



**CITY COUNCIL  
STAFF REPORT/CONSENT AGENDA**

**TO: SOLVANG CITY COUNCIL MEMBERS**

**FROM:** Bridget Elliott, Associate Engineer, and  
Matt van der Linden, Public Works Director/City Engineer

**MEETING DATE:** November 13, 2017

**DATE PREPARED:** November 2, 2017

**SUBJECT: STORMWATER MANAGEMENT PROGRAM ANNUAL REPORT,  
FISCAL YEAR 2016-17 (YEAR 4)**

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**I. RECOMMENDATION:**

Receive and file report.

**II. BACKGROUND:**

The Federal Clean Water Act requires the City to operate under a National Pollutant Discharge Elimination System (NPDES) municipal stormwater permit for the discharge of stormwater to surface waters (i.e., creeks, rivers, the ocean) via the City's storm drain collection system. The Phase II Final Rule was published in the Federal Register on December 8, 1999. The State Water Resources Control Board (SWRCB) adopted general permits for Phase II Regulated Small Municipal Separate Storm Sewer Systems (MS4s) in 2003. On March 10, 2003, operators of Phase II Regulated Small MS4s in the Central Coast Region were first required to obtain permit coverage. The 2003 Phase II Permit has since been replaced by the 2013 Phase II Permit. On March 6, 2014, the Central Coast Water Board adopted the Central Coast Post-Construction Stormwater Requirements (PCRs), replacing the 2013 General Permit post-construction requirements within the Central Coast Region.

The Order is scheduled to expire on June 20, 2018. However, it is unlikely that a new permit will be reissued next year. The Regional Water Control Board would like to include

school districts to the Small MS4 Permit and are working through elements of the permit as they relate to incorporating School Districts.

The Municipal Stormwater NPDES Permit (Stormwater Permit) specifies actions necessary to reduce the discharge of pollutants in stormwater to the maximum extent practicable and effectively prohibit non-stormwater discharges into the municipal storm drain system to protect local creeks and the Santa Ynez River. Given that the storm drain system leads directly to local waterways and the river without any treatment, it is critical to prevent pollutants from entering the system in the first place.

The Stormwater Permit is organized into 11 sections that include requirements to reduce the discharge of pollutants to storm drains from routine municipal operations; ensure appropriate site design and treatment measures to manage stormwater runoff quality and quantity from new and redevelopment project sites; inspect construction sites, and industrial and commercial facilities that could potentially contribute to stormwater pollution; prohibit and ensure that illicit discharges are detected, controlled and eliminated; implement control methods for pollutants of concern such as total suspended solids (TSS), nutrients, hardness and pesticides; and conduct monitoring to track water quality status and trends.

### **III. DISCUSSION:**

The City of Solvang is required each year to use the State Water Boards Storm Water Multiple Application and Report Tracking System (SMARTS) to submit a summary of the past year activities for each program element and certify compliance with all requirements of the Permit. This constitutes the City's Stormwater Management Program Annual Report. To help keep Program cost down the Cities of Solvang and Buellton comply with certain aspects of the Permit as "Co-Permittees". Agencies covered under the Permit as Co-Permittees may submit a single joint Annual Report. Both Cities share equally in the net consultant cost associated with the preparation and submittal of the joint Annual Report. However, the City of Buellton is the lead agency on the Memorandum of Understanding (MOU) and is ultimately responsible for preparing and submitting the joint Annual Report on behalf of both parties.

The City's Stormwater Program is now in full swing with all elements of the permit in effect. This includes implementation of the adopted Resolution No. R3-2013-0032 Approving PCRs for Development Projects in the Central Coast Region; and annual submittal of Program Effectiveness Assessment and Improvement Plan (PEAIP) reporting to the Central Coast Regional Water Quality Control Board, in accordance with California Water Code Section 13267 Technical Report Order. The PEAIP is an adaptive management tool intended to help the City self-assess program effectiveness. The PEAIP requires significant annual tracking and documentation of all elements of the Stormwater Management Program.

Program activities include the enforcement of the stormwater ordinance, drainage design standards, upkeep of maps and the storm drain facility inventory, implementation & annual assessment of various Best Management Practices (BMPs) used to prevent or remove pollutants (i.e. sediment, bacteria, trash and nutrients) from entering the local creeks and Santa Ynez River, and ongoing activities & sampling associated with the MS4’s Joint Urban Stormwater Monitoring Program necessary to meet 303(d) monitoring requirements of the Phase II General Permit.

In addition to implementing the Stormwater Program the City has also taken the first step necessary to compliance with the Statewide Trash Provisions. In accordance with Water Code section 13383, the State Water Resources Control Board required our municipality to select a compliance method as prescribed in the Trash Provision. On September 1, 2017 staff formally responded to the Order selecting the Track 1 compliance method and submitting a jurisdictional map identifying Priority Land Use areas and the corresponding storm drain network.

