currently under design. These enhancements could reduce implementation costs by at least 73 percent in the pilot area, which demonstrates efficient, science-driven use of public dollars. If similar opportunities are possible throughout the entire RH and ULAR Watershed Areas, then agencies could potentially achieve water quality improvements for substantially lower capital costs (this case study estimated over \$4.5 billion in savings), which would amplify the WASCs' capacity to fund additional community investments, water supply projects, and nature-based solutions.

##### **Case Study: Compton Creek Strategic Project Pilot**

The Compton Creek Pilot Study used comparable methods to those proposed in this GAP Analysis by leveraging remote-sensing and high-resolution data to identify regional stormwater capture projects with an emphasis on feasibility and constructability. A modeling framework was developed to then prioritize these projects using flexible, value-based criteria that accounted for the interactions between the potential network of projects. Results were input to an intuitive web-based mapping and dashboarding platform to enable exploration of candidate project data and real-time evaluation of forecasted Safe, Clean Water benefits. The platform used solid watershed science to confidently prioritize capital planning decisions across a previously unmanageable suite of potential projects. This approach would be invaluable for scaling up the adaptive management strategies to the watershed scale, and demonstrated that multi-benefit opportunities tend to be ubiquitous throughout urban watersheds if you know where to look and built an initial framework for rapid, watershed-scale assessment of stormwater investment scenario benefits.

**Case Study: Rio Hondo/San Gabriel River reWMP**

The Rio Hondo/San Gabriel River Group pioneered many of the concepts to be applied in this GAP Analysis when revising their WMP (the so-called “reWMP”), which sought to apply updated understanding of watershed science to provide a clearer, more certain, more efficient, and implementable pathway to compliance at the watershed scale. Results suggested a 90-percent reduction in long-term WMP capital costs while defining a specific project-by-project pathway to meet specific water quality goals.

**4.1.2 Concurrent Studies**

Several concurrent watershed plans and scientific studies are being conducted and will be coordinated with this effort. The most relevant and complementary opportunities for coordination are:

**GAP Analysis, Phase 1**

As discussed above, Phase 1 of the GAP analysis was recommended for Fiscal Year 2021/2022 funding by both the LLAR and LSGR WASCs and—as of submittal of this Phase 2 proposal—awaits approval by the Regional Oversight Committee and LA County Board of Supervisors. Once approved work is expected to begin by October 2021, so initial results and preliminary study outcomes will be ready to share with LLAR and LSGR WASCs during consideration of this Phase 2 proposal during development of the Fiscal Year 2022/2023 SIP. Funding

**Revised E/WMPs**

Each of the watershed groups throughout LA County is required by the MS4 Permit to update its WMP or EWMPs before July 2021. These updates will incorporate new monitoring, project, and program information gathered since WMP initiation to adaptively manage the programs. This GAP Analysis will use the revised WMPs, and their associated projects and compliance recipes, as the baseline for Task 1; results of this scientific study will then support future Permit-required adaptive management of the WMPs.

**preSIP Scientific Study (Upper LA River and Rio Hondo WASCs)**

The Upper LA River and Rio Hondo WASCs voted to program the preSIP scientific study into their FY20/21 SIPs. The preSIP study will apply methods similar to the GAP Analysis to identify a comprehensive suite of new project opportunities. Because the preSIP will get a “head start” in FY20/21, the progress and innovations will be leveraged to improve the efficiency of this GAP Analysis and to promote regional consistency.

**SCWP Metrics and Monitoring Study (Pilot Phase: Accelerate Resilience L.A.; Scale-up Phase: LA County Flood Control District)**

The SCWP Metrics and Monitoring Study will help enable adaptive management of the Safe Clean Water Program (SCWP or Program) by building out the means of measuring and tracking program impacts and mapping regional conditions relevant to SCWP Program Goals, which can be used for reporting and opportunity identification. Specifically, this study will develop a suite of evidence-based metrics (quantitative and qualitative), and monitoring strategies to determine and track the ongoing effectiveness of the Safe, Clean Water Program with respect to the SCWP Goals outlined in Section 18.04 of the Los Angeles County Municipal Code. It will also yield digitized, open-source maps that layer geographic, hydrologic, socio-economic, and other conditions within each Watershed Area. These metrics and monitoring strategies will be developed based on appropriate research, scientific analysis, stakeholder engagement, and expert opinion about measuring project

benefits and watershed opportunities. The Study will support adaptive management at the program level, improving efficiency and maximizing the implementation of SCWP Goals.

## 4.2 Regulations

This study works within the bounds of state and federal regulations, and, in fact, better ensures that projects proposed for SCWP funding will support local compliance with the Clean Water Act. This will be accomplished by identifying a complete pathway of projects that directly links the SIPs' water quality benefits to attainment of the TMDL provisions in the MS4 Permit. The project identification and evaluation will generate an updated compliance analysis and more granular compliance road map that can be readily used by municipalities to update their WMPs during the Permit-required adaptive management process.

## 5.0 COST AND SCHEDULE

### 5.1 Cost of Study

Funding requests from each WASC are independent and would be applied towards that Watershed Area. Buy-in from both WASCs is not required to advance the study.

Watershed Area	Approx. Annual Scientific Study Funding Available	FY22/23	
		Scientific Study Funding Allocated this FY	Funding Requested (% of available this FY)
Lower LA River	\$636k	--	\$230k (36%)
Lower San Gabriel River	\$828k	--	\$230k (28%)

### 5.2 Funding Sources

The Groups' extensive investments in planning and lessons learned from design and construction will be leveraged for efficiency, although no additional matching funding will be provided for this scientific study.

