

Meeting Date: 8/26/2014

Report Type: Consent

Report ID: 2014-00600

Title: Supplemental Agreement: Larry Walker Associates for FY2014/15 Stormwater Monitoring Services (14010200)

Location: Citywide

Recommendation: Pass a Motion authorizing the City Manager or the City Manager's designee to execute Supplemental Agreement No. 3 to City Agreement 2011-1218 with Larry Walker Associates, Inc., to provide Stormwater Monitoring Services for FY2014/15 for an amount not-to-exceed \$705,344.

Contact: Bill Busath, Manager, Engineering and Water Resources, (916) 808-1434; Sherill Huun, Supervising Engineer, Engineering and Water Resources, (916) 808-1455, Department of Utilities

Presenter: None

Department: Department Of Utilities

Division: Engineering & Water Resources

Dept ID: 14001311

Attachments:

- 1-Description/Analysis
- 2-Background
- 3-Agreement

City Attorney Review

Approved as to Form
Joe Robinson
8/14/2014 2:39:00 PM

Approvals/Acknowledgements

Department Director or Designee: Dave Brent - 8/6/2014 1:41:44 PM

Description/Analysis

Issue Detail: In accordance with the National Pollutant Discharge Elimination System (NPDES) Stormwater Permit for the Sacramento County urban area, the City and its partners in the Sacramento Stormwater Quality Partnership (SSQP) are required to conduct a stormwater monitoring program. Larry Walker Associates, Inc. (LWA) was selected to provide various required stormwater monitoring services for up to three years through a Request for Qualifications (RFQ) process conducted in May 2011.

This three year period extended through the end of Fiscal Year (FY) 2013/2014. Staff is recommending extension of the agreement for one more FY term, instead of conducting a new RFQ process, because: (1) although the NPDES Permit expired in September 2013, it is not anticipated that the new permit will be issued until 2015, and selecting a consultant to provide these support service for a new multi-year term without knowing what the new Permit will require is not recommended; and (2) the City (and other co-permittees) submitted a modified monitoring approach for FY 2014/2015 to the Regional Water Board, but does not yet know if this approach will be accepted. LWA has intimate knowledge of the proposed approach, and will be a valuable partner in negotiating the revised tasks and implementing the modified approach if it is accepted. In accordance with the City's Administrative Policy No. 4102, the Director of Utilities has approved the recommendation to contract with LWA for the additional FY term on a sole source basis.

Policy Considerations: The NPDES Stormwater Monitoring Program is a federally mandated program. Implementation of the 2014/2015 Stormwater Monitoring Program supports the following environmental resources goals and policies of the City's 2030 General Plan:

1. Protect local watersheds, water bodies and groundwater resources, including creeks, reservoirs, the Sacramento and American rivers, and their shorelines; and,
2. The City shall control sources of pollutants and improve and maintain urban runoff water quality through stormwater protection measures consistent with the City's NPDES permit.

Economic Impacts: None

Environmental Considerations: The Community Development Department, Environmental Services Manager has reviewed the project and has determined that the proposed project is exempt from the California Environmental Quality Act (CEQA) under section 15061(b)(3) of the CEQA Guidelines. The activity is covered by the general rule that CEQA applies only to projects that have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

Sustainability: The Stormwater NPDES permit requires implementation of the Stormwater Monitoring Program and the reduction of pollutants conveyed by stormwater runoff. The Stormwater Monitoring Program provides the data needed to develop pollution reduction programs. Completion of the tasks in this supplemental agreement is consistent with the City Sustainability Master Plan.

These tasks advance the Sustainability Master Plan goals to:

1. Reduce the use of pesticides and other toxic materials;
2. Protect and restore the City's urban creek system; and
3. Conserve the use and protect the sources of water.

Commission/Committee Action: Not applicable

Rationale for Recommendation: Approval of this supplemental agreement is recommended to continue professional services needed to comply with the requirements in the Stormwater NPDES permit.

Financial Considerations: The cost of the supplemental agreement will be shared by the County of Sacramento and the Cities of Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova (Permittees) pursuant to the terms of a master Memorandum of Understanding (MOU), approved by the City Council on July 31, 2012 (City Resolution No. 2012-279). The cost for this supplemental agreement is not-to-exceed **\$705,344**. As shown in the table below, \$654,424 of this agreement is for cost-shared services, of which the City's portion is \$217,923.19, with the remaining \$436,500.81 to be reimbursed by the Permittees. Additionally, this agreement includes City-only services in the amount of \$50,920, resulting in a total City cost of \$268,843.19. The FY10-FY14 NPDES Program, I14010200, Storm Drainage Fund 6011, has sufficient funding for the City's costs and the reimbursement amount has been budgeted in the program (Storm Drainage Reimbursable Fund 6211).

The following table summarizes the costs for the City and cost share partners.

Permittees Cost Sharing	%	Amount
City of Sacramento	33.3	\$217,923.19
County of Sacramento	38.4	\$251,298.82
City of Citrus Heights	5.9	\$38,611.02
City of Elk Grove	10.9	\$71,332.22
City of Folsom	5.2	\$34,030.05
City of Galt	1.7	\$11,125.21
City of Rancho Cordova	4.6	\$30,103.50
Total	100	\$654,424.00
City of Sacramento Only		\$50,920
Total		\$705,344

Local Business Enterprise (LBE): The Request for Qualifications process for Agreement No. 2011-1218 was conducted prior to the establishment of LBE participation requirements for professional service agreements.

Background

In September 2008, the Regional Water Quality Control Board - Central Valley Region (Regional Water Board) reissued a National Pollutant Discharge Elimination System (NPDES) permit (Permit No. CAS082597) to the County of Sacramento and the cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova (Permittees) regulating the discharge of stormwater into local water bodies. The permit requires implementation of programs to reduce the pollution conveyed by stormwater runoff into local water bodies and requires implementation of a stormwater monitoring program.

The City is administering the contract for these services on behalf of the Permittees, and will receive reimbursement for the cost share of the other Permittees. The costs for implementing some of these programs are shared by the Permittees, as described in a master Memorandum of Understanding (MOU) approved by the City Council in 2012 (City Agreement No. 2012-279). The MOU includes administrative procedures for sharing of work products and apportionment of program costs, including monitoring activities.

A significant portion of the Stormwater Monitoring Program is accomplished through annual professional services agreements. These services include development of sampling plans, field sampling, technical assistance, laboratory analyses, and preparation of reports.

The City, on behalf of the Permittees, conducted a Request for Qualifications (RFQ) process in May 2011. The RFQ included various permit-required monitoring tasks to be performed over a period of up to three years, FY2011/2012, FY2012/2013, and FY2013/2014. An evaluation panel consisting of City and other Permittee staff selected Larry Walker Associates, Inc. (LWA) as the top ranked firm to provide the requested services.

The agreement's three year period extended through the end of FY 2013/2014. Staff recommends executing this supplemental agreement with LWA to extend the term for one additional FY for the following reasons:

- The current MS4 Permit expired in September 2013 and it is not anticipated that the new permit will be issued until 2015. FY 2014/2015 is year six of the City's MS4 Permit term. Since the Regional Water Board has not issued the City a new permit yet, it's very challenging to solicit services for the next agreement without knowing the specifics of the upcoming requirements.

- The Permittees submitted a modified monitoring approach for FY 2014/2015 to the Regional Water Board. LWA has intimate knowledge of the proposed approach and is a valuable partner in negotiating the revised tasks. It would be difficult for another company to be selected in time to effectively implement this modified approach if it is approved.

As of 07/29/2014, the Regional Water Board has not granted the Permittees approval of the proposed modified approach. Therefore, the proposed supplemental agreement includes two scopes: Scope "A" is based on the modified monitoring proposal, and Scope "B" is based on being year six of the current MS4 Permit. If the Regional Water Board approves the modified monitoring approach, Scope "A" will be the scope for this agreement and the budget amount will be reduced to \$616,076. If the Regional Water Board does not approve the modified monitoring approach by 10/01/2014, Scope "B" will be the scope for this supplemental agreement with a budget amount of \$705,344.

The FY2014/2015 supplemental agreement scope includes regulatory reporting and consulting, including participation in the Delta Regional Monitoring Program (RMP), NPDES permit renewal as-needed services, and assistance with new water quality policy implementation (e.g., State Trash Amendment, State Toxicity Policy, total maximum daily loads, general permit compliance, Clean Water Act support, Delta initiatives including Bay Delta Conservation Plan and policy/objective development support, etc.).

SUPPLEMENTAL AGREEMENT
Engineering Services Division

Project Title and Job Number: **Stormwater Monitoring Services (I14010200/I14010201)**
Date: **07/30/2014**
Purchase Order #:0000016174

Supplemental Agreement No: 3

The City of Sacramento ("City") and Larry Walker Associates ("Contractor"), as parties to that certain Professional Services Agreement designated as Agreement Number CA2011-1218, including any and all prior supplemental agreements modifying said agreement (said agreement and supplemental agreements are hereafter collectively referred to as the "Agreement"), hereby supplement and modify the Agreement as follows:

- 1. Exhibit A of the Agreement is amended as follows,
 - a. Exhibit A, Section 1, the City Representative is changed:

The new City Representative is:

Dalia Fadl
Senior Engineer
1395 35th Ave
Sacramento, CA 95822
Phone:(916) 808-1449
Fax:(916) 808-1497
Email: Dfadl@cityofsacramento.org

- b. The scope of services specified in Exhibit A of the Agreement is amended as follows:

This supplemental agreement adds FY2014/2015 services to the agreement. Contractor shall perform the work and services specified in "Attachment 2 to Exhibit A", which is attached hereto and incorporated herein by this reference.