**IV. ALTERNATIVES:**

This Annual Report documents the City of Solvang’s compliance with the State Water Resources Control Board Order No. 2013-0001. Alternatives are not applicable.

**V. FISCAL IMPACT:**

All costs associated with preparation and submittal of the Annual Report, NPDES Permit compliance, and payment of the annual permit fee are included in the approved Fiscal Year 2017-18 Budget. The current year’s Stormwater Management Program budget/costs are summarized in the table below.

<b>Storm Water Program Component</b>	<b>FY 2017-18 Budget</b>
Storm Drain System Repair & Maintenance	\$25,000
Stormwater Management Program Services	\$100,000
Stormwater Modeling	\$17,000
303(d) Monitoring & Outfall Sampling	\$5,000
Street Sweeping	\$45,000
Stormwater Permit	\$6,200
Storm Drain Master Plan, and Stormwater Resources Plan	\$68,000
Storm Drain Improvements	\$123,000
Annual Stormwater Report	\$9,000
Staff Time, Community Education/Outreach and Misc. Items	\$158,099
<b>Total:</b>	<b>\$556,299</b>

**VI. ATTACHMENTS:**

Attachment 1 – Annual Report Documents

- a. Phase II Small MS4 Annual Report 2016-2017 (questions, certification, & attachments list)
- b. Memorandum of Understanding Between the Cities of Solvang and Buellton
- c. Transmittal of 303(d) Monitoring Program Results, 2016-2017
- d. Program Effectiveness Assessment and Improvement Plan (PEAIP)
- e. City of Buellton and City of Solvang PEAIP Annual Summary 2016-2017

Attachment 2 – PCRs Annual Report Documents

- a. Phase II Small MS4 Annual Report 2016-2017 (questions, certification, & attachments list)
- b. Central Coast PCRs Annual Reporting Forms

Attachment 3 – Trash Provisions Letter & Map

- a. Water Code Section 13383 Order – State Trash Provisions, Compliance Option Letter
- b. Jurisdictional Map

Attachment 1 - Annual Report Documents

2016-2017

**Phase II Small MS4 Annual - Report**

REPORTING PERIOD:07/01/2016 - 06/30/2017

**WDID No:** 3 42M2000150

**Permittee Information**

City of Buellton

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Buellton

CA

93427

**Phase II Small MS4 Annual - Report - 2016-2017**  
**Questions & Answers**

Q No.	Text	DropDown Answer	CheckBoxAnswer	DescriptiveAnswer	Date Answer	Number Answer
null	GENERAL					
1	Per Section E.1., did you continue to implement your previously approved storm water management plan? If 'No', please provide a brief explanation in the comments section. (Years 1 - 5) (Please note: This question is for renewal permittees only. If you are a new permittee, please select 'NA')	Yes				
2	If you relied on another entity (co-permittee or SIE) to implement one or more of the permit requirements did the co-permittee or SIE meet the permit requirements that were implemented on your behalf? (Years 1 - 5) If 'Yes', please attach a copy of the agreement that you may have with the other entity. If 'No', please provide a brief explanation.	Yes				
null	PROGRAM MANAGEMENT					
3	Reviewed and/or revised any relevant ordinances or other regulatory mechanisms, or adopted any new ordinances or regulatory mechanisms to obtain adequate legal authority as specified by Section E.6.a.(ii)(a-j)? (pgs. 20-22, Year 2) If 'No', please provide a brief explanation in the comments section.	N/A				
4	Certified legal authority, as specified by section E.6.b.? (page 22, Year 2) If 'Yes', attach required statement signed by an authorized signatory certifying adequate legal authority to comply with all Order requirements. (E.6.b.(ii)(a-e), page 22). (Year 2) If "No", please provide a brief explanation.	N/A				
5	Developed and began implementation of Enforcement Response Plan as specified by Section E.6.c.(ii)(a-f)? (pgs. 22-24, Year 3); OR Implemented the Enforcement Response Plan as specified in Section E.6.c.(ii)(a-f)? (Years 4-5) If 'No', please provide a brief explanation.	Yes				
null	EDUCATION AND OUTREACH					
6	Selected one or more of the Public Education and Outreach options? (E.7.a, page 25.) (Year 1) If yes, which option was selected to comply with section E.7.? Provide answer in comments section. (Year 1) For countywide/regional collaborative option selection, upload required attachment: agreement confirming collaboration with other MS4s. (Year 1)	N/A				

