

# C/CAG

## CITY/COUNTY ASSOCIATION OF GOVERNMENTS OF SAN MATEO COUNTY

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### TASK ORDER FORM

**Date/Start Date:** July 1, 2017  
**Consultant Name:** EOA, Inc.  
**Contract:** Countywide Water Pollution Prevention Program Technical Support – On-Call Contracts  
**Task Order No.:** EOA-06  
**Task Order Name:** Municipal Stormwater NPDES Permit Compliance Assistance  
**Scope of Work:** Water Quality Monitoring (2018 Water Year). See attached scope of work.  
**Deliverables:** See attached scope of work.  
**Budgeted Cost:** Per attached scope of work, not to exceed \$492,549 in Fiscal Year 2017-18.  
**The additional \$191,960 for work in Fiscal Year 2018-19 is subject to a new or extended contract with C/CAG and sufficient funds being included in C/CAG’s approved 2018-19 budget. Consultant shall not proceed to perform any work in Fiscal Year 2018-19 under this Task Order without written direction from C/CAG staff and until and unless each of the above conditions has been satisfied.**  
**Completion Date:** March 31, 2019

*The parties indicated herein agree to execute this Task Order per the scope indicated above. No payment will be made for any work performed prior to the execution of this Task Order. Unless otherwise indicated, receipt of this executed Task Order is your Notice to Proceed with the work specified herein.*

C/CAG

EOA, Inc.

\_\_\_\_\_  
Sandy Wong  
Executive Director

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

**Municipal Stormwater NPDES Permit  
Compliance Assistance  
WY2018 Water Quality Monitoring  
Scope of Work and Budget**

**Prepared for the  
San Mateo Countywide  
Water Pollution Prevention Program  
(a C/CAG program)**



**Prepared by EOA, Inc.**



**DRAFT June 2017**

## INTRODUCTION

EOA, Inc. (EOA) prepared this scope-of-work and budget for the San Mateo Countywide Water Pollution Prevention Program (Countywide Program or SMCWPPP). SMCWPPP is a program of the City/County Association of Governments of San Mateo County (C/CAG). The scope and budget is for EOA to assist SMCWPPP to help its member agencies to comply with certain requirements found in the reissued municipal stormwater permit, NPDES Permit No. CAS612008, which is commonly referred to as the Municipal Regional Permit (MRP 2.0). The following sections describe EOA's tasks, budgets, and deliverables for Water Year 2018 (WY2018) water quality monitoring activities. Exhibit A summarizes the tasks and budgets, including subtasks, estimated labor hours, and planning-level subcontractor and expense budgets. It should be noted that the actual distribution of hours and subcontractors/expenses within and among subtasks may vary. EOA will conduct all work on a time and materials basis in accordance with the Agreement for Services between EOA, Inc. and C/CAG dated August 13, 2015. The total budget will not be exceeded without C/CAG's authorization.

The total budget for WY2018 water quality monitoring activities is \$684,509. We understand that C/CAG will authorize expenditure during FY 2017/18 of \$492,549 of this total budget and will likely authorize expenditure during FY 2018/19 of the remaining \$191,960. This scope and budget is structured accordingly.

## TASK SM94 – WATER QUALITY MONITORING

In accordance with the MRP, water quality monitoring is conducted on a water year basis. Sampling is conducted each water year (October 1 through September 30) and reports presenting that water year's data are submitted to the Regional Water Board by the end of the following March. For example, the results of sampling during Water Year 2018 (i.e., October 1, 2017 – September 30, 2018, abbreviated as WY2018) are documented in reports submitted by March 31, 2019. Because the typical municipal fiscal year (July 1 – June 30) and the water year are not aligned, field sampling and reporting associated with a particular water year are conducted during portions of two adjacent fiscal years.

This scope and budget is for all activities associated with WY2018 water quality monitoring, including fieldwork, data Quality Assurance / Quality Control (QA/QC), and reporting. However, Subtasks SM94.01 (Regional Coordination) and SM94.02 (Regional Monitoring Program Participation) are ongoing activities that are not tied to a particular water year. The budgets for these subtasks are generally based on an estimated amount of EOA staff time needed each month or for each of a certain number of periodic meetings. For these two subtasks, this scope and budget covers the 12-month FY 2017/18 period of time (i.e., July 1, 2017 – June 30, 2018).