- 2. The Budget for performance of the 2014/2015 stormwater monitoring services is set forth in "Attachment 2 to Exhibit B", attached hereto and incorporated herein by this reference.
- 3. In consideration of the additional and/or revised services described in Section 1 above, the maximum not-to-exceed amount that is specified in Exhibit B of the Agreement for payment of Contractor's fees and expenses, is increased by \$705,344, and said maximum not-to-exceed amount is amended as follows:

Agreement's original not-to-exceed amount:	\$ 815,863
Net change by previous supplemental agreement:	\$ 631,956
Not-to-exceed amount prior to this supplemental agreement	\$ 2,305,978
Increase by this supplemental agreement:	\$ 705,344
New not-to-exceed amount including all supplemental agreements:	\$ 3,011,322

- 4. Contractor agrees that the amount of increase in the not-to-exceed amount specified in Section 3 above, and the rates specified in Section 2 above, shall constitute full compensation for the additional and/or revised services specified in Section 1, above, and shall fully compensate Contractor for any and all direct and indirect costs that may be incurred by Contractor in connection with such additional and/or revised services, including costs associated with any changes and/or delays in work schedules or in the performance of other services or work by Contractor.
- 5. Contractor warrants and represents that the person or persons executing this supplemental agreement on behalf of Contractor has or have been duly authorized by Contractor to sign this supplemental agreement and bind Contractor to the terms thereof.
- 6. Except as specifically revised herein, all terms and conditions of the Agreement shall remain in full force and effect, and Contractor shall perform all of the services, duties, obligations, and conditions required under the Agreement, as supplemented and modified by this supplemental agreement.

Approval Recommended by:

Approved as to Form By:

Project Manager

City Attorney

Approved By:

Contractor

Approved By:

City of Sacramento

Attested to By:

CityClerk

ATTACHMENT 2 TO EXHIBIT A

SCOPE OF SERVICES- OPTION “A”

Sacramento Stormwater Monitoring Program, 2014-15

This Scope of Services describes the consulting services to be provided by Larry Walker Associates, Inc. (LWA) and its subcontractors (collectively, “Consulting Team”) to the Sacramento Stormwater Quality Partnership (Partnership) during the Fiscal Year 2014-2015 contract period, under the terms of LWA’s Stormwater Monitoring Program contract with the City of Sacramento Department of Utilities. LWA leads a consulting team that includes CDM Smith, Pacific EcoRisk, and cbec eco engineering.

This Scope of Services assumes that the Central Valley Regional Water Quality Control Board (Regional Water Board) will allow a modified monitoring approach until a new National Pollutant Discharge Elimination System (NPDES) permit is issued to the Partnership co-Permittees. In addition to completion of the monitoring requirements, this Scope of Services includes regulatory reporting and consulting, including participation in the Delta Regional Monitoring Program (RMP), support of NPDES permit renewal as-needed services, and assistance with new water quality policy implementation (e.g., State Trash Amendment, State Toxicity Policy, total maximum daily loads, general permit compliance, Clean Water Act support, Delta initiatives, including Bay Delta Conservation Plan and policy/objective development support, etc.)

TASK 1 URBAN RUNOFF AND URBAN CREEK PILOT CHARACTERIZATION MONITORING

This task involves all work related to monitoring activity coordination for the pilot characterization monitoring. The Partnership anticipates that the Regional Water Board, through a California Water Code Section 13267 letter, will approve the pilot characterization monitoring prior to October 2014, as the current monitoring schedule (NPDES No. CAS082597, Table A) does not include activities after year five, which ended in 2013. The pilot characterization monitoring will evaluate an alternate monitoring approach to more accurately and cost efficiently provide tools to evaluate loading of constituents and their variability over time, sources of constituents, and the occurrence and duration of potential impairments to beneficial uses.

This task includes sampling and analysis plans (SAPs) preparation, pre-season equipment preparation, weather forecasting, Delta RMP or Coordinated Monitoring Program (CMP) coordination, and Partnership status updates following monitoring mobilization efforts related to this contract. These activities provide general monitoring support for all of the monitoring activities. Specific monitoring tasks are included under this Scope of Services to cover the individual study monitoring and reporting tasks.

Task Deliverables	Target Submittal Date
Sampling and Analysis Plan for pilot characterization program	September 1, 2014
River Coordination Plan, if necessary	September 1, 2014
Daily Weather Forecast	Weekdays October 1, 2014 through April 30, 2015
Event Summary Email	Within 2 business days from the end of sampling event
Quality Assurance Project Plan for pilot characterization program	September 15, 2014

1.1 Pre-season Preparations and Plan Development

Pre-season preparations include specific maintenance, planning, and training tasks that occur prior to active monitoring. Additional pre-season work may continue through the year to address modifications to the pilot characterization study and NPDES permit requirements, and in preparation for the FY2015/2016 monitoring program. LWA will not act as safety officers for Partnership staff or USGS during site visits or field activities.

Study planning

LWA will develop the pilot characterization project study plan as a continued effort from the 2013-14 contract period, as necessary, and address new or changed requirements or project components. LWA will coordinate with the pilot project partners, including USGS and any specialty laboratories affiliated with the project. This task includes developing the agreements with the project partners on responsibilities and overall organization of the project team and work tasks.

Sensors and sampler installation, flow measurement

After the study planning is complete, LWA will purchase and install the sensor equipment necessary to perform the pilot project. Some equipment may be rented or trialed as part of the pilot characterization evaluation. To the extent possible, LWA will use the equipment already owned by the Partnership or member agencies and work with Partnership staff to identify cost-effective solutions that meet the study objectives. It is expected that the following items will need to be purchased: datalogger, multiple sensors including organic matter, sample collection equipment and enclosures, and miscellaneous pieces of installation hardware. It is assumed that the City of Sacramento will assist with the installation of North Natomas Basin No. 4 equipment within the wet well and to connect the datalogger equipment to the pumps and develop pump rating curves. USGS will assist with the installation of Arcade Creek equipment and coordinate with other USGS entities.

Sampling plan and quality assurance project plan development

LWA will prepare a Quality Assurance Project Plan (QAPP) that will incorporate a Sampling and Analysis Plan (SAP) for the pilot characterization study approved by the Regional Water Board and the Partnership. The sample preparation documents will conform to Surface Water Ambient Monitoring Program (SWAMP) standards and include data evaluation and data reporting standards.

LWA will identify and secure the services of qualified laboratories to perform all sample analyses specified in the SAP and assign qualified Consulting Team Staff to perform all required monitoring functions.

LWA will plan, arrange and conduct a two hour training session for Consulting Team field personnel and interested Partnership staff, covering clean sampling techniques and the procedures outlined in the QAPP and SAP documents.

1.2 Sample Collection

LWA will coordinate sample collection performed by the Consulting Team and USGS according to the agreed upon sampling strategy and the final SAP and QAPP. Two sites (Natomas Basin No. 4 and Arcade Creek near Watt) will be monitored with sensor equipment and grab samples. It is expected that specific protocols may be changed during the course of the pilot characterization study based on input from the Regional Water Board, the Partnership, or USGS. Any significant changes will be approved by the Partnership contacts and minor variances will be documented in field log sheets or in notifications sent to the Partnership contacts.

Storm tracking and mobilization

LWA will provide daily written weather forecasts during the business week and unlimited 24-hour, 7-day per week phone consultation, on request. A specialized weather forecasting consulting firm will be contracted to provide these forecasting services. LWA will provide event-based mobilization updates to inform field crews and Partnership staff of expected monitoring activities for targeted events. As candidate storm events are identified, LWA will notify field crews and consult the Partnership, as necessary, through email notifications with mobilization status (e.g., ‘chill’, ‘pre-alert’, ‘alert’, ‘go’, and ‘post event demobilization’). LWA will maintain contact with all key field staff for each study, including the Citrus Heights LID Proposition 84 Grant Study. Field crews will be updated, as necessary, according to the Partnership “storm action levels” which specify readiness and mobilization status. Consulting Team will present monitoring options to the Partnership with regard to storm selection and event timing as forecasts develop. The Partnership contacts will provide feedback on whether to mobilize for a storm event or in scheduling dry weather events.

LWA will collect grab samples for the required monitoring constituents (NPDES No. CAS082597, Table B) during three wet weather events and one dry weather event. Analysis will be performed by commercial and USGS laboratories as part of this Scope of Services, including adequate quality control samples as specified in the QAPP. LWA will

collect a higher number of grab samples to develop surrogate relationships between the continuous sensors (e.g., organic matter, turbidity, etc.) and key constituents (e.g., methylmercury, pesticides, metals, etc.).

If necessary, LWA will assist in coordination of Delta RMP or the Citrus Heights Green Parking Lot project sample collection coordination. This sample collection will be performed under different agreements; however, the Partnership may need to provide guidance or assistance to ensure that these other programs can be used to satisfy requirements set forth by the Regional Water Board and the cooperating entities.