7	Developed and began implementation of storm water public education and outreach program as specified by section E.7.a.(ii)(a - m)? (pgs. 25-27, Year 2); OR Continued implementation of storm water public education and outreach program as specified by section E.7.a.(ii)(a - m)? (pgs. 25-27, Year 3-5) If 'No', please provide a brief explanation.	Yes				
8	Developed and began implementation of a public education strategy that established education tasks based on water quality problems, target audiences and anticipated task effectiveness? (E.7.a.(ii)a, page26) (Year 2); OR Continued implementation of a public education strategy that established education tasks based on water quality problems, target audiences and anticipated task effectiveness? (Years 3-5) If 'No', please provide a brief explanation. THIS QUESTION IS REDUNDANT WITH THE QUESTIONS DIRECTLY ABOVE AND HAS BEEN REMOVED. YOU HAVE NO NEED TO ANSWER THIS QUESTION	N/A				
9	Developed and implemented a training program for all staff who, as part of their normal job responsibilities, may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection to the storm drain system, as specified by section E.7.b.1.(ii)(a-g), page 27) (Year 3); OR Continued to implement the training program for all appropriate staff? (Years 4-5) If 'NA', please provide a brief explanation.	Yes				
10	Provided construction outreach and education training for staff implementing construction site storm water runoff control program, as specified by section E.7.b.2.a(ii)(a-c), page 28 (Years 2-5) If 'NA', please provide a brief explanation.	Yes				
11	Developed and distributed educational materials to construction site operators, as specified by section E.7.b.2(b)(ii)(a-d), (page 29, Year 3); OR Continued to distribute educational materials? (Years 4-5) If 'NA', please provide a brief explanation.	Yes				
12	Updated existing storm water website, as necessary, to include information on appropriate selection, installation, implementation and maintenance of BMPs? (E.7.b.2.(b)(ii)(d), page 29) (Years 3-5) If 'No', please provide a brief explanation.	Yes				
13	Trained employees on how to incorporate pollution prevention/good housekeeping techniques into Permittee operations, as specified by section E.7.b.3.(ii)(a-d), pages 29-30 (Years 2-5) If 'NA', please provide a brief explanation.	Yes	Yes			
null	PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM					

14	Involved the public in the development and implementation of activities related to the program, as specified by section E.8.(ii)(a-e)? (Years 2-5) If 'No', please provide a brief explanation.	Yes				
null	ILLICIT DISCHARGE DETECTION AND ELIMINATION					
15	Created and/or maintained outfall map? (E.9.a., page 31) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
16	Included in the outfall map, location of all outfalls that are operated by the Permittee within the urbanized area, drainage areas, and land use(s) contributing to those outfalls that are operated by the Permittee, and that discharge within the Permittee's jurisdiction to a receiving water? (E.9.a(ii)(a), page 31) (Year 2) If 'No', please provide a brief explanation.	N/A				
17	Included in the outfall map, the location (and name, where known to the Permittee) of all water bodies receiving direct discharges from those outfall pipes? (E.9.a(ii)(b), page 31) (Year 2) If 'No', please provide a brief explanation.	N/A				
18	Included in the outfall map, priority areas, as specified in E.9.a.(ii)(c)(1-8), pages 31 -32. (Year 2) If 'No', please provide a brief explanation.	N/A				
19	Included in the outfall map, field sampling stations? (E.9.a(ii)(d), page 32) (Year 2) If 'No', please provide a brief explanation.	N/A				
20	Included in the outfall map, the permit boundary? (E.9.a(ii)(e), page 32) (Year 2) If 'No', please provide a brief explanation.	N/A				
21	Maintained inventory of all industrial/commercial facilities/sources within the Permittee's jurisdiction (regardless of ownership) that could discharge storm water pollutants to the MS4? (E.9.b., page 32) (Year 2) If 'No', please provide a brief explanation.	N/A				
22	Included in the inventory, the facility name, address, nature of business/activity, physical location of storm drain receiving discharge, name of receiving water and if the facility/source is tributary to a Clean Water Act Section 303(d) listed water body segment or water body segment subject to a TMDL? (E.9.b(ii)(a), page 32) (Year 2) If 'No', please provide a brief explanation.	N/A				

23	Included in the inventory: vehicle salvage yards, metal and other recycled materials collection facilities, waste transfer facilities, vehicle mechanical repair, maintenance or cleaning; building trade central facilities or yards; corporation yards; landscape nurseries and greenhouses; building material retailers and storage; plastic manufacturers; other facilities designated by the Permittee or Regional Water Board to have reasonable potential to contribute to pollution of storm water runoff? (E.9.b(ii)(b), page 33) (Year 2) If 'No', please provide a brief explanation.	N/A				
24	Determined if facilities that are required to be covered under the Statewide Industrial General Permit (IGP) have done so and notified Regional Water Board of any non-filers? (E.9.b(ii)(c), page 33) (Year 2) Attached copies of the notification of non-filers to the Regional Water Board (E.9.b(ii)(c)page 33) (Year 2) If 'No', please provide a brief explanation.	N/A				
25	Updated the inventory annually? (E.9.b(ii)(d), page 33) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
26	Developed and implemented procedures to proactively identify illicit discharges originating from priority areas identified in Section E.9.a.(ii)(c), at least once over the length of the permit term. OR, established a self-certification program where Permittees require reports from authorized parties demonstrating the prevention and elimination of illicit discharges at their facilities in priority areas at least once over the length of the permit term? (E.9.b(ii)(e), page 33) (Year 2) OR Implemented the procedures established per E.9.b.(ii).(e).? (Years 3-5) If 'No', please provide a brief explanation.	Yes				
27	Conducted field sampling of any outfalls that were flowing or ponding when it had been more than 72 hours after the last rain event (i.e., were suspected of illicit discharges) during outfall inventory mapping (under section E.9.a., page 31)? (E.9.c., page 34) (Year 2) If 'No', please provide a brief explanation.	N/A				
28	Conducted monitoring for the parameters listed in Table 1 (page 34), or for parameters selected by Permittee based on local knowledge of pollutants of concern in priority areas? (E.9.c(ii)(a), page 34) (Years 2-5) If tailored parameter action levels, attach justification and modifications to parameters If 'No', please provide a brief explanation.	Yes				
29	Verified that indicator parameter action levels in Table 2 (page 35), or tailored parameter action levels were not exceeded? (E.9.c.(ii)(b), page 35) (Years 2-5) If tailored parameter action levels, attach justification and modifications to parameter action levels. If 'No', please provide a brief explanation.	Yes				