The structure of this scope and budget assumes that beginning with WY2018, C/CAG will issue an annual Water Quality Monitoring task order that is effective July 1 and covers all activities associated with the water year, a 1.75 year time period (e.g., the WY2018 task order would be effective July 1, 2017 and cover activities through March 31, 2019, the date that the final WY2018 reporting is due).

Under this task EOA will continue to work closely with the San Francisco Estuary Institute (SFEI), which manages the San Francisco Estuary Regional Monitoring Program (RMP). EOA staff participates on the RMP Steering Committee, Technical Review Committee (TRC) and selected RMP workgroups and strategy teams. This participation helps to ensure that RMP monitoring effectively addresses the

management questions of interest to SMCWPPP and all of the BASMAA regional partners, and assists with associated permit compliance.

Bonnie de Berry will continue as the water quality monitoring task leader. Similar to recent years, Kinnetic Laboratories, Inc. (KLI) and Balance Hydrologics will provide technical fieldwork support. Analytical laboratories will include Caltest, BioAssessment Services, EcoAnalysts, Pacific EcoRisk, Alpha Analytical, and ALS, or qualified substitutes.

#### **SUBTASK SM94.01: REGIONAL COORDINATION**

Regional collaboration has been an essential part of SMCWPPP's water quality monitoring approach, is encouraged by MRP 2.0 provision C.8.a.i, and creates opportunities for cost sharing, information exchange, and more effective planning. EOA will continue to assist SMCWPPP to collaborate and coordinate with other Bay Area municipal stormwater management agencies on all water quality monitoring tasks. This will include representing SMCWPPP on BASMAA's Monitoring and Pollutants of Concern Committee (MPC) and the Regional Monitoring Coalition (RMC) Workgroup. This effort includes serving as the chair for the RMC Workgroup, participating in related email and telephone communications, and reviewing pertinent regional documents. During FY 2017/18 these groups will continue to assist with interpretation of MRP 2.0 monitoring requirements and help provide oversight of several BASMAA regional projects that address MRP 2.0 requirements, including improvements to the regional database, the five-year regional stream conditions report, the regional BMP effectiveness monitoring study, and the regional monitoring of infrastructure for PCBs in caulks/sealants study<sup>1</sup>. This subtask will also include planning efforts in preparation for the Integrated Monitoring Report that must be submitted by March 31 of the fifth year of the permit (i.e. March 31, 2020). This subtask may also include occasionally attending relevant policy meetings (e.g., biointegrity & biostimulatory objectives development, bacteria objectives, wetland/riparian policy, Caltrans workplans) and/or commenting on related documents. It is assumed that the BASMAA MPC Committee will continue to meet monthly and that the RMC Workgroup will continue to meet quarterly.

In accordance with provision C.8.b, all monitoring data must be State of California Surface Water Ambient Monitoring Program (SWAMP) comparable, data quality must be consistent with the SWAMP Quality Assurance Project Plan (QAPP), and data collection and analytical methods must follow the SWAMP Standard Operating Procedures (SOPs). These requirements are included in the BASMAA QAPP and SOPs that were developed and maintained during MRP 1.0 and updated in FY 2015/16 to capture new MPR 2.0 requirements for creek status and pesticides and toxicity monitoring. It is assumed that BASMAA RMC participants will continue to work together to maintain these documents throughout the term of MRP 2.0. EOA will assist with ongoing updates on behalf of C/CAG and its member agencies.

BASMAA Regional Project Task RMC 3c (Creek Status Monitoring Coordination) assists all RMC participants in effective collaboration and consistent implementation of regional monitoring projects. Task RMC 3c is not funded by SMCWPPP or SCVURPPP. Instead, EOA (on behalf of SMCWPPP and SCVURPPP) provides in-kind services at a comparable level (\$14,000 annually). In FY 2017/18, EOA will continue to provide these services on behalf of SMCWPPP at a population-adjusted level of \$4,675 (approximately 1/3 of \$14,000). These services include: technical database assistance to RMC programs, annual compilation of RMC program creek status monitoring data into one database, serving as the link

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<sup>1</sup> The regional PCBs in caulk/sealants study is required by Provision C.12.e but will also be used towards compliance with Provision C.8.f (Pollutants of Concern Monitoring).

between the RMC and the California Environmental Data Exchange Network (CEDEN) regional data node (i.e., SFEI), and management of the creek status probabilistic monitoring design and site evaluation process.