Continuous data review, correction, and maintenance

LWA will perform ongoing assessment of continuous data from the two pilot characterization sites to identify and correct sensor problems. This includes site visits to calibrate sensors and correct sensor drift or errors within QAPP and SAP acceptability limits. LWA will collect sensor data points on at least hourly frequency during dry weather and more frequently during wet weather conditions between October 1, 2014 and May 1, 2015, with consideration for additional data collection through the dry season.

1.3 Post Event Follow-up

Following the collection of the Table B grab samples, LWA will prepare an email summarizing field activities, observed rainfall conditions, and coordination activities. This task covers activities following the completion of sampling related to preparation of samples and/or composites, sample shipment, coordination with laboratories, and monitoring activity summary e-mails.

Sample Disposition and Analysis

At the conclusion of each monitoring event for each of the pilot characterization study sites, the Consulting Team will deliver the samples from the field stations to a staging area. All samples will be promptly packed and delivered to the analytical laboratories. Consulting Team will prepare chain of custody documentation to accompany the samples from staging area to laboratory. Consulting Team will pay for commercial delivery services, as needed.

LWA will instruct laboratories to batch samples together, or exclusively with samples of a compatible matrix, to better assess matrix interferences.

Laboratory turn-around times will be 30 days from receipt of samples. Laboratories will provide analytical data in the electronic format used for the Partnership water quality database.

LWA will conduct follow-up communications with analytical laboratories, as needed, to confirm laboratory receipt of samples, verify laboratory instructions for sample preparation and analysis, and assist laboratory personnel with other questions or issues as they arise.

Summary E-mail Notification

This subtask involves the distribution of status e-mails following any mobilization effort and event summary memoranda following successfully captured monitoring events. The post event status email will be sent to the Partnership within 48 hours of the completion of any mobilization effort whether it results in a successfully captured event or a false start. The e-mails will provide a brief summary of the forecast, decision-to-mobilize discussion, monitoring activities, problems encountered, rainfall totals, and any recommendations for future events.

Blackout periods

Monitoring will not be required under this Scope of Services during the following period (all dates inclusive): November 26, 2014 – December 1, 2014 and December 24, 2014 – January 2, 2015; and other periods to be determined jointly by Consulting Team and Partnership during the course of the wet weather monitoring season. The monitoring task manager will notify Partnership contacts and field crews in advance of these blackout dates.

TASK 2 PILOT CHARACTERIZATION STUDY AND PERMIT REPORTING

This task includes reporting for the pilot characterization study and other permit-related reporting activities. The objective of the pilot characterization study is to test a modified sample collection program that would collect higher resolution data and to evaluate whether this approach is feasible on a larger scale to efficiently address assessment questions that are anticipated to be a requirement of the forthcoming NPDES permit renewal. The pilot characterization study is expected to collect extensive continuous data and grab samples at two locations from which the feasibility of monitoring approaches will be evaluated. LWA will process and evaluate field and laboratory data for the pilot characterization project, including as-needed progress reports and a Year 1 report that evaluates the pilot characterization project.

Additional reporting may also be required to support the new NPDES permit or permit development. As needed reporting related to the future NPDES permit monitoring requirements would also be supported by this task. It is expected that the new NPDES permit will require the Partnership to provide technical justifications for monitoring and assessment work elements. Such assessment may be necessary as part of the pilot characterization study prior to the NPDES permit renewal.

LWA will prepare an initial review memorandum that will summarize the pilot characterization study results and recommend the analysis approach for the Year 1 Report. This initial evaluation is necessary to ensure that the Year 1 Report is focused and to provide sufficient time to plan for FY1516 monitoring prior to the completion of the Year 1 Report.

Task Deliverables

Target Submittal Date

Pilot Characterization Study Initial Evaluation and Recommendation Memorandum	June 1, 2015
Pilot Characterization Study Year 1 Report Annual Report Sections	July 21, 2015 August 2015

2.1 Data Processing and Compilation

LWA will review all lab data reports to verify that requested analyses were completed, all requested results were reported (including laboratory internal QA/QC results), and specifications for holding times, analytical methods, and reporting limits were met by the laboratories. LWA will contact laboratory personnel to request that they correct errors, provide missing information, or rerun sample analyses, as needed. The designated agency contacts will be copied on all formal memoranda sent to analytical labs.

LWA will compile electronic data deliverables (EDDs) prepared by the laboratories and process them through the LWA data review routines (EDDIT) and the data evaluation process specified in the QAPP that is based on the existing Data Quality Evaluation Plan (DQEP).

2.2 Data Evaluation, Interpretation and Computations

The expected benefits of the pilot characterization study approach include improved calculation and model verification of urban runoff loads, development of surrogate relationships, and development of other long term datasets more capable of detecting changes in water quality over time (trends). This task includes the evaluation of data and coordination with Partnership staff through an initial assessment memorandum to confirm the assessment approach and discuss recommendations for future monitoring or assessments.

Laboratory, Analytical Method, and Sensor Assessment

During and following the 2014/15 monitoring year, LWA will review laboratory and sensor data. The evaluation will consider historical laboratory performance as reported in previous annual data reports, information provided by the laboratories, and sensor manufacturer and USGS sensor performance criteria. The objective of this task is to verify performance of equipment and laboratories and identify alternate methods to improve efficiency, support the monitoring program goals, and satisfy the anticipated NPDES permit requirements.

Load calculations based on continuous data

LWA will prepare estimates of loads at each monitored site based on observed conditions and perform an evaluation of loads for constituents not directly sampled continuously using a surrogate approach or other statistical procedure (e.g., multi-variate regressions, LOADEST model, etc.). LWA will compare load estimate and measurement approaches

using the continuous data compared to other techniques historically used by the Partnership and the Regional Water Board for TMDLs.

Surrogate assessments

LWA will develop regression relationships based on continuously measured surrogates and grabs (historic and newly collected) and estimate model error using this approach as described by USGS and similar studies (<http://ks.water.usgs.gov/pubs/reports/wrir.00-4126.html>). LWA will evaluate whether additional data are necessary to develop conclusions on the future use of this approach, or make such recommendations on use of the surrogate approach. LWA will summarize the assessments with plots of the relationships and tables of model error and relationship coefficients as well as include the results in the initial assessment memorandum and study report, as directed by Partnership staff.

Prepare Pilot Characterization Initial Assessment Memorandum

LWA will prepare a technical memorandum summarizing monitoring results and evaluating the first year of the pilot characterization program. LWA will evaluate the overall approach and make recommendations for future characterization monitoring. The memorandum will be the basis for the Year 1 Study Report in the form of either an outline or recommendations. LWA will submit the memorandum to the Partnership by June 1, 2015 or at another mutually agreed upon time.

2.3 Prepare Pilot Characterization Study Year 1 Report

LWA will prepare a draft pilot characterization monitoring report containing the results of all monitoring events, including a description of monitoring field activities, rainfall/runoff measurements during the monitoring events, antecedent precipitation conditions, analytical results, and the full documentation of the data evaluation according to the QAPP. LWA will advise the Partnership on the most efficient approach in preparing the data analyses to reduce duplication of effort and unnecessary work. LWA will deliver draft report to Partnership by July 21, 2015 in electronic format (Microsoft Word and PDF format) for review and comment.

LWA will respond to Partnership review comments on the draft report, incorporate changes where necessary, and deliver an electronic copy of the final report within three weeks of receipt of Partnership comments.

2.4 Prepare Annual Monitoring Report Sections and Report of Water Quality Exceedance

Annual reporting requirements for the forthcoming NPDES permit are not yet known. LWA will provide assistance in the preparation of the Joint Program Annual Report, due to the RWQCB by October 1, 2015, unless the renewed NPDES permit is adopted before then. LWA and the Partnership staff will determine the schedule for delivery of these items before July 15, 2015.

The Report of Water Quality Exceedance (RWQE) is a current NPDES permit requirement to evaluate whether urban runoff caused or contributed to exceedances of water quality standards in receiving water. If the Permittees or the Regional Water Board make this finding, the RWQE report is required to identify management actions to address the exceedance. An RWQE is not needed for a constituent if it has been previously prepared. LWA will prepare the Annual Report appendix that performs the evaluation of water quality objective exceedances and “cause and contribute” factors according to the historical assessment approach. If a new RWQE constituent is identified, LWA will assist the Partnership in identifying activities to support control strategies.

TASK 3 PERMIT RENEWAL SUPPORT

3.1 Regional Permit Support

The Regional Permit for the Central Valley, including the Partnership area, is expected to be adopted in 2015. LWA will assist with development of technical responses, review, and comment, and negotiate Regional Permit terms on an as-needed basis. Specific types of permit related tasks may include, but are not limited to, the following:

- Attendance or facilitation at Regional Permit meetings or associated subgroups
- Evaluation of project costs of monitoring requirements and alternative approaches
- Responses to technical components of monitoring approaches, sample collection, analytical methods, toxicity methods, bioassessments, and characterization of Water Quality Assessment findings
- Assistance with response to policy implementation in the Regional Permit such as the Trash Policy, Toxicity Policy, Receiving Water language, and others
- Review of all NPDES permit language including Provisions, Findings, and Fact Sheets and prepare comments and edits to permit
- Draft comment letters and submittals of additional materials
- Prepare Regional Water Board hearing statements

LWA will perform tasks as directed by the Partnership as funds are available, but may also include preparations for NPDES permit renewal in developing sampling plans or work plan outlines.