### 5.3 Schedule

Task	Completed by
1 - Identify and Reconcile Watershed-Wide Opportunities	Funding Transfer + 6 months (February 2023)
2 - Model Watershed-Scale Project Interactions and SCWP Scoring	Funding Transfer + 8 months (May 2023)
3 - Cross-Reference Projects with Recipes for Compliance and Plot Path to Clean Water	Funding Transfer + 10 months (July 2023)
4 - Stormwater Investment Plan Recommendations	Funding Transfer + 12 months (September 2023)

## 6.0 ADDITIONAL INFORMATION

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### 6.1 Responses to Phase I Proposal Academic Review Comments

The proposal for Phase 1 of the GAP analysis was reviewed by an academic panel, and comments were summarized by the District. The study team responded verbally to key comments during LLAR and LSGR WASC meeting, and the following pages provide additional responses relevant to understanding the details of Phase 2.

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#### SAFE CLEAN WATER PROGRAM SCIENTIFIC STUDY PROPOSAL QUESTIONNAIRE

##### 1. Proposal identification information and summary of the project goals.

###### Summary of Comments:

*All three reviewers are in agreement that the study's overall goal is to help managers in the lower L.A. and San Gabriel River watersheds assemble and prioritize an optimal combination of BMPs and other watershed improvement projects to meet their water-quality goals.*

*Specifically, the study will collect data on various proposed watershed improvement projects – both known projects and projects that the proposing organization is yet not aware of – and then conduct modeling analyses to understand which combinations of projects would provide maximum synergistic benefits. The project will result in the identification of a portfolio of priority projects optimally aligned to the region's regulatory compliance strategy.*

###### Applicant Response:

The project applicants concur with the reviewers' synopsis.

##### 2. Are the objectives clearly stated? What portion of the objectives need more clarification?

###### Summary of Comments:

*The reviewers generally agree that the study objectives are clear. Only one reviewer caveated their positive assessment by noting that they would have preferred more clarity around which areas will be targeted in which phases and how the phases will build upon one another.*

###### Applicant Response:

The specific areas for the Phase 1 pilot analysis will be selected in collaboration with the agencies of the Gateway Group, so the geographical extent is currently unknown. It is anticipated that a 5- to 10-square-mile area will be initially assessed, then in Phase 2 the analysis will be scaled to the entirety of the Watershed Areas.

##### 3. How do the project goals directly support a nexus to increasing stormwater or urban runoff capture and/or reducing stormwater or urban runoff pollution?

###### Summary of Comments:

*All three reviewers agree that the project effectively supports the SCWP's goals of increasing stormwater or urban runoff capture and/or reducing stormwater or urban runoff pollution. The reviewers all offered positive comments. One reviewer noted that the project has the potential to "produce useful data, minimize conflicts with other projects and produce value for taxpayers." The second reviewer noted that the study's use of "system modeling" to evaluate various projects was beneficial and has the potential to enhance watershed*

*planning efforts. The third reviewer noted that the study has the potential to help managers identify additional beneficial stormwater control measures to implement.*

Applicant Response:

The applicants appreciate the feedback.

**4. What is (are) the overarching technical approach element(s) of the proposed project as you understand them (not necessarily the same as the elements described in the proposal)?**

Summary of Comments:

*The reviewers agree that the study's technical approach consists of using geospatial analysis, system-level watershed modeling and multiple evaluation criteria to identify, analyze and prioritize multiple potential watershed improvement projects in the lower L.A./San Gabriel watersheds. One reviewer said they wished there had been more specifics in how certain tasks would be accomplished, such as details about the modeling system itself.*

Applicant Response:

The investigators will review the watershed models available at the onset of the project and select the model that best represents the region's hydrology and water quality. The models that will be reviewed include the Los Angeles County Watershed Management Modeling System—a Loading Simulation Program in C++ (LSPC) model regionally calibrated to the most recent 10 years of data--, the LSPC model calibrated for the 2019 revised Rio Hondo/San Gabriel River Revised Watershed Management Program, the LSPC model used for the 2021 Gateway area revised Watershed Management Programs, and the LSPC model currently being calibrated for the Upper Los Angeles River and Rio Hondo preSIP scientific study. For simulating project performance, the EPA SUSTAIN model will be utilized. These models are consistent with the Regional Board's compliance analysis guidelines, and the study investigators have extensive experience developing, calibrating, and operating LSPC and SUSTAIN models to simulate urban runoff throughout the Los Angeles region (and specifically in the Gateway area).

Once a calibrated model is selected, each project opportunity will be continuously simulated using either an hourly or daily timestep to evaluate long-term performance over a variety of storm conditions (typically a 10-year or 25-year modeling period with a one-year warm-up period). The simulation periods will be synchronized with the periods recommended in current compliance analysis guidance, Watershed Management Program analyses, and SCWP Infrastructure Program Scoring Criteria. The projects will be simulated both individually and considering the overall network of other projects (i.e., in series) to evaluate inter-project dynamics. The study team has developed analytical tools to expedite batch-processing inputs and outputs for thousands of project combinations/scenarios so that the full range of potential compliance pathways can be evaluated.

**5. Has the proposal provided sufficient information to describe the technical approach for each element? If not, what information is missing?**

Summary of Comments:

*All three reviewers stated there was insufficient information in the proposal to understand how all of the technical elements would be implemented. For example, one reviewer made a list:*

- *Task 1: What criteria will be used to evaluate each project? How does available space for projects factor into the evaluation? Does proximity to a stream matter? (Some specific criteria would be good to show.)*

Applicant Response:

When screening the landscape for project opportunities, the study team applies a combination of automated geospatial tools and pragmatic engineering judgement to identify suitable project opportunities. Generally, our team seeks out opportunities where ample space is available for either surface or subsurface stormwater capture within a reasonable proximity to large storm drains and channels. The criteria for “reasonable proximity” differs depending on the depth of the storm drain from which runoff will be diverted--with deeper drains warranting shorter distances, and longer distances being feasible for shallower drains. Other criteria for project screening include conflicts or constraints (soil properties, contamination, utilities, mature tree cover, groundwater depth), coincidental projects that might be augmented with a stormwater capture component, and local preferences (as determined through targeted engagement with local agencies). The study team has successfully applied this approach to identify thousands of new project opportunities throughout coastal California.