**Deliverables:**

- Participation in 12 monthly meetings of BASMAA’s MPC Committee and four quarterly meetings of BASMAA’s RMC Workgroup on behalf of C/CAG and its member agencies.
- As chair, on behalf of all member agencies, development of four meeting agendas for BASMAA’s RMC Workgroup.
- Telephone and email communications and comments on pertinent regional documents and participation in related meetings.
- Compilation of RMC program Creek Status data into one database.
- In-kind services to assist with BASMAA Regional Project Task RMC 3c (Creek Status Monitoring Coordination): technical database assistance to RMC programs, annual compilation of RMC program Creek Status data into one database, serving as the link between the RMC and the CEDEN regional data node (i.e., SFEI), and management of the creek status probabilistic monitoring design and site evaluation process.

Note: The above deliverables are for the 12-month FY 2017/18 time period (i.e., July 1, 2017 – June 30, 2018).

**Budget: \$33,702**

**SUBTASK SM94.02: REGIONAL MONITORING PROGRAM PARTICIPATION**

Provision C.8.c requires that Permittees “participate in implementing an Estuary receiving water monitoring program, at a minimum equivalent to the San Francisco Estuary Regional Monitoring Program by contributing their fair-share financially on an annual basis.” The budget for this subtask does not include financial contributions to the RMP, but does include participation in various RMP Workgroups and Strategy Teams to provide input and leadership to the RMP and identify opportunities to direct RMP funds and monitoring activities towards meeting both short- and long-term MRP 2.0 requirements.

On behalf of C/CAG and its member agencies, EOA will participate in the RMP’s Sources, Pathways, and Loadings Workgroup (SPLWG) which ensures that RMP projects and products are relevant and help to answer management questions in the context of TMDLs and attainment of water quality standards. The SPLWG meets approximately twice yearly. EOA will also participate in Strategy Teams that inform the SPLWG such as the Small Tributary Loading Strategy Team (STLS) that meets monthly and the STLS Long-Term Trends Strategy Team that is assumed to meet quarterly. STLS participation includes selection of stations where monitoring may take place and review of monitoring plans. EOA will ensure that STLS monitoring will maximize compliance with and address management questions related to Provisions C.8 (Pollutants of Concern Monitoring) and C.11/12 (Mercury/PCBs TMDLs). In recent years this has included assisting with the selection, mapping, and logistical facilitation of wet weather monitoring stations where pollutants of concern (e.g., PCBs and mercury) data are collected by the RMP. The data are being used to identify watersheds where PCBs and mercury control actions are likely to have the highest load

reduction benefit. In future years, monitoring may shift to addressing management questions related to long-term trends.

As needed during FY 2017/18, EOA will also participate in the RMP's PCBs Strategy Team, which integrates across RMP Workgroup areas and oversees special studies specifically designed to address PCBs in the San Francisco Bay (rather than tributaries to the Bay). In 2015 the PCBs Strategy Team began implementation of a multi-year study plan that includes collection of sediments from Bay margins and modeling (hydrologic and water quality) of high priority Bay margin areas.

This subtask includes email and telephone communications and review of and comment on documents and RMP work products (e.g., Regional Watershed Spreadsheet Model report, monitoring reports). In addition, EOA will represent C/CAG and its member agencies or the BASMAA RMC in other Workgroups and Strategy Teams as needed (e.g., RMP's Nutrient Technical Workgroup or Emerging Contaminants Workgroup).

**Deliverables:**

- Participation in two meetings of the RMP's SPLWG Workgroup, 12 monthly meetings of the STLS Team, four quarterly meetings of the STLS Long-Term Trends Strategy Team, and up to two meetings of the PCBs Strategy Team on behalf of C/CAG and its member agencies. It is assumed that approximately half of these meetings will be attended via conference call.
- Maps and tables describing recommended STLS sampling stations.
- Comments on pertinent RMP-related documents and work products.
- Telephone and email communications.

Note: The above deliverables are for the 12-month FY 2017/18 time period (i.e., July 1, 2017 – June 30, 2018).