3.2 Stormwater Quality Improvement Plan Monitoring Updates

LWA will assist the Partnership with revisions to the Stormwater Quality Improvement Plan monitoring and target pollutant sections based on new NPDES permit requirements. LWA will draft edits based on input from the Partnership and circulate them for review. With available funds and approval from the Partnership, LWA may develop data and reporting tools for consistency with the new NPDES permit.

TASK 4 DELTA REGIONAL MONITORING PROGRAM SUPPORT

4.1 Delta RMP Support

The Delta RMP is supported by the Regional Water Board and a wide range of stakeholders to develop better and more comprehensive water quality science in the Delta. It is expected that participation in the Delta RMP will reduce monitoring NPDES permit requirements performed directly by the Partnership. LWA will provide support to the Partnership with development and implementation of the Delta RMP. LWA will provide the following as-needed services:

- LWA will act as a Technical Advisory Committee (TAC) member representing MS4 Phase 1 agencies and the Partnership, including attending up to eight meetings and teleconferences. LWA will prepare as needed reports on TAC activities to the Partnership.
- LWA will attend Steering Committee meetings to support the Partnership Steering Committee members.
- LWA will provide technical support evaluating Delta RMP proposals and programs.
- LWA will lead the pathogen subcommittee as a joint activity with the City of Sacramento and the Sacramento Regional County Sanitation District.

TASK 5 TECHNICAL EXPERTISE

Consulting Team will assist the Partnership in the preparation of technical reports and “as-needed” regulatory assistance related to permit compliance or regional regulatory activities (e.g., TMDL development, Basin Plan amendments, etc.). Consulting Team and Partnership will jointly prepare a program calendar to coordinate key deliverable milestones and track monitoring events and Permit- required deadlines.

Task Deliverables	Target Submittal Date
Draft NWQE and summary email	Within twelve weeks of completion of receiving water sampling event

5.1 Prepare Notices of Water Quality Exceedances

LWA will promptly review pilot characterization receiving water quality sample data and compare the results to applicable water quality standards as required by NPDES permit provision “C. Receiving Water Limitations,” and Monitoring and Reporting Program requirements I.C. and I.D. The “water quality standards” are broadly defined in the NPDES permit language; this is interpreted to include applicable standards, objectives and criteria within the Basin Plan, California Toxics Rule, National Toxics Rule, California Department of Health Services (Title 22), and California Department of Fish and Game (diazinon and chlorpyrifos criteria). The draft letter will be submitted in an editable electronic format to the Partnership at least six days before it is due to the

Regional Water Board. LWA will promptly respond to comments or questions on the draft NWQE until the final NWQE is prepared and submitted by the Partnership.

5.2 Grant Tracking and Project Identification

LWA will actively track grant funding and project opportunities and notify the Partnership contacts. As needed, LWA will assist in the preparation of grant proposal and the development of stakeholder teams. LWA will evaluate grant opportunities for low impact development, water conservation, and water quality modeling.

5.3 Proprietary Controls

As needed, LWA will assist the Partnership with evaluation of proprietary controls based on the Partnership evaluation criteria. This includes evaluation of manufacturer monitoring data and preparation of evaluation memoranda.

5.4 Watershed Treatment Model and other Model Assessments

Program effectiveness assessments and the determination of water quality improvements based on proposed or required implementation of controls can be evaluated using modeling tools including the Watershed Treatment Model (WTM) or other computational modes such as [Watershed Analysis Risk Management Framework](#). LWA will assist the Partnership in evaluating modeling needs, tools, and collection of input data. When requested, LWA will prepare a memorandum summarizing findings.

TASK 6 REGULATORY SUPPORT

LWA will assist the Partnership with water quality regulations that are relevant to existing NPDES permit requirements or those expected to be incorporated. LWA will provide quarterly or as-requested status updates on regulation and policy development.

Task Deliverables	Target Submittal Date
Regulatory Update Summary	Quarterly

6.1 Total Maximum Daily Load Support

LWA will provide as needed support including attending meetings, hearings, and providing technical analysis of Total Maximum Daily Load (TMDL) programs for pesticides, methylmercury, and others. LWA will also track and review updates to the Clean Water Act Section 303(d) water quality impairment listings.

The Partnership is currently participating in Phase 1 of the Delta Methylmercury Total Maximum Daily Load (TMDL) implementation. The TMDL includes a wasteload allocation for methylmercury for the land area within the legal definition of the Delta. The Partnership and Consulting Team developed and submitted a Work Plan in April 2013 to address the TMDL Control Study requirement. The Work Plan includes the evaluation of a grant funded low impact development (LID) retrofit/redevelopment in Citrus Heights.

The City of Citrus Heights is the grant-holder and selected LWA to perform the monitoring study. LWA completed Year 1 of the study in 2013-14.

6.2 Statewide Policy Support

The State Water Resources Control Board (State Board) develops regulations through a number of efforts that may result in changes to the MS4 NPDES permits or indirectly function as guidance to Regional Water Boards that develop the MS4 permits. LWA will assist the Partnership in tracking, evaluating, and commenting on the following State Board policy efforts:

- Trash Amendments – Expected adoption in late 2014 with comments due in August 2014. These amendments to the Ocean Plan and Inland Surface Waters, Enclosed Bays, and Estuaries Plan will require MS4s to install full capture of trash or provide the equivalent with verification through monitoring.
- Policy for Toxicity Assessment and Control – Will require evaluation of toxicity using the “test for significant toxicity (TST)”, though the requirements for assessment of MS4 discharges may be specified in later guidance documents.
- Biological Integrity Assessment Implementation Plan – The State Board is developing an assessment program to identify numeric and narrative benchmarks for inland freshwater streams.
- Statewide Nutrient Objective Development– The State Board is developing a method to develop nutrient numeric objective based on causal effects.

6.3 Delta Policy Support

LWA will provide the Partnership with as-needed support of Sacramento – San Joaquin Delta policy review and commenting, including but not limited to, preparation and coordination of comments on the Bay Delta Conservation Plan, the Delta nutrient objective development, Delta Plan revisions and implementation, and amendments to the Bay Delta Water Quality Control Plan. LWA will attend meetings, provide summary information and draft comments or talking points as needed to inform the Partnership, and develop comments from the Partnership on urban runoff or permit related matters. Individual agencies may still have comments specific to that agency or not related to urban runoff that may be submitted separately.

TASK 7 PROJECT COORDINATION

LWA will provide staff planning to ensure a high level of responsiveness for all work and will provide Partnership with coordination of meetings, teleconferences, video conferences, note taking, and project progress reporting.

7.1 PROJECT COORDINATION AND PLANNING

LWA will provide project management to ensure that the project is completed on time and within budget, including project coordination and administration necessary to achieve the tasks previously described and periodic communications with the Partnership and

subcontractors. Consulting Team will provide qualified staff to complete all tasks as described in the preceding Scope of Services.

LWA will schedule, prepare for and attend bi-monthly progress meetings with the Partnership to discuss progress and results of the monitoring program. LWA will prepare an agenda and distribute it to Partnership agencies in advance of each scheduled progress meeting. At the request of the Partnership, LWA may schedule bi-monthly monitoring or effectiveness evaluation work group teleconferences in those months without progress meetings. At the request of the Partnership, LWA will periodically attend the Permittee meetings to update the Permittees on water quality regulatory issues.

LWA will produce Progress Reports for review at the progress meetings as needed to keep the Partnership apprised of work progress, schedule and budget status.

LWA will submit a monthly invoice with detailed budget status information on a subtask basis and a monthly written report describing project activities and expenditures during the period covered by the invoice.

TASK 8 CITY OF SACRAMENTO TECHNICAL AND REGULATORY TASKS

LWA will provide as-needed services to the City of Sacramento that will not be billed to other Partnership members. It is expected that services will include work related to the sampling, drinking water, and water quality regulatory and monitoring issues specific to the City of Sacramento.

8.1 Sacramento and San Joaquin River Delta Regulatory Expertise

LWA will provide policy analysis and communication support to the City of Sacramento related to issues in the Delta, including, but not limited to, the Delta Plan, Bay Delta Conservation Plan (BDCP), and Bay-Delta Water Quality Control Plan amendments. These services will be in addition to the support provided to the Partnership in this Scope of Services. For the contract year, LWA will attend and facilitate a regulatory update meeting or teleconference with the City approximately every other month or quarterly to coordinate policy comments and provide status updates. LWA is not expected to attend all meetings related to the noted policy efforts, but the City may request representation or assistance at key meetings. Services to be provided include the review of selected portions of key Delta related reports and preparation of draft comments in support of stormwater and combined system discharger considerations. Services may also provide assistance with tracking schedules for upcoming key documents, recommendations for follow-up activities including additional policies and reports to track, and input on guiding principles.

LWA will provide recommendations for input on other State Board or Central Valley Regional Water Board policies in support of discharger considerations, or additional support for follow-up on Delta policies.

8.2 As Needed Regulatory, Compliance, and Field Services

Consulting Team will provide as-needed assistance to the City of Sacramento related to comment preparation on stormwater management plans and compliance assistance for City of Sacramento facilities and water quality regulatory and monitoring issues specific to the City of Sacramento. Consulting Team will provide as-needed field and analytical laboratory services related to inspections, illicit discharges, and spill response.

NOTES TO SCOPE OF SERVICES

The period during which the Larry Walker Associates services described herein will be performed approximately from September 2014 through October 2015. However, upon mutual consent of City of Sacramento and Larry Walker Associates, some activities may extend beyond this time period.