- *Task 2: What model will be used, and has it already been developed? (It is impossible to judge how realistic the modeling will be without knowing the type of model, the scale of the model, calibrated procedures, and how it handles runoff and conveyances, etc.)*

Applicant Response:

Please see response to question #4 above for details.

- *Task 2: How will scores for each project work? How will various aspects of a given potential project be quantified?*

Applicant Response:

Projects will be evaluated primarily on the basis of water quality performance, as simulated using the chosen modeling systems; although the SCWP is designed as a multi-benefit program, water quality improvement is a prerequisite for projects to be eligible for Regional Program funding. Water supply benefits will also be estimated using the combined LSPC and SUSTAIN models. Community Investment Benefits will be evaluated based on guidance currently available in the SCWP Infrastructure Project Scoring Criteria, and may be supplemented by additional guidance that is expected from the concurrent SCWP Metrics and Monitoring Study summarized in *Previous Studies* section.

- *Task 3: How will cost estimates be developed?*

Applicant Response:

The study team has supported or completed the design of over 100 stormwater capture projects in the Los Angeles region; these efforts have generated a robust cost database that is used by the team to estimate the costs for various types of stormwater capture projects based on planning-level design assumptions including diversion pipe alignment length, diversion flow rate and type (gravity diversion or pumped diversion), project storage volume and depth below grade, pretreatment requirements, and long-term operations and maintenance requirements specific to each project type.

6. **Is the technical approach sound? If not, what do you recommend should be done to improve the**

**technical approach of the proposed project?**Summary of Comments:

*The reviewers did not all come to the same conclusion about whether the approach is technically sound. One reviewer described the data-driven technical approach as “excellent” and having the potential to serve as a model regionwide, while the other two reviewers said the proposal lacked key details to make this assessment. Of the latter two reviewers, one pointed out that the lack of specifics about how the modeling will be done make the technical approach difficult to assess. The other reviewer pointed out that the approach section reads like a summary that is lacking in technical depth.*

Applicant Response:

The applicants acknowledge that the approach section was intentionally written for a non-technical audience, but appreciates the opportunity to provide additional technical details during WASC meetings and in this written response. Please refer to additional details provided under question #4 above.

**7. How achievable are the study’s stated technical objectives, especially within the proposed timeframe and budget?**Summary of Comments:

*The reviewers agree it appears the proposing organization can achieve all of the study’s objectives in the stated timeframe and budget. One reviewer simply characterized the budget as “reasonable.” A second reviewer said they “don’t fully understand” how many people will work on the study, but that it appears to be a “bargain” given the proposed budget. The third reviewer said the budget is “plausible,” but only assuming the model has been “already developed and calibrated,” as this would mean that a large portion of the modeling work would already be done.*

Applicant Response:

It is indeed assumed that the selected watershed model will be developed and calibrated. Note that Phase 1 will initiate the analysis in a subset of the watershed, whereas Phase 2 is expected to scale-up the analysis watershed-area-wide.

**8. What are the greatest technical risks that you foresee the proposing agency facing when implementing the project?**Summary of Comments:

*The reviewers agree this project faces technical risks, but don’t agree which risk is the biggest. One reviewer said the biggest technical risk is the challenge of interacting with a diverse, broad group of stakeholders across the lower L.A./San Gabriel watersheds, although the reviewer believes existing strong relationships and collaborations will minimize this risk. The second reviewer said the biggest technical risk is the system-level modeling – specifically, ensuring the model has sufficient level of detail to accurately predict the benefits of certain projects above others. The third reviewer said the biggest technical risk is whether the model accurately predicts sources of pollutants, and whether the proposed BMPs will be able to effectively treat the runoff from these sources.*

Applicant Response:

Although the study applicants plan to conduct targeted engagement with municipal agencies to solicit information on existing and planned projects, the study does not include broad stakeholder outreach because that is the role of the Watershed Coordinators. The study team is already working closely with Watershed



Coordinators to ensure that the technical outcomes of the GAP analysis will supplement the community-based recommendations generated through their robust stakeholder engagement process.

The modeling systems used for this study are currently the best available tools to represent pollutant and stormwater loading, and are accepted by regulators for both watershed-scale TMDL planning and project-scale design. The team has successfully applied this approach for modeling systems of projects in each of the example projects discussed in the *Previous Studies* section above, and received praise from a third party academic reviewer for conservative assumptions and high-certainty outcomes.

**9. Are there clear linkages between the project's technical objectives and the types of decisions that stormwater managers will make based on the project's outcomes? Will the technical achievements provide stormwater managers useful linkages that extend beyond this study?**

Summary of Comments:

*All three reviewers agree that the project has linkages to management that could be applicable beyond the project. Two reviewers offered unequivocal praise: One cited the project's "enormous potential" to provide "long-term value" as a regional planning tool, while the other noted the project's potential to prioritize projects in a way that will create "a clearer hierarchy for retrofitting." The third reviewer was more restrained in their praise, noting that they would have preferred to see more detail about how the project's findings will be incorporated into management plans.*

Applicant Response:

Please see additional details above; at this time, the study leads do not want to presume how/if results be directly incorporated into Watershed Management Programs or whether they will be used to guide implementation of said programs. If agencies choose to incorporate the results, this would occur during the adaptive management process of the Watershed Management Programs, and could include a supplemental appendix to the Programs describing project-specific implementation schedules.