**Budget: \$21,440**

**SUBTASK SM94.03: CREEK STATUS MONITORING**

During WY 2018, EOA will continue to perform all aspects of the countywide creek status monitoring program, in accordance with MRP Provision C.8.d. The primary objectives of creek status monitoring are to gather information on whether numeric and narrative water quality objectives are being met in creeks and whether creek conditions are supportive of designated beneficial uses (e.g., aquatic habitat, recreational uses). Creek status monitoring will continue to be conducted in accordance with the probabilistic and targeted designs that were developed by the BASMAA RMC during MRP 1.0 and are now specified in MRP 2.0.

Subtask 84.07 (Reporting) is described later and includes reporting on the results of WY2018 creek status monitoring.

## Probabilistic (Random) Design

The probabilistic design involves use of a master list<sup>2</sup> to randomly identify sample stations (i.e., the sample draw) for bioassessment monitoring. The random nature of the sampling design allows for statistically significant evaluation of ambient creek conditions within San Mateo County, region-wide, and state-wide. Potential probabilistic stations from the “sample draw” are evaluated using a defined process that addresses site permissions, logistical considerations, and sampleability as described in the BASMAA RMC Creek Status and Long-Term Trends Monitoring Plan. SMCWPPP is required to conduct bioassessment monitoring at ten sites per year<sup>3</sup>. EOA will conduct site evaluations to develop a list of ten sampleable probabilistic sites for each water year. Site evaluations will include development of maps, communications with creek-side landowners to obtain permissions, acquisition of any permits needed from agencies, and site reconnaissance visits in the fall to determine access and safety and to check for obstructions (e.g., culverts, grade controls) that would affect bioassessment results. The site evaluation results are tabulated each year and added to a regional database that will eventually be evaluated to determine the statistical confidence level in the full probabilistic dataset.

EOA will collect the types of screening-level biological, physical, and chemical water quality data at the ten probabilistic sites required by Provision C.8.d.i. Field activities will include biological community sampling (benthic macroinvertebrate and algae bioassessments), full characterization of physical habitat, sonde measurements of general water quality parameters, and collection of water samples for laboratory analysis of nutrients. All sampling will be conducted by EOA’s SWAMP-trained field crew under our Scientific Collection Permit from the California Department of Fish and Wildlife.

Bioassessments will be conducted during the index period (April 15 – June 30) according to the most recent version of SWAMP SOPs for Bioassessment. MRP 2.0 has increased the level-of-effort associated with bioassessment monitoring by adding some physical habitat measurements that were not required under MRP 1.0. It is assumed that EOA’s four-person field crew can continue to complete an average of 1.5 bioassessments per day; however, enough budget is included to account for the possibility of an extra day of field sampling resulting from unforeseen field complications. EOA’s field crew will conduct an annual pre-season field practice session. Members of the field crew will also receive training in first aid and safety procedures.

Benthic macroinvertebrate samples will be sent to BioAssessment Services in Folsom, CA for SAFIT Level 1 analysis. Algae samples will be sent to EcoAnalysts in Moscow, ID for species-level identification of soft-bodied algae and diatom algae. Nutrient samples will be sent to Caltest in Napa, CA for chemical analysis. EOA has worked with these laboratories for many years. They report data in a SWAMP-comparable format and with quality controls required by the CEDEN in accordance with MRP 2.0 Provision C.8.h.ii.

Chlorine monitoring required by provision C.8.d.ii will be conducted with a field spectrometer at the probabilistic sites concurrent with bioassessment monitoring.

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<sup>2</sup> EOA has housed and managed the master list since it was developed in 2009 and will continue to do so throughout MRP 2.0.

<sup>3</sup> MRP 2.0 gives SMCWPPP the option of selecting two of the ten required bioassessment sites on a targeted basis to evaluate temporal trends, creek response to management/restoration actions, or address other impacts to aquatic life condition.



## Targeted Design

The targeted design focuses on continuous water quality monitoring using multi-parameter probe measurements (i.e., pH, temperature, specific conductance, and dissolved oxygen) and temperature loggers, as well as grab samples for pathogen indicators. As the name implies, targeted monitoring can be conducted along any creek where data are needed. The focus will be on collecting general water quality and temperature data in creeks that currently or historically supported cold water fisheries. Pathogen indicator sampling will occur in creeks where recreational uses are plausible or where the data can be used to support multiple uses (e.g., TMDLs, Stressor/Source Identification studies). During the site selection process maps are developed, permissions are obtained (if needed), and a site reconnaissance visit is conducted to confirm safe access. Continuous monitoring with the multi-parameter probes must be conducted at two stations per year during two two-week deployments. Temperature logging must be conducted at four stations per year from April through September. Pathogen indicator sampling must be conducted at five stations per year during the dry season. Pathogen indicator samples will be delivered to Alpha Analytical Laboratory in Dublin, CA (or equivalently-certified microbiology lab) for *E. coli* and enterococcus enumeration.