30	Conducted follow-up investigations per Section E.9.d. if the action level concentrations were exceeded? (E.9.c(ii)(c) , page 35) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
31	Developed written procedures for conducting investigations into the source of all suspected illicit discharges? (E.9.d.ii(a-e), page 36) (Year 2) If 'No', please provide a brief explanation.	N/A				
32	Investigated within 24 hours, non-storm water discharges suspected of being sanitary sewage and/or significantly contaminated? (E.9.d.(ii)(a), page 36) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
33	Prioritized investigations of suspected sanitary sewage and/or significantly contaminated discharges over investigations of non-storm water discharges suspected of being cooling water, wash water, or natural flows? (E.9.d.(ii)(b), page 36) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
34	Reported immediately the occurrence of any flows believed to be an immediate threat to human health or the environment to local Health Department? (E.9.d.(ii)(c), page 36? (Years 2-5) If 'No', please provide a brief explanation.	NA		Neither the City of Buellton or the City of Solvang had any flows believed to be an immediate threat to human health or the environment requiring notification to local Health Department. The City of Buellton did notify the Central Coast Regional Water Quality Control Board, County of Santa Barbara Flood Control of a run-on sediment flow originating from an agricultural land outside the City limits.		
35	Determined and documented through investigations the source of all non-storm water discharges? (E.9.d.(ii)(d), page 36) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
36	Implemented corrective actions to eliminate illicit discharges as specified in section E.9.d.(ii)(e), page 36. (Years 2-5) If 'No', please provide a brief explanation.	Yes				
37	Developed and began implementing a spill response plan? (E.9.e., page 36) (Year 1); OR Continued to implement a spill response plan (Years 2 -5) If 'No', please provide a brief explanation.	Yes				
null	CONSTRUCTION SITE STORM WATER RUNOFF CONTROL PROGRAM					
38	Developed an enforceable construction site storm water runoff control ordinance for all projects that disturb less than one acre of soil? (E.10., page 37) (Year 2) If 'No', please provide a brief explanation.	N/A				
39	Created, maintained, and continuously updated an inventory of all projects subject to local construction site storm water runoff control ordinance according to the minimum requirements listed in section E.10.a(ii)(a-h) ? (E.10.a., page 37) (Years 1-5) If 'No', please provide a brief explanation.	Yes				

40	Developed procedures that include the minimum requirements listed in section E.10.b(ii)(a-e) to review and approve construction plan documents? (i.e., erosion and sediment control plans). (E.10.b., page 38) (Year 1) If 'No', please provide a brief explanation.	N/A				
41	Used legal authority to implement procedures for inspecting public and private construction projects and conducted enforcement as necessary? (E.10.c, page 39). (Years 2-5) If 'No', please provide a brief explanation.	Yes				
42	Conducted inspections, at a minimum, at priority construction sites prior to land disturbance, during active construction and following active construction? (E.10.c.(ii), page 39) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
43	Included in inspection, an assessment of compliance with the Permittee's construction site storm water control ordinance and other applicable ordinances? (E.10.c.(ii), page 39) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
44	Active site inspections included inspections of BMP maintenance, BMP effectiveness and verification of no pollutant of concern discharge? (E.10.c.(ii), page 39) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
45	Based inspection prioritization criteria on project threat to water quality (includes soil erosion potential, site slope, project size and type, sensitivity of receiving water bodies, proximity to receiving water bodies, non-storm water discharges, projects more than one acre that are not subject to the CGP and past record of non-compliance)? (E.10.c.(ii), page 39) (Years 2-5) If 'No', please provide a brief explanation.	No		The Cities of Buellton and Solvang conduct inspections on all construction sites, the Cities considers a construction site a "Priority Construction Site" when the site is determined to be a Water Quality Threat (i.e. if the project does not have an Erosion & Sediment Control Plan); and has a high Water Quality Risk Level (i.e. if receiving water does meet any of the following criteria: (1) 303(d) listed waterbody impaired by sediment, (2) USEPA-approved Total Maximum Daily Load implementation plan for sediment; or (3) Beneficial Uses of COLD, SPAWN, and MIGRATORY.)		
null	POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR PERMITTEE OPERATIONS PROGRAM					
46	Developed and maintained an inventory of Permittee-owned or operated facilities within your jurisdiction that are a threat to water quality, as specified in E.11.a(ii), page 40. (Years 2-5) If 'No', please provide a brief explanation.	Yes				
47	Developed and submitted a map that identifies the location of inventoried Permittee-owned/operated facilities, storm drainage system corresponding to the each of the facilities and the receiving water, facility name and management including contact information? (E.11.b., page 41) (Year 2) If 'No', please provide a brief explanation.	N/A				