Remaining budget from FY2014/2015 may be utilized for assignments continuing in FY2015/2016.

SCOPE OF SERVICES- OPTION “B”

Sacramento Stormwater Monitoring Program, 2014-15

This Scope of Services describes the consulting services to be provided by Larry Walker Associates, Inc. (LWA) and its subcontractors (collectively, “Consulting Team”) to the Sacramento Stormwater Quality Partnership (Partnership) during the FY2014/2015 contract period, under the terms of LWA’s Stormwater Monitoring Program contract with the City of Sacramento Department of Utilities. LWA leads a consulting team that includes CDM Smith, Pacific EcoRisk, and cbec.

This Scope of Services assumes that the Central Valley Regional Water Quality Control Board (Regional Water Board) does not allow a modified monitoring approach until a new National Pollutant Discharge Elimination System (NPDES) permit is issued to the Partnership permit group, and that the Partnership continues to implement a program at the frequencies in the current NPDES permit (No.CAS082597, Order No. R5-2008-0142). In addition to completion of the monitoring requirements, this Scope of Services includes regulatory reporting and consulting, including participation in the Delta Regional Monitoring Program (RMP), NPDES permit renewal as-needed services, and assistance with new water quality policy implementation (e.g., State Trash Amendment, State Toxicity Policy, total maximum daily loads, general permit compliance, Clean Water Act support, Delta initiatives including Bay Delta Conservation Plan and policy/objective development support, etc.)

Task 1. MONITORING management

This task involves all work related to monitoring activity coordination, including sampling and analysis plans (SAP’s) preparation, pre-season equipment preparation, weather forecasting, Coordinated Monitoring Program (CMP) coordination, and Partnership status updates following monitoring mobilization efforts related to this contract. These activities provide general monitoring support for all of the monitoring activities. Specific monitoring tasks are included under subsections in this Scope of Services to cover the individual study monitoring and reporting tasks.

1.1 Preseason Preparations

Preseason preparations refer to specific maintenance, planning, and training tasks that occur prior to active monitoring. Equipment will be ready for use within 45 days of notice to proceed.

Sampling Plan Preparation and Field Crew Training

The Consulting Team will update the 2013-2014 monitoring year Urban Tributary Sampling and Analysis Plan (SAP), the Coordinated Monitoring Program (CMP) river sampling coordination plan, and the 2012-2013 Urban Runoff Discharge Characterization SAP. These documents will specify sampling locations, analytical constituents, laboratories, bottle and equipment cleaning procedures, QC rotation schedule and communication plan. Analytical constituents and associated sample collection procedures will conform to the requirements of the NPDES Permit, in particular, the schedules for monitoring of constituents listed in the NPDES Permit Monitoring and Reporting

Program (MRP), Table B, and include pyrethroids in the water column samples. LWA will identify and secure the services of qualified laboratories to perform all sample analyses specified in the SAP and assign qualified consultant team staff to perform all required monitoring functions.

LWA will review laboratory performance and compliance with reporting limitation requirements specified in Table B of the permit and provide recommendations for a primary and secondary laboratory.

LWA will plan, arrange and conduct a two hour training session for the Partnership (optional attendance) and Consulting Team field personnel, covering clean sampling techniques and the procedures outlined in the urban tributary monitoring SAP and the urban runoff discharge characterization SAP.

Urban Runoff Discharge Characterization Station Preparations

The urban runoff discharge characterization stations were previously equipped with automated composite samplers, enclosures, and remote telephonic connections. However, monitoring at the sites has been inactive for more than a year and will require the replacement of some equipment after full testing is complete. LWA will perform testing and calibration of all field equipment, including depth and flow sensors, rain gages and sampler aliquot collection. LWA will collect equipment blank samples for Teflon tubing and composite bottles for total organic carbon, metals and trace organics, if necessary, based on actual equipment deployed.

Urban Tributary Station Preparations

The urban tributary locations are generally “manually” sampled using one-time grab samples or composites of manually collected aliquots. The Consulting Team will procure and deploy all equipment, materials, and supplies necessary to perform the urban tributary monitoring activities specified in the SAP. Testing and calibration of field equipment will be performed, as needed.

1.2 Pre-storm Activities

Pre-storm activities comprise of the tasks performed by the consultant immediately before a targeted storm event. These activities include procuring and mobilizing sampling equipment, reviewing updated weather forecast information, and coordinating field-staffing logistics.

Equipment Preparation

Consulting Team will prepare and mobilize all necessary equipment to complete monitoring activities, including composite bottles (carboys), pump tubing, sample bottles, portable pumps, field meters, coolers, ice, etc. Consulting Team will mobilize equipment to the appropriate field staff, including Partnership staff, as necessary. Equipment that comes in direct contact with collected samples will be laboratory-cleaned according to the Partnership protocols.

Weather Tracking

This subtask involves all work related to providing weather updates to the Partnership through daily written forecasts during the business week and unlimited 24-hour, 7-day per week phone consultation, on request. A specialized weather consultant will be contracted to provide primary forecasting services. LWA will generally act as the primary point of contact for the forecaster unless alternative arrangements are made. LWA will provide forecast information to other consultants performing monitoring for the Partnership in the form of weekday written forecasts and business hour phone communication or pre-arranged after-hour support. As candidate storm events are identified, the LWA will notify field crews and consult the Partnership, as necessary.

Study Coordination

LWA will maintain contact with all key field staff for each study, including the CMP ambient river monitoring crew. Field crews will be updated, as necessary, according to the Partnership “storm action levels” which specify readiness and mobilization status. LWA will present monitoring options to the Partnership with regard to storm selection and event timing as forecasts develop. The Partnership “storm contact” will provide feedback on the decision to mobilize for a storm event or in scheduling dry weather events.

Consulting Team will assist in the activities of the CMP to provide support for collection of American and Sacramento River samples during up to three wet weather monitoring events and one dry weather event. LWA will confirm that sample analysis includes Table B of the MRP. CMP staff will be responsible for collecting river samples. If requested, LWA will make all necessary arrangements to ensure that such samples are collected by CMP staff, including labeling and delivering sample bottles, preparing chain of custody forms, and ensuring sample delivery to the analytical laboratories. Analytical costs are not included in this agreement and will be billed directly to the Partnership by the CMP. Urban runoff discharge characterization, urban tributary and receiving water sampling will be coordinated to the extent possible.

1.3 Storm Activities

This subtask involves the general oversight and coordination by the “monitoring manager” during the storm event for all field activities for urban tributary and CMP river monitoring. The LWA monitoring manager will remain available by phone throughout the entirety of the sampling event to coordinate weather forecast reporting, field condition evaluation, storm progress tracking, sample pick-up, staffing, equipment troubleshooting, as well as to provide essential mobilization and tracking duties. It may also be necessary for the monitoring manager to mobilize to the field for final site visits at the end of the monitoring event.

1.4 Post-storm Activities

This subtask consists of activities following the completion of sampling related to the preparation of storm composites, sample shipment, coordination with laboratories, and monitoring activity summary e-mails.

Sample Disposition

At the conclusion of each monitoring event for each of the studies, Consulting Team will deliver the urban runoff discharge characterization and urban tributary samples from the field stations to the staging area. The composite samples will be broken down by Consulting Team into appropriate containers for all required analyses as specified in the SAP and placed on ice. All samples will be promptly packed and delivered to the analytical laboratories. Consulting Team will prepare chain of custody documentation to accompany the samples from staging area to laboratory. LWA will procure commercial delivery services, as needed.

Oversee Laboratory Activities

Laboratory turn-around times shall be 30 days from receipt of samples. Laboratories shall be requested to output analytical data into spreadsheet files in the format established for the Sacramento Stormwater Monitoring Database and provide them to the Consulting Team along with hard copy lab reports.

Consulting Team shall conduct follow-up communications with analytical laboratories, as needed, to confirm laboratory receipt of samples, verify laboratory instructions for sample preparation and analysis, and assist laboratory personnel with other questions or issues as they arise.

Summary E-mail Notification

This subtask involves distribution of status e-mails following any mobilization effort and event summary memoranda following successfully captured monitoring events. The post event status email will be sent to the Partnership within 48 hours of the completion of any mobilization effort whether it results in a successfully captured event or a false start. The e-mails will provide a brief summary of the forecast, decision-to-mobilize discussion, monitoring activities, problems encountered, rainfall totals, and any recommendations for future events.

Task 2. CHARACTERIZATION MONITORING

This task involves all specific work related to urban runoff discharge characterization and urban tributary monitoring, including collection of samples, QA/QC data evaluation, and reporting. This task relates to urban runoff discharge characterization monitoring activities on North Natomas Basin No. 4, Sump 111, and Strong Ranch Slough, as required by the Sacramento Stormwater NPDES Permit (MRP section II.C, Urban Discharge Monitoring).

This task relates to urban tributary monitoring activities on Willow Creek in Folsom, Arcade Creek, and Laguna Creek, as required by the Sacramento Stormwater NPDES Permit (MRP section II.B-2, Urban Tributary Monitoring).

False Starts

In the event that a storm is selected for monitoring and sample collection activities commence, but the storm does not or is not projected to produce sufficient rainfall within a reasonable period to produce adequate runoff to perform sampling, field crews will be demobilized and the event will be considered a false start. Labor hours and other direct costs are budgeted for two false starts.