## Data Quality Objectives

In accordance with provision C.8.b, all probabilistic and targeted monitoring data will be SWAMP comparable, consistent with the SWAMP and BASMAA Quality Assurance Project Plans (QAPPs), and data collection and analytical methods will follow the SWAMP and BASMAA Standard Operating Procedures (SOPs). EOA keeps abreast of SWAMP procedures which are continually reviewed and updated at the state level. We will confirm that all participating analytical laboratories are using the most current requirements.

Quality assurance and quality control (QA/QC) review (i.e., data validation) of Creek Status Monitoring data will be conducted according to the BASMAA QAPP which specifies quantitative and qualitative data quality objectives (DQOs) for accuracy, precision, and completeness. Data not meeting the defined DQOs will be corrected if possible and flagged as necessary. The data validation process takes several months to complete and typically occurs between July and December as field data sheets are entered, laboratory reports are received, and the online SWAMP and CEDEN data checkers are accessed. The resulting validated spreadsheets tabulating all creek status monitoring data will be uploaded to the BASMAA Regional Monitoring Database which is currently managed and maintained by EOA.

## Deliverables:

- WY2018 site evaluation data associated with selecting probabilistic and targeted monitoring sites.
- WY2018 participation in pre-season bioassessment training session, bioassessment monitoring at ten sites, chlorine monitoring, and completed bioassessment monitoring field forms.
- WY2018 spring and fall deployment (each for two weeks) and retrieval of continuous monitoring sondes at two sites.
- WY2018 deployment and retrieval of four temperature loggers.
- WY2018 collection of five pathogen indicator samples.



- WY2018 creek status monitoring data that have undergone QA/QC review for all parameters required by Provision C.8.d.
- Populated database with all WY2018 data.

**Budget: \$195,355**

#### **SUBTASK SM94.04: STRESSOR/SOURCE IDENTIFICATION PROJECTS**

Provision C.8.e requires that Permittees develop and maintain a list of candidate Stressor/Source Identification (SSID) studies based on creek status and pesticides and toxicity monitoring data that exceed “triggers” identified in the MRP 2.0. SSID Projects must follow the stepwise process described in Provision C.8.e. As a first step, a work plan describing the problem and how it will be investigated is developed. Step two includes implementation of the work plan which may include field (e.g., sample collection) and desktop (e.g., mapping, modeling) studies. Step three includes follow-up actions, as appropriate (e.g., implementation of new BMPs). Specific details of the SSID Projects will depend on what type of stressor (e.g., dissolved oxygen, pathogen indicators, temperature, condition index, and toxicity) is being investigated.

As a participant in the BASMAA RMC, SMCWPPP and its regional partners are required to initiate a combined total of eight new SSID Projects during the term of MRP 2.0 (one of which must investigate toxicity). On behalf of SMCWPPP, EOA is coordinating with the BASMAA RMC Workgroup to make decisions regarding how to divide the required SSID Projects among the RMC partners and which stressors should be investigated. The goal is to develop an equitable plan with a variety of stressor investigations that will result in mutually beneficial study results. SMCWPPP will likely conduct two SSID Projects during the MRP 2.0 permit term.

Per our current Task Order (EOA-04), EOA is developing one SSID project work plan using FY 2016/17 budget. At this time, specific details of the SSID project work plan are unknown. The work plan will be submitted to the WAM Subcommittee for review and comment. Upon finalization, the work plan will be submitted to the Regional Water Board with the subsequent Urban Creeks Monitoring Report (UCMR) (i.e., the WY2017 UCMR due on March 31, 2018). A placeholder budget is included herein to begin conducting field and desktop investigations and any other needed activities (e.g., additional planning and reporting).