**10. Please provide any additional technical perspectives you would like to share.**

Summary of Comments:

*Two reviewers had no additional perspectives to share. The other reviewer said that of the three SCWP proposals they were asked to review, "this was by far the most thoughtful proposal."*

**11. Please answer each of the following questions by selecting one of the following five answer choices: Excellent, Very good, Adequate, Inadequate or Not applicable because of insufficient information. Feel free to add an explanation to accompany your answer choice:**

**A. How well do the proposal objectives address the SCWP's goals of increasing stormwater or urban runoff capture and/or reducing stormwater or urban runoff pollution?**

Summary of Comments:

*Two of the reviewers rated the proposal's objectives as being "very good" at addressing SCWP goals. The third reviewer gave an "excellent" rating.*

Applicant Response:

Thank you.

**B. How well do you think the technical approaches will achieve the study objectives and stated outcomes?**



Summary of Comments:

*Two reviewers provided an “adequate” rating, although one reviewer said their rating is based on the assumption that the details of the study’s technical approach are “well- grounded.” The third reviewer provided an “excellent” rating.*

Applicant Response:

Thank you – please see additional details provided above.

**C. Technical experience and qualifications of the study team?**Summary of Comments:

*The reviewers disagreed in their assessment of the qualifications of the study team. Two reviewers answered “not applicable” because of insufficient information, with one stating they had no resumes or statement of qualifications to examine. The third reviewer rated the study team “very good” based on similar projects described in the proposal conducted by one of the team members.*

Applicant Response:

The *Previous Studies* section above was revised to clarify that the technical effort for each of the example projects was successfully led by the lead investigators, and a profile of the investigators’ qualifications was added in the *Additional Information* section.

## **6.2 Study Lead Investigator Qualifications**

The following attachment summarizes the experience and qualifications of the lead investigator recommended by the project applicant: Craftwater Engineering.

## FIRM INTRODUCTION

### ABOUT US

Craftwater Engineering, Inc., is a California certified Disabled Veteran Owned Business Enterprise (DVBE) and Micro Business (MB) structured to deliver agile, full-spectrum service to the stormwater market in California. Our rapidly growing team of associates is skilled at adapting to the continuously evolving regulatory environment, yet grounded enough to deliver high quality and readily-constructible designs. We take pride in programmatic stewardship – avoiding the pitfalls of changing teams between the planning, concept, full design, construction, and monitoring phases of each project. Craftwater is poised to serve the stormwater market by shaping practical regional stormwater policy, strategically planning investments in green infrastructure, and delivering innovative multi-benefit project designs and feasibility studies that are competitively aligned with funding sources. We strive to provide meaningful environmental outcomes with affordable and functional water infrastructure to California and beyond.

As trusted strategic advisers and designers, our mission is to always act genuinely to advance the best interests of our clients, the environment, and the state of science by designing real solutions for total water cycle management. With over 120 years of combined experience, our high-powered team of associates is specialized in full-spectrum stormwater program stewardship. We take pride in the ability to converge creative, academic thought with pragmatic, on-the-ground engineering to deliver reliable outcomes on every project, and our team's successes have been awarded and recognized in multiple engineering journals and publications. Additionally, we are proud that every member of our founding team is a licensed Professional Engineer in the state of California.

### CORE SERVICE AREAS

Recently described as ***“the most well-connected firm in LA,”*** our agile team is prepared to leverage our national relationships and resources to provide local agencies with unparalleled quality, efficiency, and a client-centric culture. We uniquely specialize in full-spectrum service across the following disciplines:

## ← FULL-SPECTRUM-STORMWATER-PROGRAM-STEWARDSHIP →

#### WATERSHED MODELING & PLANNING:

Develop actionable, implementation-oriented programs customized to the local environment



#### STORMWATER CAPTURE FEASIBILITY & DESIGN:

Design multi-benefit infrastructure expertly engineered to meet multiple needs



#### WATER QUALITY SCIENCE & REGULATIONS:

Apply the latest watershed science to build meaningful compliance strategies founded in local, measurable metrics





STAFF QUALIFICATIONS

OFFICERS



**CHAD HELMLE, PE** **PRESIDENT & CEO**  
*Years Experience: 22*

Chad prides himself in taking a passionate and active management role and remaining engaged in a meaningful and productive manner throughout the duration of projects. Chad is an influential force in the national stormwater industry, is trusted by key NGOs and regulators, and has been published in various civil engineering magazines. He has overseen numerous large municipal on-call stormwater programs throughout southern California, including for the counties of Los Angeles, Orange, and Riverside and the cities of Los Angeles and San Diego. He also led modeling efforts to develop Reasonable Assurance Analysis (RAA) for nine of the largest WMPs/EWMPs, including the ULAR.



**BRAD WARDYNSKI, PE** **SR. PROJECT MANAGER & COO**  
*Years Experience: 9*

Brad has almost a decade of experience working to enhance and augment the water resources of California watersheds. He has brought unique creativity and thoughtful analysis to bear as the architect of key technical efforts in Southern California, including revision of the Rio Hondo/San Gabriel River Watershed Program (which reduced compliance costs by almost \$1B while gaining key stakeholder support) and the successful proposal of the *preSIP* scientific study (which secured \$2.3M of new funding for the Upper LA River watershed group from the Safe, Clean Water Program). In the past year, Brad has led multi-benefit master planning efforts to identify and prioritize tens of thousands of stormwater capture projects across hundreds of square miles and over 100 municipal agencies.

LEADERSHIP TEAM



**OLIVER GALANG, PE, ENV SP, QSD/P, QISP**  
**PRINCIPAL ENGINEER**  
*Years Experience: 27*

Oliver’s extensive tenure includes service as Head of the Los Angeles River Watershed Section of the Los Angeles County Department of Public Works’ Watershed Management Division, including management and direction for major infrastructure exceeding \$60M in construction value. He recently led development and submittal of 21 Safe, Clean Water Program Infrastructure Program applications totaling \$400M in capital costs. Oliver’s experience as both a County public works manager and award-winning project manager will ensure projects are designed to be constructible and cost-effective.