48	Conducted annual inspections of and assessed the pollutant discharge potential for all Permittee-owned facilities to identify Hotspots, as specified in section E.11.c., page 41. (Year 3); If 'No', please provide a brief explanation	N/A		The Cities of Buellton and Solvang continued to conduct annual inspection of and assessed the pollutant discharge potential for all Permittee-owned facilities to identify Hotspots.		
49	Developed and implemented SWPPPs for hotspots as specified in section E.11.d.(ii)(a-c), page 42-43)? (Year 4) If 'No', please provide a brief explanation.	No		The City of Buellton conducted a Hotspot Site Investigation on each City owned/operated facility and did find a "Confirmed" Hotspot during the facility assessments. Although the Waste Water Treatment Plant (WWTP) is a "Confirmed" Hotspot, all Stormwater runoff is contained and treated onsite. The City did not develop and implement a SWPPP for the WWTP but has developed and implemented a Hazardous Materials Consolidated Emergency Response/Contingency Plan for the site.  No. The City of Solvang conducted a Hotspot Site Investigation on each City owned or operated facility and did not find a "Severe" or "Confirmed" Hotspot during the facility assessments that would require the development and implementation of a SWPPP.		
50	Conducted quarterly visual inspection of hotspots and hotspot discharge locations? (E.11.e.(ii)(a and c), page 43) (Year 5) If 'No', please provide a brief explanation.	N/A				
51	Conducted annual comprehensive hotspot inspection? (E.11.e(ii)(b), page 43) (Year 5) If 'No', please provide a brief explanation.	N/A				
52	Inspected each inventoried facility that is not a hotspot once during permit term? (E.11.e(ii)(d), page 44) (Year 5) If 'No', please provide a brief explanation.	N/A				
53	Implemented procedures to assess and prioritize maintenance of storm drain system infrastructure and assigned a high priority to each catch basin meeting any of the criteria listed in section E.11.f(ii)(1-5), page 44? (Year 2) If 'No', please provide a brief explanation.	N/A				
54	Began maintenance of storm drain systems according to the procedures and priorities developed according to section E.11.g.(ii)(a-e), page 45? (Year 3) If 'No', please provide a brief explanation. THIS QUESTION IS REDUNDANT WITH THE QUESTIONS DIRECTLY BELOW AND HAS BEEN REMOVED. YOU HAVE NO NEED TO ANSWER THIS QUESTION	N/A				
55	Developed and implemented a strategy to inspect storm drain systems, based on the priorities assigned in section E.11.f.(ii), page 44. (E.11.g.(ii)(a), page 45). (Year 3); OR Continued to implement the strategy to inspect storm drain systems? (Years 4-5) If 'No', please provide a brief explanation.	Yes				

56	Developed and implemented a schedule to clean high priority catch basins and other systems? (E.11.g.(ii)(b), page 45) (Year 3); OR Continued to implement a schedule to clean high priority catch basins? (Years 4-5) If 'No', please provide a brief explanation.	Yes				
57	Ensured that each catch basin in high foot traffic areas includes a legible storm water awareness message? (E.11.g.(ii)(c), page 45) (Years 3-5) If 'No', please provide a brief explanation.	Yes				
58	Reviewed and maintained high priority facilities and removed trash and debris from high priority areas prior to the rainy season? (E.11.g.(ii)(d), page 45). (Years 3-5) If 'No', please provide a brief explanation.	Yes				
59	Developed and maintained a procedure to dewater and dispose of materials extracted from catch basins that ensures that water removed during the catch basin cleaning process and waste material will not reenter the MS4? (E.11.g.(ii)(e), page 45). (Year 3) Continued to implement a procedure to dewater and dispose of materials extracted from catch basins? (Years 4-5) If 'No', please provide a brief explanation.	Yes				
60	Developed program to assess O&M activities for potential to discharge pollutants and inspected all O&M BMPs quarterly as specified in section E.11.h.(ii)(a-d), page 45-46? (Year 3) If 'No', please provide a brief explanation. THIS QUESTION IS REDUNDANT WITH THE QUESTIONS DIRECTLY BELOW AND HAS BEEN REMOVED. YOU HAVE NO NEED TO ANSWER THIS QUESTION	N/A				