The BASMAA RMC is also required to submit unified, regional SSID reports annually to the Regional Water Board. On behalf of SMCWPPP, EOA will continue to work with the BASMAA RMC Workgroup to maintain the regional SSID report. It is assumed that the regional SSID report will continue to consist primarily of a large-format table describing the status and conclusions (as available) of all SSID Projects completed, underway, and planned. It will be submitted to the Regional Water Board annually concurrent with the UCMR.

In accordance with Provision C.8.b, all SSID monitoring data will be SWAMP comparable, data quality will be consistent with the SWAMP and BASMAA QAPPs, and data collection and analytical methods will follow the SWAMP and BASMAA SOPs.

QA/QC review (i.e., data validation) of SSID monitoring data will be conducted according to the BASMAA QAPP which specifies quantitative and qualitative data quality objectives (DQOs) for accuracy, precision,

and completeness. Data not meeting the defined DQOs will be corrected if possible and flagged as necessary. The data validation process takes several months to complete and typically occurs between July and December as field data sheets are entered, laboratory reports are received, and the online SWAMP and CEDEN data checkers are accessed. At this time the BASMAA Regional Monitoring Database is not set up for SSID data.

**Deliverables:**

- Continue working with RMC partners to maintain list of candidate SSID Projects.
- Begin implementation of the San Mateo County SSID work plan via desktop and field investigations.
- Other SSID activities as needed (e.g., additional planning and reporting).

**Budget: \$33,667**

**SUBTASK SM94.05: POLLUTANTS OF CONCERN MONITORING**

Provision C.8.f requires Pollutants of Concern (POC) monitoring for PCBs, mercury, copper, emerging contaminants, and nutrients. The MRP defines yearly (i.e., water year) and total (i.e., permit term) minimum numbers of samples for each POC. Five priority POC management information needs are identified including Source Identification, Contributions to Bay Impairment, Management Action Effectiveness, Loads and Status, and Trends. The MRP specifies the minimum number of samples for each POC that must address each information need. Provision C.12 requires a regional PCBs in caulk/sealants in infrastructure monitoring study that can be used towards satisfying Provision C.8.f requirements.

In previous years, the level of effort applied towards PCBs and mercury monitoring (e.g., desktop work to inform sampling followed by sediment and water sample collection) has exceeded the minimum requirements specified by MRP Provision C.8.f (POC Monitoring). This extra monitoring effort has focused on identifying Watershed Management Areas (WMAs) and PCBs source properties and has been primarily designed to assist with achieving compliance with Provision C.12 (PCBs Controls). EOA will work with C/CAG staff to determine the level of effort that will be applied towards PCBs and mercury monitoring during WY2018. Factors that should be considered will include evaluation of:

- available budget;
- the minimal sampling requirements in Provision C.8.f;
- all previous PCBs and mercury monitoring results, including the results from WY2017 monitoring conducted by EOA and SFEI, which will be available over the next few months;
- progress to-date towards meeting the PCBs load reductions mandated in Provision C.12 for San Mateo County, which is currently under evaluation;
- progress to-date towards meeting the PCBs load reductions mandated in Provision C.12 across the Bay Area, which will be initially discussed during the June 2017 BASMAA MPC meeting; and
- the estimated cost-effectiveness of collecting additional monitoring data (e.g., in comparison to implementing additional controls without additional monitoring).

The POC monitoring budget shown below (\$306,900) is a placeholder. EOA will not expend any of the POC monitoring budget without first providing additional information to C/CAG staff regarding the details of the planned expenditures and itemized costs and then receiving approval from the Program Manager to proceed with specific work tasks with specific budgets. The actual amount of budget ultimately expended under this subtask will be determined by the Program Manager and may be less than the placeholder amount. Subject to Program Manager approval, possible deliverables for WY2018 POC monitoring include the following:

- Participation in the FY 2017/18 BASMAA MPC meetings by EOA staff focusing on PCBs and mercury controls.
- WY2018 POC monitoring (e.g., desktop work to inform sampling followed by sediment and/or water sample collection, further details to be determined).
- POC monitoring report due October 15, 2017 that details what was accomplished in WY2017 and what activities are anticipated in WY2018.
- WY2018 POC monitoring data that has undergone QA/QC review for all parameters required by Provision C.8.f.
- WY2018 POC interpretive monitoring report due with the WY2018 UCMR by March 31, 2019.

**Initial Deliverable:**

- Additional information to C/CAG staff regarding the details of the planned expenditures under this subtask and itemized costs.