**COURTNEY SEMLOW, PE, CFM, ENV SP**  
**CIVIL DESIGN MANAGER**  
*Years Experience: 15*

Courtney has provided comprehensive site design and project management for diverse projects, including 1,000-acre mixed use subdivisions and military installation infrastructure throughout the United States and abroad. She easily navigates complicated regulatory requirements, while producing cost-effective solutions that exceed client expectations. Another core area of her work focuses on water quality and stormwater pollution prevention by implementing environmentally sustainable stormwater management solutions, including infiltration basins, permeable pavement, and rain gardens.



**MERRILL TAYLOR, PE**  
**SENIOR PROJECT MANAGER**  
*Years Experience: 11*

Merrill pioneered some of the first stormwater quality design and feasibility projects in Southern California, including project optimization and conceptual designs that set statewide standards for project concept and feasibility fact sheets. He also personally led or previously supported the engineering analysis and/or design of 29 of the first 58 Safe, Clean Water Program Infrastructure Program applications. Additionally, Merrill has extensive involvement in public outreach, and he understands the value of meaningful stakeholder engagement to foster buy-in and political feasibility.



**BRIANNA DATTI, EIT**  
**LEAD ENGINEER, WATER QUALITY SCIENCE & REGULATIONS**  
*Years Experience: 5*

Brianna is currently leading several of the largest scientific studies in LA County, including some of the first Safe, Clean Water Program-approved studies that granted our municipal partners \$1.2M of new funding. She boasts a formidable understanding of watershed science, ever-evolving regulations, and their potential impacts on municipal programs. Brianna is personally engaged in ongoing regulatory negotiations regarding impending permit updates and upcoming advances related to critical drivers, such as bacteria management, site-specific toxicity criteria, bio-objectives, and flow ecology.



**THOM EPPS, PHD**  
**LEAD SCIENTIST, STORMWATER SYSTEMS**  
*Years Experience: 5*

Thom specializes in innovative stormwater modeling, high-resolution geospatial assessment, and infrastructure prioritization. He has studied watershed management strategies in diverse settings across the globe, including Southern California, Pacific Northwest, Southeast, Appalachia, Australia, and in cities ranging in size, stormwater regulations, and management approaches. He employs state-of-the-science approaches, coupling proven hydrologic models with high-resolution geospatial assessment to improve capital planning certainty and provide greater flexibility to explore a full suite of options to meet client needs.

TECHNICAL STAFF



**RUBEN MARTINEZ, GISP**  
**TECHNICAL GRAPHICS SPECIALIST**  
*Years Experience: 25*



**RAINA DWIVEDI, PE**  
**SR. STRATEGIC PLANNER/ENGINEER**  
*Years Experience: 11*



**RACHEL MCFERRIN**  
**DIRECTOR OF OPERATIONS**  
*Years Experience: 10*



**ANDREW TAKAHASHI, PE**  
**LEAD DESIGN ENGINEER**  
*Years Experience: 6*



**OLIVIA AUGUST, EIT**  
**WATER RESOURCES ENGINEER**  
*Years Experience: 4*



**PAULINE NGUYEN, EIT**  
**WATERSHED ENGINEERING INTERN**  
*Years Experience: 1*



**GURJOT KOHLI, ENV SP**  
**WATER RESOURCES ENGINEER**  
*Years Experience: 1*



EXPERIENCE

*Craftwater personnel have done vastly more work supporting Los Angeles region municipal agencies with strategic stormwater infrastructure planning and design than any other firm.* The table below highlights 50 exemplary projects, which is just a small portion of our team’s experience; we bring a unique regional perspective from actively supporting numerous Southern California agencies (including the vast majority of municipalities in LA County, the 11 agencies of the Ventura Countywide Stormwater Quality Management Program, the City and County of San Diego, Orange County, and Riverside County), as well as CASQA and agencies in Northern California. We strongly encourage you to contact our references listed who will testify to our experience and qualifications.