61	<p>Developed and implemented a program that includes activities listed in section E.11.h.ii(a)(1-8), page 46, to assess O &amp; M activities and subsequently developed applicable BMPs? (E.11.h(ii)(a), page 46) (Year 3); OR Continued to implement a program to assess O&amp;M activities? (Years 4-5) If 'No', please provide a brief explanation.</p>	No		<p>The Cities of Buellton and Solvang implements BMPs during O&amp;A Activities. During Year 3-4, the Cities began developing a program to assess their O&amp;M activities for potential to discharge pollutants in storm water. To develop this program, the City conducted a review of the of the Storm Water Management Plan (SWMP) Guidance Document's Table 6-2 City Activities, initialed a City Staff Outreach Survey and performed Municipal/Contract Staff interviews in order to verify which O&amp;M activities listed within Section E.11.h (if any) were conducted by municipal/contract staff or contractors.</p> <p>During Year 4, each City's Department/Division conducted a secondary review of the CASQA Municipal BMPs identified by O&amp;M Activity to narrow the scope of required BMP implementation/ training for Municipal/Contract Staff within their respective jurisdiction. The results of the secondary review will be used to help further enhance internal communication for scheduling and the quarterly (or as needed) inspections; and used to develop an Assessment of O&amp;M Activity Inspection Form.</p> <p>On August 31, 2017, the Cities began the finalization of an O&amp;M Activities Assessment Program Document which includes an inspection form that will be utilized to assess each Department/Division Activities and potential pollutant present as well as the effectiveness of the BMP's implemented in the field. The quarterly assessment of O&amp;M activities will begin Year 5 Q2.</p> <p>Upon completion of the assessment, the Public Works Director (or his/her Designee) will further evaluate the assessment inspection form for BMP effectiveness in reducing or eliminating discharges pollutants from entering storm water run-off and determine implementation of process improvements such as need for additional BMPs implementation by crews and/or if additional focus BMP training is required.</p>		
62	<p>Identified all materials that could be discharged from each of these O&amp;M activities, and which materials contain pollutants? (E.11.h(ii)(b), page 46) (Years 3-5) If 'No', please provide a brief explanation.</p>	Yes				

63	<p>Developed and identified a set of BMPs that, when applied during Permittee O&amp;M activities, will reduce pollutants in storm water and non-storm water discharges? (E.11.h(ii)(c), page 46) (Year 3); OR Continued to implement identified BMPs for O&amp;M activities? (Years 4-5) If 'No', please provide a brief explanation.</p>	No		<p>The Cities of Buellton and Solvang implements BMPs during O&amp;A Activities. During Year 3-4, the Cities began developing a program to assess their O&amp;M activities for potential to discharge pollutants in storm water. To develop this program, the City conducted a review of the of the Storm Water Management Plan (SWMP) Guidance Document's Table 6-2 City Activities, initialed a City Staff Outreach Survey and performed Municipal/Contract Staff interviews in order to verify which O&amp;M activities listed within Section E.11.h (if any) were conducted by municipal/contract staff or contractors.</p> <p>During Year 4, each City's Department/Division conducted a secondary review of the CASQA Municipal BMPs identified by O&amp;M Activity to narrow the scope of required BMP implementation/ training for Municipal/Contract Staff within their respective jurisdiction. The results of the secondary review will be used to help further enhance internal communication for scheduling and the quarterly (or as needed) inspections; and used to develop an Assessment of O&amp;M Activity Inspection Form.</p> <p>On August 31, 2017, the Cities began the finalization of an O&amp;M Activities Assessment Program Document which includes an inspection form that will be utilized to assess each Department/Division Activities and potential pollutant present as well as the effectiveness of the BMP's implemented in the field. The quarterly assessment of O&amp;M activities will begin Year 5 Q2.</p> <p>Upon completion of the assessment, the Public Works Director (or his/her Designee) will further evaluate the assessment inspection form for BMP effectiveness in reducing or eliminating discharges pollutants from entering storm water run-off and determine implementation of process improvements such as need for additional BMPs implementation by crews and/or if additional focus BMP training is required.</p>		
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64	<p>Evaluated all BMPs implemented during O&amp;M activities quarterly? (E.11.h(ii)(d), page 46) (Years 3-5) If 'No', please provide a brief explanation.</p>	No		<p>The Cities of Buellton and Solvang implements BMPs during O&amp;A Activities. During Year 3-4, the Cities began developing a program to assess their O&amp;M activities for potential to discharge pollutants in storm water. To develop this program, the City conducted a review of the of the Storm Water Management Plan (SWMP) Guidance Document's Table 6-2 City Activities, initialed a City Staff Outreach Survey and performed Municipal/Contract Staff interviews in order to verify which O&amp;M activities listed within Section E.11.h (if any) were conducted by municipal/contract staff or contractors.</p> <p>During Year 4, each City's Department/Division conducted a secondary review of the CASQA Municipal BMPs identified by O&amp;M Activity to narrow the scope of required BMP implementation/ training for Municipal/Contract Staff within their respective jurisdiction. The results of the secondary review will be used to help further enhance internal communication for scheduling and the quarterly (or as needed) inspections; and used to develop an Assessment of O&amp;M Activity Inspection Form.</p> <p>On August 31, 2017, the Cities began the finalization of an O&amp;M Activities Assessment Program Document which includes an inspection form that will be utilized to assess each Department/Division Activities and potential pollutant present as well as the effectiveness of the BMP's implemented in the field. The quarterly assessment of O&amp;M activities will begin Year 5 Q2.</p> <p>Upon completion of the assessment, the Public Works Director (or his/her Designee) will further evaluate the assessment inspection form for BMP effectiveness in reducing or eliminating discharges pollutants from entering storm water run-off and determine implementation of process improvements such as need for additional BMPs implementation by crews and/or if additional focus BMP training is required.</p>		
65	<p>Developed and implemented a process for incorporating water quality and habitat enhancement into new and rehabilitated flood management projects? (E.11.i, page 46-47) (Year 3); OR Continued to implement the process for incorporating water quality enhancement into flood management projects? (Years 4-5) If 'No', please provide a brief explanation.</p>	Yes				
66	<p>Implemented a landscape design and maintenance program to reduce the amount of water, pesticides, herbicides and fertilizers used by Permittee? (E.11.j., page 47) (Years 2-5) If 'No', please provide a brief explanation.</p>	Yes				