Blackout periods

Monitoring will not be required under this Scope of Services during the following periods (all dates inclusive): November 26, 2014 – December 1, 2014 and December 24, 2014 – January 2, 2015; and other periods to be determined jointly by Consulting Team and Partnership during the course of the wet weather monitoring season. The monitoring task manager will notify Partnership contacts and field crews in advance of these blackout dates.

2.1 Urban Runoff Discharge Monitoring

This subtask involves work related to discharge sample collection and analysis of samples from North Natomas Basin No. 4, Sump 111, and Strong Ranch Slough. Additional details on procedures will be included in the 2014/15 SAP.

Consulting Team shall conduct urban runoff discharge characterization monitoring using composite collection equipment and existing permanent sampling stations at the three locations. Consulting Team shall collect samples during up to three storm events and one dry weather events at three urban runoff sites (North Natomas Basin No. 4, Sump 111, and Strong Ranch Slough) between September 1, 2014 – June 30, 2015, weather and other conditions permitting. Consulting Team shall be responsible for field supervisory activities prior to and during monitoring events. Consulting Team shall provide monitoring support services and all monitoring, including maintenance/equipment calibration and troubleshooting. LWA will not act as a safety officer for Partnership or non-LWA employees with regard to field work and field conditions. The Consulting Team may postpone sample collection or field deployment if conditions are expected and observed to pose a risk to staff.

Storm-length or 24-hour composites (whichever is shorter) shall be collected for each of the events monitored. Consulting Team staff shall be responsible for deploying, changing, and collecting composite carboys as needed, and for collecting grab samples for constituents as specified in the SAP. Samples will be analyzed for constituents in Table B of the MRP for all events.

2.2 Urban Runoff Discharge Reporting

The Consulting Team will prepare a report summarizing field activities and the reported data for the urban tributary efforts described in subtask 2.1.

Consulting Team will check all lab data reports to verify that all requested analyses were completed and that all requested results were reported (including laboratory internal QA/QC results), and that specifications for holding times, analytical methods, and reporting limits were met by the laboratories. Consulting Team will contact laboratory personnel to request that they correct errors, provide missing information, or rerun sample analyses, as needed. The designated agency contacts will be copied on all formal memoranda sent to the analytical labs.

Consulting Team will conduct a comprehensive evaluation of all QA/QC data produced by the analytical laboratories, apply the QA/QC results to the environmental sample data,

and qualify any data which do not meet data quality objectives, according to protocols established in the most recent Partnership Data Quality Evaluation Plan (DQEP).

Draft and Final Urban Runoff Discharge Characterization Monitoring Report

Consulting Team will prepare a draft urban tributary monitoring report containing the results of all monitoring events, including a description of monitoring field activities, rainfall/runoff measurements during the monitoring events, antecedent precipitation conditions, analytical results, and the full documentation of the data evaluation according to the DQEP. Consulting Team will deliver a draft report to Partnership by July 27, 2015 in electronic format (Microsoft Word and PDF format) for review and comment.

Consulting Team will respond to Partnership review comments on the draft report, incorporate changes where necessary, and deliver an electronic copy of the final report within three weeks of receipt of Partnership comments. As requested, Consulting Team also will provide up to twelve hard copies of the report and laboratory reports.

2.3 Urban Tributary Monitoring

Urban tributary monitoring includes water and sediment quality studies of three long-term urban tributary monitoring stations.

Consulting Team will collect samples from Arcade Creek at Watt Avenue (Sacramento), Laguna Creek at Stockton Boulevard (Sacramento), and Willow Creek at Blue Ravine Road (Folsom), during three wet weather events and one dry weather event between September 1, 2014 and June 30, 2015. Consulting Team will target the first event of the wet season forecasted with a minimum of 0.33” of rain during a 24-hour period and a minimum of 50% probability of precipitation. These mobilization criteria may be modified with Partnership approval.

Consulting Team will collect all samples as grab samples during the 2014-2015 contract year. Samples will be collected at mid-depth, mid-stream locations (where feasible), and timed to be as near to the instance of the peak of the hydrograph as possible during wet weather events.

Consulting Team will install continuous depth, pH, turbidity, and temperature probes at the Willow Creek and Laguna Creek locations to assist with monitoring mobilization and characterizing the representativeness of any grab samples. The continuous probes will be installed in late September or 45 days from notice to proceed, whichever is later, and maintained through the last monitored storm event or longer, depending on direction from the Partnership.

2.4 Urban Tributary Reporting

The Consulting Team will prepare a report summarizing field activities and the reported data for the urban tributary efforts described in subtask 2.3.

Consulting Team will check all lab data reports to verify that all requested analyses were completed and that all requested results were reported (including laboratory internal QA/QC results), and that specifications for holding times, analytical methods, and reporting limits were met by the laboratories. Consulting Team will contact laboratory personnel to request that they correct errors, provide missing information, or rerun sample

analyses as needed. The designated agency contacts will be copied on all formal memoranda sent to analytical labs.

Consulting Team will conduct a comprehensive evaluation of all QA/QC data produced by the analytical laboratories, apply the QA/QC results to the environmental sample data, and qualify any data which do not meet data quality objectives, according to protocols established in the most recent Partnership Data Quality Evaluation Plan (DQEP).

Draft and Final Urban Tributary Monitoring Report

Consulting Team will prepare a draft urban tributary monitoring report containing the results of all monitoring events, including a description of monitoring field activities, rainfall/runoff measurements during the monitoring events, antecedent precipitation conditions, analytical results, and the full documentation of the data evaluation according to the DQEP. Consulting Team will deliver draft report to Partnership by July 27, 2015 in electronic format (Microsoft Word and PDF format) for review and comment.

Consulting Team will respond to Partnership review comments on the draft report, incorporate changes where necessary, and deliver an electronic copy of the final report within three weeks of receipt of Partnership comments. As requested, Consulting Team also will provide up to twelve hard copies of the report and laboratory reports.

Task 3 Permit renewal support

3.1 Regional Permit Support

The Regional Permit for the Central Valley, including the Partnership area, is expected to be adopted in 2015. LWA will assist with development of technical responses, review, and comment, and negotiate Regional Permit terms on an as-needed basis. Specific types of permit related tasks may include, but are not limited to, the following:

- Attendance or facilitation at Regional Permit meetings or associated subgroups
- Evaluation of project costs of monitoring requirements and alternative approaches
- Responses to technical components of monitoring approaches, sample collection, analytical methods, toxicity methods, bioassessments, and characterization of Water Quality Assessment findings
- Assistance with response to policy implementation in the Regional Permit such as the Trash Policy, Toxicity Policy, Receiving Water language, and others
- Review of all NPDES permit language including Provisions, Findings, and Fact Sheets and prepare comments and edits to permit
- Draft comment letters and submittals of additional materials
- Prepare Regional Water Board hearing statements

LWA will perform tasks as directed by the Partnership as funds are available, but may also include preparations for NPDES permit renewal in developing sampling plans or work plan outlines.

3.2 Stormwater Quality Improvement Plan Monitoring Updates

LWA will assist the Partnership with revisions to the Stormwater Quality Improvement Plan monitoring and target pollutant sections based on new NPDES permit requirements. LWA will draft edits based on input from the Partnership and circulate them for review. With available funds and approval from the Partnership, LWA may develop data and reporting tools for consistency with the new NPDES permit.

Task 4 Delta Regional Monitoring Program Support

4.1 Delta RMP Support

The Delta RMP is supported by the Regional Water Board and a wide range of stakeholders to develop better and more comprehensive water quality science in the Delta. It is expected that participation in the Delta RMP will reduce monitoring NPDES permit requirements performed directly by the Partnership. LWA will provide support to the Partnership with development and implementation of the Delta RMP. LWA will provide the following as-needed services:

- LWA will act as a Technical Advisory Committee (TAC) member representing MS4 Phase 1 agencies and the Partnership, including attending up to eight meetings and teleconferences. LWA will prepare as needed reports on TAC activities to the Partnership.
- LWA will attend Steering Committee meetings to support the Partnership Steering Committee members.
- LWA will provide technical support evaluating Delta RMP proposals and programs.
- LWA will lead the pathogen subcommittee as a joint activity with the City of Sacramento and the Sacramento Regional County Sanitation District.

Task 5 Technical Expertise

Consulting Team will assist the Partnership in the preparation of technical reports and “as-needed” regulatory assistance related to permit compliance or regional regulatory activities (e.g., TMDL development, Basin Plan amendments, etc.). Consulting Team and Partnership will jointly prepare a program calendar to coordinate key deliverable milestones and track monitoring events and Permit- required deadlines.

Task Deliverables	Target Submittal Date
Draft NWQE and summary email	Within twelve weeks of completion of receiving water sampling event

5.1 Prepare Notices of Water Quality Exceedances

LWA will promptly review pilot characterization receiving water quality sample data and compare the results to applicable water quality standards as required by NPDES permit provision “C. Receiving Water Limitations,” and Monitoring and Reporting Program requirements I.C. and I.D. The “water quality standards” are broadly defined in the NPDES permit language; this is interpreted to include applicable standards, objectives

and criteria within the Basin Plan, California Toxics Rule, National Toxics Rule, California Department of Health Services (Title 22), and California Department of Fish and Game (diazinon and chlorpyrifos criteria). The draft letter will be submitted in an editable electronic format to the Partnership at least six days before it is due to the Regional Water Board. LWA will promptly respond to comments or questions on the draft NWQE until the final NWQE is prepared and submitted by the Partnership.