Project Name	Client	Led by Craftwater in Last Year	Past Efforts by Craftwater Team
Design Projects			
Bolivar Park SW Capture Project	Lakewood	●	
Mayfair Park SW Capture Project	Lakewood	●	
Caruthers Park SW Capture Project	Bellflower	●	
Carriage Crest Park SW Capture Project	Carson	●	
Culver Blvd Median SW Capture Project	Culver City	●	
Adventure Park SW Capture Project	County of LA	●	
Santa Fe Corridor Improvements	Encinitas	●	
Alondra Park Multi-benefit Stormwater Capture Project	Couny of LA		●
Feasibility Projects & Safe, Clean Water Program Studies			
Valley Village Park SW Capture Project	Los Angeles	●	
David Gonzalez Recreation Center Stormwater Capture Project	Los Angeles	●	
Valley Plaza Park Stormwater Capture Project	Los Angeles	●	
North Hollywood Park Stormwater Capture Project	Los Angeles	●	
Whitsett Park Stormwater Capture Project	Los Angeles	●	
Skylinks Golf Course SW Capture Project	Long Beach	●	
Simms Park SW Capture Project	Bellflower	●	
Spane Park SW Capture Project	Paramount	●	
Lakewood Pocket Park SW Capture Project	Lakewood	●	
Furman Park SW Capture Project	Downey	●	
El Dorado Regional SW Capture Project	Long Beach	●	
Cerritos Sports Complex SW Capture Project	Cerritos	●	
Artesia Park SW Capture Project	Artesia	●	
Lynwood City SW Capture Project	Lynwood	●	
Heartwell Park at Palo Verde SW Capture Project	Long Beach	●	
Urban Orchard Wetlands SW Capture Project	South Gate	●	
LA River Upper Reach 2 Feasibility Studies	Commerce	●	
Rio Hondo Ecosystem Restoration Project	Monrovia	●	
Ranchito/Sierra Vista Infiltration Project	Monrovia	●	
Arboretum Ecosystem Restoration Project	Arcadia	●	
Arcadia Wash Diversion Project	Arcadia	●	
Encanto Park SW Capture Project	Duarte	●	
Arroyo Seco - San Rafael Treatment Wetlands Project	Pasadena	●	
Strategic Watershed Planning			
preSIP Adaptive Management Screening and SCWP Application	Upper LA River Group	●	
RH/SGR revised Watershed Management Program	RH/SGR WQ Group	●	
Adaptive Management and Annual Reporting	Upper LA River Group	●	
Alhambra Stormwater Master Plan	Alhambra	●	
Pasadena Stormwater Master Plan	Pasadena	●	
Countywide Regional Projects and Concepts	Ventura County	●	
Pathogen Load Reduction Strategic Plan Adaptation	Upper LA River Group	●	
Seymour Johnson Air Force Base Stormwater Master Plan	US Air Force		●
Scott Air Force Base Stormwater Master Plan	US Air Force		●
Stormwater Harvesting Study, Schofield Barracks, Oahu	US Army		●
Dominguez Channel Green Street Implementation Plan	DC Watershed Group		●
Integrated Drainage/Water Quality Master Plan	San Diego		●
Master Plan of Drainage	Huntington Beach		●
AB466 Upper LA River Revitalization Plan	MRCA		●
AB 530 Lower LA River Revitalization Plan	LA County		●
9 Watershed Management Programs	Various Groups		●
Water Quality Improvement Plans	County of Orange		●
Water Quality Improvement Plans	San Diego		●
Strategic Project Credit Trading Pilot, Compton Creek	LA County		●



Craftwater and our close teaming partners have worked with local and state agencies throughout California to tackle the most complex water resources challenges





## INFLUENTIAL THOUGHT LEADERS

Craftwater's leaders are nationally recognized and have been invited to share our expertise during exclusive stormwater policy and technical strategy sessions hosted by EPA Region 9, State Water Resources Control Board, LA Regional Water Quality Control Board, California League of Cities, and other local agencies, NGOs, and a Fortune 500 company. These opportunities have forged a trusted and influential reputation with key decision makers at all levels of the stormwater community.

For example, our experts were hired by both the San Gabriel Valley Council of Governments (representing over 2 million residents, 30 cities, 3 County supervisorial districts, and 3 water districts) and by the Upper Los Angeles River Watershed Management Group (the largest in Southern California – led by the City of Los Angeles) to drive negotiation of LA's new municipal stormwater permit.



### Example Project: **MS4 Permit Negotiation and Regulatory Support**

**Client:** San Gabriel Valley Council of Governments and Upper Los Angeles River Watershed Management Group (including City of LA, County of LA, and 17 other permittees)

**Reference:** Alex Tachiki, SGVCOG Water TAC Co-Chair, 626-932-5553, [atachiki@ci.monrovia.ca.us](mailto:atachiki@ci.monrovia.ca.us)

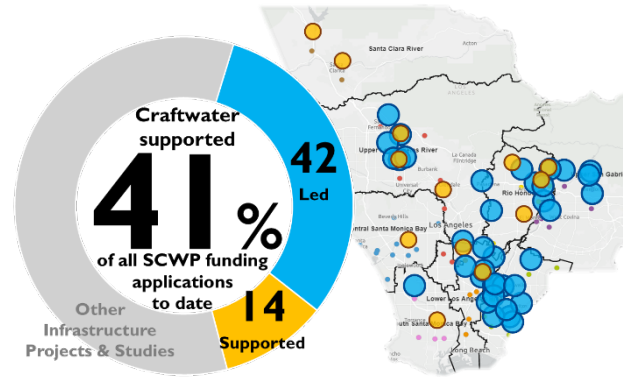
**Dawn Petschauer, City of LA and Upper LA River Watershed Lead, 310-463-4445, [dawn.petschauer@lacity.org](mailto:dawn.petschauer@lacity.org)**

Craftwater is supporting both the San Gabriel Valley Council of Governments and the Upper Los Angeles River Watershed Management Group with review of impending updates to the municipal stormwater permit. Our team was trusted with drafting strategic recommendations for negotiation with regulators, example talking points for elected officials and municipal staff, and a multi-stakeholder consensus-building strategy. The outcomes of these negotiations will impact the strategies and investments made by the 100 municipal permittees of the LA Region over the next five years and beyond. This process relies on Craftwater's technical mastery of the regulatory landscape and water quality science, but also requires confident and deliberate political cognizance to navigate and facilitate delicate (and potentially litigious) conversations between permittees, regulators, and NGOs.



## MOST TRUSTED AND ACTIVE CONSULTANT IN THE SAFE, CLEAN WATER PROGRAM

Craftwater has led or supported nearly half (56) of all applications for infrastructure and scientific study funding during the first two rounds of the Safe, Clean Water program (more than any other team), including supporting the conceptualization of over \$1B in capital infrastructure and \$7M of scientific studies. In the first round, our team successfully secured \$135M towards infrastructure design and construction and \$3.5M towards scientific studies for our municipal partners. Further, we are actively working to programmatically improve the overall Program; Craftwater was retained by LA County Flood Control District to lead the development of their stormwater credit trading program, and we were recently engaged by a philanthropic trust initiative to lead a multi-stakeholder coalition to study potential Program improvements. Further, we foster personal relationships with the key decision-makers on the Safe, Clean Water team, which affords us exclusive insight and foresight into Program trajectory.