**Budget: \$306,900** (Note: this is a placeholder amount. EOA will not expend any of the POC monitoring budget without first providing additional information to C/CAG staff regarding the details of the planned expenditures and itemized costs and then receiving approval from the Program Manager to proceed with specific work tasks with specific budgets.)

#### **SUBTASK SM94.06: PESTICIDES AND TOXICITY MONITORING**

EOA will perform the required WY2018 Pesticides and Toxicity (P&T) monitoring specified in MRP Provision C.8.g, which requires that Permittees conduct dry weather and wet weather monitoring of pesticides and toxicity in urban creeks.

**Dry Weather.** San Mateo County Permittees are required to sample one dry weather station per year for water column toxicity (five test organisms), sediment toxicity (two test organisms), and sediment chemistry (pesticides, PAHs, metals, total organic carbon, grain size). EOA, on behalf of SMCWPPP and its member agencies, coordinates dry weather sampling with its RMC partners to realize cost savings on QA/QC samples (e.g., field duplicates, matrix spikes). EOA will conduct planning for WY2018 dry weather P&T monitoring and samples will be collected in July 2018. EOA will continue to subcontract with KLI to conduct the sampling and KLI will contract with the analytical laboratories (Pacific EcoRisk and Caltest).

**Wet Weather.** MRP 2.0 provides the incentive that if wet weather P&T samples are collected on a regional basis, less samples are required overall. The RMC partners have recently agreed to take advantage of this incentive and work together to collect the samples regionally. Under this regional option, a total of ten wet weather samples must be collected over the permit term, with a minimum of six samples collected by the end of the third water year (WY2018). Wet weather samples must be

analyzed for water toxicity (five test organisms) and water chemistry (pesticides). We are assuming that C/CAG and its member agencies will be responsible for two of the ten required wet weather samples. The wet weather P&T monitoring by SMCWPPP will be implemented during a winter rain event in WY2018.

In accordance with Provision C.8.b, all P&T monitoring data will be SWAMP comparable, data quality will be consistent with the SWAMP and BASMAA QAPPs, and data collection and analytical methods will follow the SWAMP and BASMAA SOPs. Quality assurance and quality control (QA/QC) review (i.e., data validation) of P&T monitoring data will be conducted according to the BASMAA QAPP which specifies quantitative and qualitative data quality objectives (DQOs) for accuracy, precision, and completeness. Data not meeting the defined DQOs will be corrected if possible and flagged as necessary. The data validation process takes several months to complete and typically occurs between July and December as field data sheets are entered, laboratory reports are received, and the online SWAMP and CEDEN data checkers are accessed. The resulting validated spreadsheets tabulating all P&T monitoring data will be uploaded to the BASMAA Regional Monitoring Database which is managed and maintained by EOA.

WY2018 P&T monitoring results will be included with the annual UCMR due March 31 of 2019.

**Deliverables:**

- Telephone and email communications and planning in preparation for WY2018 P&T sample collection.
- WY2018 dry weather P&T monitoring at one station.
- WY2018 wet weather P&T monitoring at two stations.
- WY2018 P&T monitoring data that have undergone QA/QC review for all parameters required in Provision C.8.g.

**Budget: \$61,407**

**SUBTASK SM94.07: PROVISION C.8 REPORTING**

Provision C.8.h requires annual and comprehensive reporting of data collected pursuant to Provision C.8, in SWAMP-comparable format as appropriate for submittal to the Regional Water Board, and submittal of applicable data to CEDEN. EOA will develop all required reporting materials for review and comment by C/CAG member agencies prior to Regional Water Board submittal.

Electronic Monitoring Data Reports will be submitted annually (by March 31) to the Regional Data Center (i.e., SFEI) for upload to CEDEN. The Electronic Monitoring Data reports will include all data that CEDEN can accept, which has recently been expanded beyond receiving water data to potentially include upland urban sediments and MS4 outfall data. Each Electronic Monitoring Data report will include monitoring results conducted pursuant to Provisions C.8.d (Creek Status), Provision C.8.e (SSID Projects), C.8.f (POCs), and C.8.g (Pesticides and Toxicity) for the preceding water year.