5.2 Grant Tracking and Project Identification

LWA will actively track grant funding and project opportunities and notify the Partnership contacts. As needed, LWA will assist in the preparation of grant proposal and the development of stakeholder teams. LWA will evaluate grant opportunities for low impact development, water conservation, and water quality modeling.

5.3 Proprietary Controls

As needed, LWA will assist the Partnership with evaluation of proprietary controls based on the Partnership evaluation criteria. This includes evaluation of manufacturer monitoring data and preparation of evaluation memoranda.

5.4 Watershed Treatment Model and other Model Assessments

Program effectiveness assessments and the determination of water quality improvements based on proposed or required implementation of controls can be evaluated using modeling tools including the Watershed Treatment Model (WTM) or other computational modes such as [Watershed Analysis Risk Management Framework](#). LWA will assist the Partnership in evaluating modeling needs, tools, and collection of input data. When requested, LWA will prepare a memorandum summarizing findings.

5.5 Prepare Coordinated Monitoring Program Report

Consulting Team will prepare a memorandum summarizing the monitoring activities of the CMP including reporting of data results, summary of quality control or sample collection issues, comparison to select and applicable water quality objectives and preparation of updated trend plots and summary statistics. It is expected that the level of effort and format will be similar to the report from the last several years and may include complete time series plot updates. This task may not be required if the Delta RMP can be used to meet the monitoring requirements in the NPDES permit.

5.6 Prepare Annual Monitoring Report Sections and Report of Water Quality Exceedance

Annual reporting requirements for the forthcoming NPDES permit are not yet known. LWA will provide assistance in the preparation of the Joint Program Annual Report, due to the RWQCB by October 1, 2015, unless the renewed NPDES permit is adopted before then. LWA and the Partnership staff will determine the schedule for delivery of these items before July 15, 2015.

The Report of Water Quality Exceedance (RWQE) is a current NPDES permit requirement to evaluate whether urban runoff caused or contributed to exceedances of water quality standards in receiving water. If the Permittees or the Regional Water Board make this finding, the RWQE report is required to identify management actions to

address the exceedance. An RWQE is not needed for a constituent if it has been previously prepared. LWA will prepare the Annual Report appendix that performs the evaluation of water quality objective exceedances and “cause and contribute” factors according to the historical assessment approach. If a new RWQE constituent is identified, LWA will assist the Partnership in identifying activities to support control strategies.

Task 6 Regulatory Support

LWA will assist the Partnership with water quality regulations that are relevant to existing NPDES permit requirements or those expected to be incorporated. LWA will provide quarterly or as-requested status updates on regulation and policy development.

Task Deliverables	Target Submittal Date
Regulatory Update Summary	Quarterly

6.1 Total Maximum Daily Load Support

LWA will provide as needed support including attending meetings, hearings, and providing technical analysis of Total Maximum Daily Load (TMDL) programs for pesticides, methylmercury, and others. LWA will also track and review updates to the Clean Water Act Section 303(d) water quality impairment listings.

The Partnership is currently participating in Phase 1 of the Delta Methylmercury Total Maximum Daily Load (TMDL) implementation. The TMDL includes a wasteload allocation for methylmercury for the land area within the legal definition of the Delta. The Partnership and Consulting Team developed and submitted a Work Plan in April 2013 to address the TMDL Control Study requirement. The Work Plan includes the evaluation of a grant funded low impact development (LID) retrofit/redevelopment in Citrus Heights. The City of Citrus Heights is the grant-holder and selected LWA to perform the monitoring study. LWA completed Year 1 of the study in 2013-14.

6.2 Statewide Policy Support

The State Water Resources Control Board (State Board) develops regulations through a number of efforts that may result in changes to the MS4 NPDES permits or indirectly function as guidance to Regional Water Boards that develop the MS4 permits. LWA will assist the Partnership in tracking, evaluating, and commenting on the following State Board policy efforts:

- Trash Amendments – Expected adoption in late 2014 with comments due in August 2014. These amendments to the Ocean Plan and Inland Surface Waters, Enclosed Bays, and Estuaries Plan will require MS4s to install full capture of trash or provide the equivalent with verification through monitoring.
- Policy for Toxicity Assessment and Control – Will require evaluation of toxicity using the “test for significant toxicity (TST)”, though the requirements for assessment of MS4 discharges may be specified in later guidance documents.
- Biological Integrity Assessment Implementation Plan – The State Board is developing an assessment program to identify numeric and narrative benchmarks for inland freshwater streams.

- Statewide Nutrient Objective Development– The State Board is developing a method to develop nutrient numeric objective based on causal effects.

6.3 Delta Policy Support

LWA will provide the Partnership with as-needed support of Sacramento – San Joaquin Delta policy review and commenting, including but not limited to, preparation and coordination of comments on the Bay Delta Conservation Plan, the Delta nutrient objective development, Delta Plan revisions and implementation, and amendments to the Bay Delta Water Quality Control Plan. LWA will attend meetings, provide summary information and draft comments or talking points as needed to inform the Partnership, and develop comments from the Partnership on urban runoff or permit related matters. Individual agencies may still have comments specific to that agency or not related to urban runoff that may be submitted separately.

Task 7 Project Coordination

LWA will provide staff planning to ensure a high level of responsiveness for all work and will provide Partnership with coordination of meetings, teleconferences, video conferences, note taking, and project progress reporting.

7.1 Project Coordination and Planning

LWA will provide project management to ensure that the project is completed on time and within budget, including project coordination and administration necessary to achieve the tasks previously described and periodic communications with the Partnership and subcontractors. Consulting Team will provide qualified staff to complete all tasks as described in the preceding Scope of Services.

LWA will schedule, prepare for and attend bi-monthly progress meetings with the Partnership to discuss progress and results of the monitoring program. LWA will prepare an agenda and distribute it to Partnership agencies in advance of each scheduled progress meeting. At the request of the Partnership, LWA may schedule bi-monthly monitoring or effectiveness evaluation work group teleconferences in those months without progress meetings. At the request of the Partnership, LWA will periodically attend the Permittee meetings to update the Permittees on water quality regulatory issues.

LWA will produce Progress Reports for review at the progress meetings as needed to keep the Partnership appraised of work progress, schedule and budget status.

LWA will submit a monthly invoice with detailed budget status information on a subtask basis and a monthly written report describing project activities and expenditures during the period covered by the invoice.

Task 8 City of Sacramento Technical and Regulatory Tasks

LWA will provide as-needed services to the City of Sacramento that will not be billed to other Partnership members. It is expected that services will include work related to the sampling, drinking water, and water quality regulatory and monitoring issues specific to the City of Sacramento.

8.1 Sacramento and San Joaquin River Delta Regulatory Expertise

LWA will provide policy analysis and communication support to the City of Sacramento related to issues in the Delta, including, but not limited to, the Delta Plan, Bay Delta Conservation Plan (BDCP), and Bay-Delta Water Quality Control Plan amendments. These services will be in addition to the support provided to the Partnership in this Scope of Services. For the contract year, LWA will attend and facilitate a regulatory update meeting or teleconference with the City approximately every other month or quarterly to coordinate policy comments and provide status updates. LWA is not expected to attend all meetings related to the noted policy efforts, but the City may request representation or assistance at key meetings. Services to be provided include the review of selected portions of key Delta related reports and preparation of draft comments in support of stormwater and combined system discharger considerations. Services may also provide assistance with tracking schedules for upcoming key documents, recommendations for follow-up activities including additional policies and reports to track, and input on guiding principles.

LWA will provide recommendations for input on other State Board or Central Valley Regional Water Board policies in support of discharger considerations, or additional support for follow-up on Delta policies.

8.2 As Needed Regulatory, Compliance, and Field Services

Consulting Team will provide as-needed assistance to the City of Sacramento related to comment preparation on stormwater management plans and compliance assistance for City of Sacramento facilities and water quality regulatory and monitoring issues specific to the City of Sacramento. Consulting Team will provide as-needed field and analytical laboratory services related to inspections, illicit discharges, and spill response.

NOTES TO SCOPE OF SERVICES

The period during which the Larry Walker Associates services described herein will be performed approximately from September 2014 through October 2015. However, upon mutual consent of City of Sacramento and Larry Walker Associates, some activities may extend beyond this time period.

Remaining budget from FY2014/2015 may be utilized for assignments continuing in FY2015/2016.