### Example Projects: SCWP FY20/21 Infrastructure Program Support

**Client:** 6 Watershed Management Groups

**References:** John Hunter, Lower SGR and Lower LAR Watershed Manager, 562.866.9771 X2500, [jhunter@jlha.net](mailto:jhunter@jlha.net); James Cramsie, PE, City of Industry (Upper SGR Watershed Group), 949.419.8109, [jcramsie@cc-eng.com](mailto:jcramsie@cc-eng.com)

During the first round of the Safe, Clean Water Program, Craftwater engineers led or supported the development of the preliminary engineering feasibility studies and 10-30% design plans for *21 regional multi-benefit stormwater capture projects (totaling \$400M in construction value)*. Our strategy leveraged Craftwater's design tools and watershed models to inform design of each engineering component and to determine the optimal balance water quality objectives relative to the investment in capital and long-term operations cost. To provide ancillary benefits and bolster funding opportunities, our engineers also identified additional opportunities to enhance each project with water recharge and filtration opportunities, park improvements, trails, and flood control enhancements. Craftwater then supported submittal of these projects for Infrastructure Program funding under the first round of the SCWP, all of which met the SCWP Feasibility Study Requirements. *Of the 58 SCWP Infrastructure applications submitted for FY20/21 funding, Craftwater's personnel led or previously supported the design of nearly half (28).*

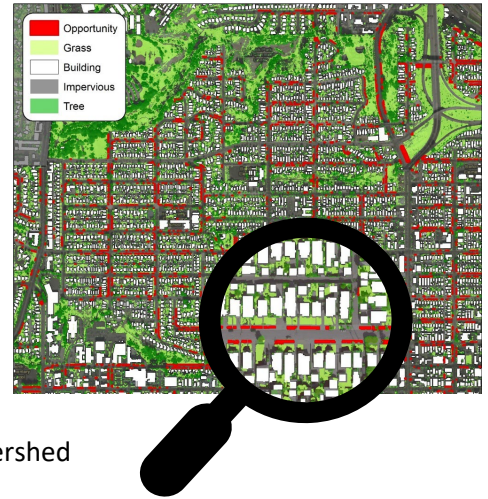
Craftwater also led the successful proposal of two regional scientific studies that *secured a total of \$3.5M of new funding* for the Upper LA River and Rio Hondo cities to pursue smarter, watershed-wide implementation planning and programmatic adaptation.





## STRATEGIC MASTER PLANNERS

Craftwater's engineers and scientists have pioneered more implementation-oriented stormwater master plans than any other firm in state. We specialize in wrangling complex compliance metrics, immense datasets, engineering understanding, and local stakeholder input into meaningful plans that are usable and easily adapted. Through these efforts, we have supported over 100 municipalities throughout California (from San Diego to the Bay Area), led candid scientific discussions with regulators, and succeeded in building consensus between NGOs and agencies through meaningful, transparent engagement. Craftwater takes pride in summarizing technical results in attractive, graphically minded publications that clearly communicates findings and recommendations to a broad audience. This style of reporting has been well-received by our clients and regulators thanks to clever infographics and concise, engaging watershed storytelling.



### Example Project: Revised RH/SGR Watershed Management Program

**Client:** Rio Hondo/San Gabriel River WMG

**Reference:** Gloria Crudgington, City of Monrovia Councilmember, 626-359-7098, gcrudgington@ci.monrovia.ca.us

Craftwater's engineers revised the Rio Hondo/San Gabriel River (RH/SGR) Watershed Management Program (WMP) into a more *meaningful, measurable, achievable plan, while reducing implementation costs by 90%* and gaining public buy-in. The revised WMP (reWMP) was developed to (1) improve the accuracy and certainty of the compliance analysis, (2) solicit and incorporate stakeholder input through an aggressively transparent outreach campaign, and (3) bolster confidence that investments in the program will yield meaningful and cost-effective water quality improvement. Our team members developed engineering pre-feasibility studies for five multi-benefit regional projects and a refined distributed green street strategy customized to current, local water quality conditions. Emphasizing complete transparency, our team provided technical support during outreach to advocacy groups, and openly shared our methods and data to foster trust and support. In addition, Craftwater's engineers closely collaborated with Regional Water Quality Board staff and actively sought real-time feedback throughout the reWMP development process. This approach of engagement and collaboration was applauded by the Regional Water Quality Control Board and earned words of support from environmental advocacy groups. Ultimately, our Craftwater engineers summarized these efforts in a public-facing, graphic-heavy planning document curated to permittees, practitioners, regulators, and advocates/stakeholders.



clarity



partners



compliance



savings

*"The notions of cost reasonableness and getting projects in the ground now... is laudable."*

**-LA Regional Water Quality Control Board**

*"Really, thank you for engaging us. This has been a tremendous effort on the Permittees' part."*

**-Natural Resources Defense Council**

*"If there was ever a perfect definition of adaptive management, this is it."*

**-LA Regional Water Quality Control Board**

### Meaningful, Measurable, Achievable Results



*"... an example for other people to emulate..."*

**-LA Regional Water Quality Control Board**

## EXPERIENCED DESIGNERS

Our team of respected engineers have designed more multi-benefit stormwater capture infrastructure than any other firm in California – including over 100 projects in Southern California alone. Our capacity to deliver feasible, cost-effective projects is continuously strengthened by our full-spectrum proficiency navigating the regulatory landscape and high-end analytical tools and models.

Craftwater has a proven track record of delivering high-certainty designs, but is also known for pushing the bleeding edge of stormwater innovation. Our engineers have pioneered several novel accomplishments in recent years, including design of the region's first cloud-based, intelligently predictive stormwater capture facility; first stormwater harvesting unit for onsite spray irrigation, first City-operated, real-time controlled diversion dam in the LA County Flood Control District system, and the largest stormwater diversion into the LA County Sanitation District sewer system for reclamation.