Urban Creeks Monitoring Reports (UCMR) will be submitted annually (by March 31) to the Regional Water Board. Each annual UCMR will summarize results and provide interpretations of data collected pursuant to Provisions C.8.d (Creek Status), Provision C.8.e (SSID Projects), C.8.f (POCs), and C.8.g (Pesticides and Toxicity) for the preceding water year. Bioassessment data will be evaluated using the

California Stream Condition Index (CSCI). As the probabilistic dataset grows, statistically significant assessments of ambient stream conditions in San Mateo County can be made. Creek Status and P&T data will be compared to the “triggers” listed in the MRP. Triggers are numeric thresholds above (or below) which impacts to water quality may occur. The MRP triggers are taken from a variety of sources, including water quality objectives from the Basin Plan, state and federal regulatory guidance, and peer reviewed literature. Data exceeding the triggers will be compiled in the list of candidate SSID Projects. Monitoring stations and results will be presented in GIS maps and will be analyzed using spreadsheet and statistical software, as appropriate. The SSID and POC reporting elements will be developed as stand-alone reports under their respective subtasks described above and attached to the UCMR as appendices.

An Integrated Monitoring Report must be submitted by March 31 of the fifth year of the permit term in lieu of the annual UCMR. This report is not due until March 31, 2020; however, planning for the report in terms of data collection and reporting formats will be conducted earlier.

EOA will develop the WY2018 Electronic Monitoring Data Report and UCMR. Deliverables related to SSID and POC Monitoring will be developed via separate subtasks described previously but will be summarized in the UCMR and included as appendices. EOA will also continue initial planning for the Integrated Monitoring Report.

**Deliverables:**

- WY2018 Electronic Monitoring Data Report (due March 31, 2019).
- WY2018 UCMR (due March 31, 2019).

**Budget: \$32,038**

EOA Hourly Rate for SMCWPPP:	Principle	Manager III	Manager II	Manager I	Senior III	Senior II	Senior I	Associate II	Associate I	Technician	Clerical	Expenses/Subs	Budget
	\$215	\$202	\$199	\$197	\$181	\$160	\$144	\$134	\$109	\$88	\$65		

**Water Quality Monitoring - WY2018**

<b>94.01</b> Regional Coordination	0	0	8	144	0	0	0	23	0	0	0	\$660	<b>\$33,702</b>
<b>94.02</b> Regional Monitoring Program Participation	0	12	0	94	0	0	0	0	0	0	0	\$498	<b>\$21,440</b>
<b>94.03</b> Creek Status Monitoring	0	24	0	138	250	0	0	446	68	152	0	\$37,519	<b>\$195,355</b>
<b>94.04</b> Stressor/Source Identification Projects	0	2	0	48	0	48	0	48	16	24	2	\$5,709	<b>\$33,667</b>
<b>94.05</b> Pollutants of Concern Monitoring	0	280	0	120	0	60	0	400	100	0	40	\$150,000	<b>\$306,900</b>
<b>94.06</b> Pesticides and Toxicity Monitoring	0	2	0	30	19	0	0	12	0	2	0	\$49,870	<b>\$61,407</b>
<b>94.07</b> Creek Status Reporting	0	16	0	40	0	40	0	52	60	0	6	\$628	<b>\$32,038</b>
	<b>0</b>	<b>336</b>	<b>8</b>	<b>614</b>	<b>269</b>	<b>148</b>	<b>0</b>	<b>981</b>	<b>244</b>	<b>178</b>	<b>48</b>	<b>\$244,884</b>	<b>\$684,509</b>

**Notes:**

Labor hours are based upon the approximate level of effort for each task.

Subcontractors and expenses are planning-level estimates.

Actual distribution of hours and subcontractors/expenses within and among tasks may vary.

Total budget will not be exceeded without C/CAG's authorization.

Subtasks SM94.01 (Regional Coordination) and SM94.02 (Regional Monitoring Program Participation) are ongoing activities that are not tied to a particular water year.

For these two subtasks, the above budgets cover the 12-month FY 2017/18 period of time (i.e., July 1, 2017 – June 30, 2018).

Expenses/subcontractors budgets shown include 10% overhead.

The budget for subtask SM94.05 (POC Monitoring) is a placeholder amount. EOA will not expend any of the POC monitoring budget without first providing additional information to C/CAG staff regarding the details of the planned expenditures and itemized costs and then receiving approval from the Program Manager to proceed with specific work tasks with specific budgets.