67	Evaluated pesticides, herbicides and fertilizers used and application activities performed and identified pollution prevention and source control opportunities? (E.11.j(ii)(a), page 47) (Year 2) If 'No', please provide a brief explanation.	N/A				
68	Implemented practices that reduced the discharge of pesticides, herbicides and fertilizers as specified in section E.11.j(ii)(b)(1-4), page 47-48)? (Years 2-5) If 'No', please provide a brief explanation.	Yes				
69	Implemented educational activities for municipal applicators and distributors? (E.11.j(ii)(b)(1), page 47) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
70	Implemented landscape management measures that rely on non-chemical solutions, including the measures specified in section E.11.j.(ii)(b)(2)(a-i), page 47? (Years 2-5) If 'No', please provide a brief explanation.	Yes				
71	Collected and properly disposed of unused pesticides, herbicides and fertilizers? (E.11.j(ii)(b)(3), page 48)(Years 2-5) If 'No', please provide a brief explanation.	Yes				
72	Minimized irrigation runoff by using an evapotranspiration-based irrigation schedule and rain sensors? (E.11.j(ii)(b)(4), page 48), (Years 2-5) If 'No', please provide a brief explanation.	Yes				
73	Recorded the types and amounts of pesticides, herbicides and fertilizers used in the permit area? (E.11.j(ii)(c), page 48) (Years 2-5) If 'No', please provide a brief explanation.	Yes				
null	POST CONSTRUCTION STORMWATER MANAGEMENT PROGRAM					
74	Regulated development to comply with sections E.12.b. through E.12.l of permit? (E.12.a., page 48) (Years 2-5) If 'No', please provide a brief explanation.	NA		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		
75	Required implementation of site design measures for all projects that create and/or replace 2,500- 5,000 square feet of impervious surface (including single family homes, that are not part of a larger plan of development)? (E.12.b., page 48-49) (Years 2-5) If 'No', please provide a brief explanation.	NA		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		
76	Implemented standards, including measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification management, on projects that create and/or replace more than 5,000 square feet of impervious surface (Regulated Projects)? (E.12.c., pages 49 -51) (Years 2-5) If 'No', please provide a brief explanation.	N/A		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		

77	Required Regulated Projects to implement source control measures? (E.12.d., page 51-52) (Years 2-5) If 'No', please provide a brief explanation.	NA		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		
78	Required Regulated Projects to implement LID standards designed to reduce runoff, treat storm water, and provide baseline hydromodification management to the extent feasible, to meet the Numeric Sizing Criteria for Storm Water Retention and Treatment under section E.12.e(ii)c., page 53. (E.12.e., page 52-56)? (Years 2-5) If 'No', please provide a brief explanation.	NA		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		
79	Developed and implemented hydromodification management procedures for Regulated Projects that created and/or replaced one acre or more of impervious surface as specified by section E.12.f? (pgs. 56 - 57, Year 3); OR Continued to implement hydromodification management procedures for Regulated Projects? (Years 4-5) If 'No', please provide a brief explanation.	NA		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		
80	Developed and/or modified enforceable mechanisms to implement E.12.b through E.12.f., if necessary? (E.12.g., page 58) (Years 3-5) If 'No', please provide a brief explanation.	NA		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		
81	Implemented an O&M verification program for storm water treatment and baseline hydromodification structural controls measures on all Regulated Projects, as specified by section E.12.h.(ii)(a-e), page 58-60? (Years 2-5) If 'No', please provide a brief explanation.	NA		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		
82	Inventoried and assessed the maintenance condition of structural post-construction BMPs within your jurisdiction? (E.12.i., page 60) (Years 3-5) If 'No', please provide a brief explanation.	NA		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		
83	Developed and maintained a plan to inventory, map and determine the relative maintenance condition of structural post-construction BMPs as specified by section E.12.i(ii)(a-d), page 60-61? (Year 3); OR Continued to implement plan to inventory, map and assessment of maintenance condition of post-construction BMPs? (Years 4-5) If 'No', please provide a brief explanation.	NA		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		
84	Conducted an analysis of the landscape code to correct gaps and impediments impacting effective implementation of post-construction standards? (E.12.j(ii)(a), page 61) (Year 1) If 'No', please provide a brief explanation.	N/A				