"The project team... has been a delight to work with. They have been on time, delivered on their promises, they have done everything we have asked them to do. I'd have to say... one of the best consultants that I've worked with in recent memory."

Lisa Rapp, Public Works Director,  
City of Lakewood, California



## Example Project: Regional Stormwater Capture at Bolivar Park

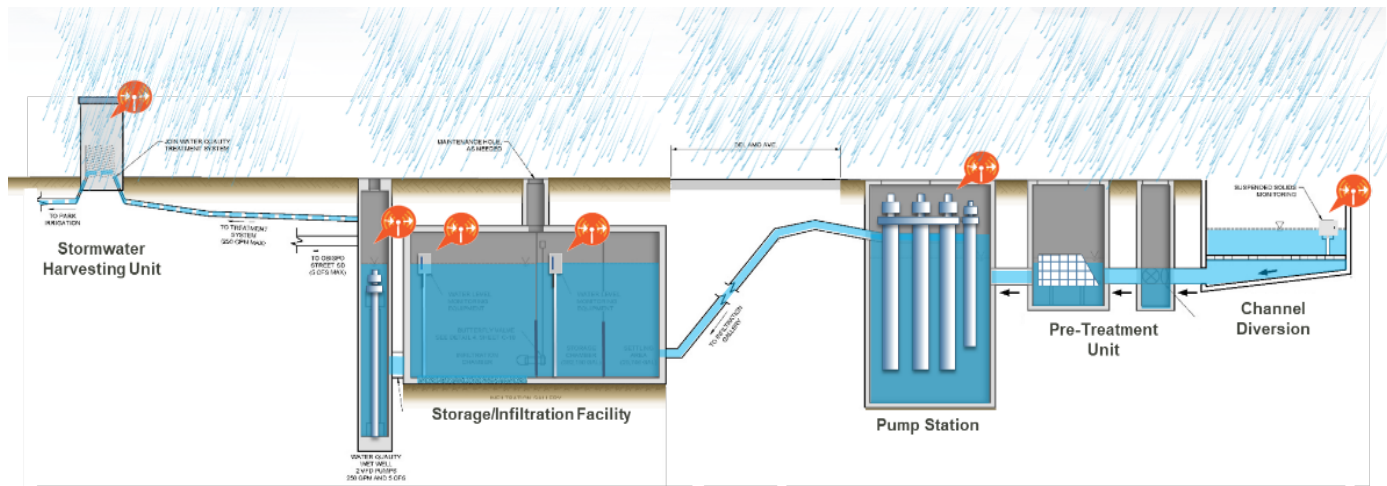
**Client:** City of Lakewood

**Reference:** Lisa Rapp, City of Lakewood, (562) 866.9771, Ext. 2500, [LRapp@lakewoodcity.org](mailto:LRapp@lakewoodcity.org)

As a major step towards implementing the Los Cerritos Channel Watershed Management Plan, the City of Lakewood implemented what is considered *the first "smart regional stormwater BMP."* The project consists of an air-inflated rubber dam diversion system to re-direct all dry-weather urban runoff and a portion of the wet-weather stormwater runoff from the Del Amo channel through a pre-treatment system to remove trash, debris, and sediment. A pump station and drainage pipeline then convey the water into a large, buried multi-chambered storage/infiltration facility, and the stormwater collected in the underground reservoir is treated and used to irrigate the park's landscaped areas.



Craftwater engineers modeled the performance of the facility to demonstrate progress towards compliance, and evaluated the advantages of using smart, real-time controls to optimize system performance. This innovative technology will continuously monitor the weather conditions and the facility through a secured cloud-based system, and automatically control water levels to maximize irrigation storage between storms while maximizing capture capacity prior to impending runoff. The controls will also help prescribe operations and maintenance activities in response to real-time performance measurements.





## Example Project: **Regional Stormwater Capture at Bolivar Park (continued)**



*Craftwater's engineers oversaw development of the Preliminary Design Concepts Report in 3 months and the Full Design and Bid Documents in 8 months.* Our team coordinated the project through all regulatory permits including the Army Corp of Engineers, Los Angeles Regional Water Quality Control Board, California Department of Fish and Game, and the Los Angeles County Public Health. Support was provided through the bidding and construction process as well.

At a construction cost of \$11 million, this project was funded through a cooperative implementation agreement between the City of Lakewood and Caltrans. Our engineers worked closely with the City to ensure this project met all critical funding and cashflow milestones, and that it stayed within the City's project budget. The project not only helps the City comply with metals TMDLs and dry weather flow reduction goals, but also provides additional community and environmental benefits, such as a revitalized park.

The project team has been awarded the following accolades and recognition for this project:

- 2016 Environmental Business Journal Award for Innovative Technology
- City of Lakewood 2016 Service Provider of the Year
- ASCE Civil Engineering Magazine February 2017 Stormwater News
- Storm Water Solutions Conference 2018 Award Top Project
- APWA Southern California Chapter 2018 B.E.S.T. Award for Storm Water Quality
- CASQA 2019 Outstanding Stormwater BMP Project of the Year
- APWA Reporter Magazine Cover Story – February 2020



**BEST PROJECT OF THE YEAR  
2018, STORMWATER**



**Reinventing the BMPs, RTCs, and the ABCs of Water Quality Improvement**

**Chad Heimle, PE, CEO and President, Thom Epps, Ph.D., Water Resources Engineer, and Oliver Galang, PE, Principal Engineer, Craftwater Engineering, San Diego, California.**

#### Background

Los Angeles County has a mild climate with warm and dry conditions most of the year. But when it rains during the winter months, urban pollutants that have accumulated during the dry season on the impervious surfaces with the stormwater runoff through the drainage network towards the rivers and subsequently to the ocean.