ATTACHMENT 2 TO EXHIBIT B

BUDGET- OPTION "A"

Sacramento Stormwater Monitoring Program, 2014-15

TASK	DESCRIPTION	LABOR HOURS					LAB COSTS [1]	OTHER DIRECT COSTS	TOTALS [1]
		LWA PROJECT MANAGER	TECHNICAL ADVISOR	SENIOR ENG./SCI.	STAFF ENG./SCI. II	STAFF ENG./ SCI.			
URBAN RUNOFF AND URBAN CREEK PILOT CHARACTERIZATION MONITORING									
1.1	<i>Pre-season Preparations and Plan Development</i>	36	0	0	120	80	\$ 200	\$ 35,569	\$ 76,929
1.2	<i>Sample Collection</i>	24	0	0	96	64	\$ 64,998	\$ 2,500	\$ 99,178
1.3	<i>Post Event Follow-up</i>	24	0	0	80	80	\$ -	\$ -	\$ 31,440
	Sub TOTAL LABOR HOURS	84	0	0	296	224			
	Sub TOTAL COSTS						\$ 65,198	\$ 38,069	\$ 207,546
PILOT CHARACTERIZATION STUDY AND PERMIT REPORTING									
2.1	<i>Data Processing and Compilation</i>	8	0	0	96	64	\$ -	\$ -	\$ 27,520
2.2	<i>Data Evaluation, Interpretation and Computations</i>	40	24	0	120	48	\$ -	\$ 100	\$ 43,140
2.3	<i>Prepare Pilot Characterization Study Year 1 Report</i>	48	12	0	100	24	\$ -	\$ 50	\$ 35,450
2.4	<i>Prepare Annual Monitoring Report Sections and RWQE</i>	24	12	0	56	24	\$ -	\$ 50	\$ 21,950
	Sub TOTAL LABOR HOURS	120	48	0	372	160			
	Sub TOTAL COSTS						\$ -	\$ 200	\$ 128,060
PERMIT RENEWAL SUPPORT									
3.1	<i>Regional Permit Support</i>	64	0	0	24	0	\$ -	\$ 210	\$ 20,810
3.2	<i>Stormwater Quality Improvement Plan Monitoring Updates</i>	40	0	0	40	0	\$ -	\$ 100	\$ 17,100
	Sub TOTAL LABOR HOURS	104	0	0	64	0			
	Sub TOTAL COSTS						\$ -	\$ 310	\$ 37,910
DELTA REGIONAL MONITORING PROGRAM SUPPORT									
4.1	<i>Delta RMP Support</i>	64	0	24	16	0	\$ -	\$ 420	\$ 24,740
	Sub TOTAL LABOR HOURS	64	0	24	16	0			
	Sub TOTAL COSTS						\$ -	\$ 420	\$ 24,740
TECHNICAL EXPERTISE									
5.1	<i>Prepare NWQEs</i>	8	0	0	32	0	\$ -	\$ -	\$ 7,360
5.2	<i>Grant Tracking and Project Identification</i>	24	0	0	8	40	\$ -	\$ -	\$ 13,560
5.3	<i>Proprietary Controls</i>	4	0	40	40	0	\$ -	\$ -	\$ 16,040
5.4	<i>Watershed Treatment Model and other Model Assessments</i>	64	32	0	64	16	\$ -	\$ -	\$ 37,120
	Sub TOTAL LABOR HOURS	100	32	40	144	56			
	Sub TOTAL COSTS						\$ -	\$ -	\$ 74,080
REGULATORY SUPPORT									
6.1	<i>Total Maximum Daily Load Support</i>	12	0	48	24	24	\$ -	\$ -	\$ 20,760
6.2	<i>Statewide Policy Support</i>	40	0	24	0	0	\$ -	\$ 50	\$ 15,490
6.3	<i>Delta Policy Support</i>	56	0	24	0	0	\$ -	\$ 50	\$ 19,650
	Sub TOTAL LABOR HOURS	108	0	96	24	24			
	Sub TOTAL COSTS						\$ -	\$ 100	\$ 55,900
PROJECT COORDINATION									
7.1	<i>Project Coordination and Planning</i>	96	12	24	64	24	\$ -	\$ 500	\$ 36,920
	Sub TOTAL LABOR HOURS	96	12	24	64	24			
	Sub TOTAL COSTS						\$ -	\$ 500	\$ 36,920
Sub-Total Partnership									
	TOTAL LABOR HOURS	676	92	184	980	488			
	TOTAL COSTS						\$ 65,198	\$ 39,599	\$ 565,156
CITY OF SACRAMENTO TECHNICAL AND REGULATORY TASKS									
8.1	<i>Sacramento and San Joaquin River Delta Regulatory Expertise</i>	64	0	0	8	40	\$ -	\$ 250	\$ 24,210
8.2	<i>As-needed Regulatory, Compliance, and Field Services</i>	64	0	0	8	40	\$ 2,500	\$ 250	\$ 26,710
	Sub TOTAL LABOR HOURS	128	0	0	16	80			
	Sub TOTAL COSTS						\$ 2,500	\$ 500	\$ 50,920
	TOTAL LABOR HOURS	804	92	184	996	568			
	TOTAL COSTS						\$ 67,698	\$ 40,099	\$ 616,076

Notes:

[1] Includes 10% LWA markup for lab costs and subcontractor labor.

BUDGET- OPTION "B"

Sacramento Stormwater Monitoring Program, 2014-15

TASK	DESCRIPTION	LABOR HOURS					LAB COSTS [1]	OTHER DIRECT COSTS	TOTALS [1]
		LWA PROJECT MANAGER	TECHNICAL ADVISOR	SENIOR ENG./SCI.	STAFF ENG./SCI. II	STAFF ENG./ SCI.			
MONITORING MANAGEMENT									
1.1	Pre-season Preparations	32	0	16	120	80	\$ 1,000	\$ 3,500	\$ 47,980
1.2	Pre-storm Activities	16	0	0	64	100	\$ 1,550	\$ 4,500	\$ 35,770
1.3	Storm Activities	24	0	16	80	0	\$ -	\$ -	\$ 22,800
1.4	Post-storm Activities	16	0	16	64	64	\$ -	\$ 4,000	\$ 31,680
	Sub TOTAL LABOR HOURS	88	0	48	328	244			
	Sub TOTAL COSTS						\$ 2,550	\$ 12,000	\$ 138,230
CHARACTERIZATION MONITORING									
2.1	Urban Runoff Discharge Monitoring	0	0	0	56	56	\$ 52,503	\$ 1,600	\$ 71,743
2.2	Urban Runoff Discharge Reporting	40	0	16	80	120	\$ -	\$ 100	\$ 45,060
2.3	Urban Tributary Monitoring	0	0	0	64	64	\$ 55,961	\$ 1,600	\$ 77,721
2.4	Urban Tributary Reporting	40	0	16	80	120	\$ -	\$ 50	\$ 45,010
	Sub TOTAL LABOR HOURS	80	0	32	280	360			
	Sub TOTAL COSTS						\$ 108,464	\$ 3,350	\$ 239,534
PERMIT RENEWAL SUPPORT									
3.1	Regional Permit Support	64	0	0	24	0	\$ -	\$ 210	\$ 20,810
3.2	Stormwater Quality Improvement Plan Monitoring Updates	40	0	0	40	0	\$ -	\$ 100	\$ 17,100
	Sub TOTAL LABOR HOURS	104	0	0	64	0			
	Sub TOTAL COSTS						\$ -	\$ 310	\$ 37,910
DELTA REGIONAL MONITORING PROGRAM SUPPORT									
4.1	Delta RMP Support	64	0	24	16	0	\$ -	\$ 420	\$ 24,740
	Sub TOTAL LABOR HOURS	64	0	24	16	0			
	Sub TOTAL COSTS						\$ -	\$ 420	\$ 24,740
TECHNICAL EXPERTISE									
5.1	Prepare NWQEs	8	0	0	32	0	\$ -	\$ -	\$ 7,360
5.2	Grant Tracking and Project Identification	24	0	0	8	40	\$ -	\$ -	\$ 13,560
5.3	Proprietary Controls	4	0	40	40	0	\$ -	\$ -	\$ 16,040
5.4	Watershed Treatment Model and other Model Assessments	64	32	0	64	16	\$ -	\$ -	\$ 37,120
5.5	Prepare Coordinated Monitoring Program Report	16	0	64	24	24	\$ -	\$ -	\$ 25,160
5.6	Prepare Annual Monitoring Report Sections and RWQE	24	12	0	56	24	\$ -	\$ 50	\$ 21,950
	Sub TOTAL LABOR HOURS	140	44	104	224	104			
	Sub TOTAL COSTS						\$ -	\$ 50	\$ 121,190
REGULATORY SUPPORT									
6.1	Total Maximum Daily Load Support	12	0	48	24	24	\$ -	\$ -	\$ 20,760
6.2	Statewide Policy Support	40	0	24	0	0	\$ -	\$ 50	\$ 15,490
6.3	Delta Policy Support	56	0	24	0	0	\$ -	\$ 50	\$ 19,650
	Sub TOTAL LABOR HOURS	108	0	96	24	24			
	Sub TOTAL COSTS						\$ -	\$ 100	\$ 55,900
PROJECT COORDINATION									
7.1	Project Coordination and Planning	96	12	24	64	24	\$ -	\$ 500	\$ 36,920
	Sub TOTAL LABOR HOURS	96	12	24	64	24			
	Sub TOTAL COSTS						\$ -	\$ 500	\$ 36,920
Sub-Total Partnership									
TOTAL LABOR HOURS		680	56	328	1,000	756			
TOTAL COSTS							\$ 111,014	\$ 16,730	\$ 654,424
CITY OF SACRAMENTO TECHNICAL AND REGULATORY TASKS									
8.1	Sacramento and San Joaquin River Delta Regulatory Expertise	64	0	0	8	40	\$ -	\$ 250	\$ 24,210
8.2	As-needed Regulatory, Compliance, and Field Services	64	0	0	8	40	\$ 2,500	\$ 250	\$ 26,710
	Sub TOTAL LABOR HOURS	128	0	0	16	80			
	Sub TOTAL COSTS						\$ 2,500	\$ 500	\$ 50,920
TOTAL LABOR HOURS		808	56	328	1,016	836			
TOTAL COSTS							\$ 113,514	\$ 17,230	\$ 705,344

Notes:

[1] Includes 10% LWA markup for lab costs and subcontractor labor.