85	Completed any changes to the landscape code to effectively administer post-construction requirements? (E.12.j(ii)(b), page 61) (Years 2-5) If 'No', please provide a brief explanation.	No		The Cities of Buellton and Solvang did not find any impediments with administering the post construction requirements during the Municipal Landscape Gap Analysis but the Cities are considering future opportunities to improve that were identified during the analysis and/or adopt a new ordinance to align with the Department of Water Resource's Model Water Efficient Landcape Ordinance (MWELO).		
86	Implemented post-construction storm water management requirements based on a watershed-process approach as specified by section E.12.k, page 62? (Years 1 - 5)	NA		These requirements are superseded by the Central Coast adopted Post-Construction Requirements (PCRs). The Cities shall comply with the adopted and approved Stormwater Management Requirements for Development Projects in the Central Coast Region dated July 12, 2013.		
87	Proposed alternative post-construction requirements that achieved multiple-benefits as specified by section E.12.l., page 62? (Years 1 - 5)	No		Neither the City of Buellton nor the City of Solvang submitted a proposal to the Regional Water Board or the Executive Officer to obtain approval for alternative post-construction measures for multiple-benefit projects.		
null	WATER QUALITY MONITORING					
88	Indicate which water quality monitoring approach applies to your jurisdiction. Check all that apply.		303(d) Monitoring			
89	If you selected TMDL Monitoring or 303(d) Monitoring, did you consult with your Regional Water Board within Year 1 of the permit to determine monitoring study design and implementation schedule? (Year 1) If 'No', please provide a brief explanation.	N/A				
90	Indicate if you are or will be conducting water quality monitoring individually or as part of a regional program. (Years 1 and 2) If regional program, list the name of the program in the text box below. If a Permittee has a population less than 50,000 AND is not required to conduct ASBS, TMDL or 303(d) Monitoring (Sections E.13.(a)-(c)), then enter N/A					
91	Provide a status update regarding the development (including consultation with Regional Boards, if applicable), submittal and/or approval of the monitoring study design and implementation schedule. (Year 1)					
92	Upload the Monitoring Study Design and any available results for the monitoring option that applies to your jurisdiction. (Year 2)					
93	Provide a summary of the implementation of the water quality monitoring program and related results. (Year 3 - 5) Upload the Monitoring Study Results. {required}			Refer to Attached 303(d) Monitoring Program Summary and Results.		
null	PROGRAM EFFECTIVENESS ASSESSMENT					

94	Developed and implemented a Program Effectiveness Assessment and Improvement Plan (PEAIP) that includes the minimum requirements listed in section E.14.a(ii)(a-f), page 70-72)? (Year 2) Continued to implement the PEAIP? (Years 3-5) If 'No', please provide a brief explanation. If 'Yes', upload required PEAIP as attachment. {required if 'Yes'}	Yes				
95	Provide a description of implementation of the Program Effectiveness Assessment and Improvement Plan, a summary of data obtained through effectiveness assessment measures and the short and long-term progress of the storm water program and an analysis of the data as described on page 72 of the permit. Upload as an attachment. (Years 3 - 5) {required}					
96	Identified and summarized BMP and/or program modification identified in priority program areas that will be made in next permit term? (E.14.b.(ii)(a-d), page 72-73) (Year 5) If 'No', please provide a brief explanation. If 'yes', upload required PEAIP as attachment. {required if 'Yes'}	N/A				
null	TOTAL MAXIMUM DAILY LOADS COMPLIANCE REQUIREMENTS					
97	Attached TMDL implementation status report that includes the information listed in section E.15.d(i-iv), page 74 of permit? (Years 1-5) {required if 'Yes'} If 'No', please provide a brief explanation.	NA		Although the Santa Ynez River is a 303(d) impaired water body, it was not identified within "Phase II Permit Traditional Small MS4 Attachment G-Region Specific Requirements" that outlines Regional Water Board Approved TMDLs.		
null	ADDITIONAL INFORMATION					
98	Optional: If you have any additional information, reports or attachments that you would like to provide to describe your storm water program please use the text box and/or the upload attachment button below. (Years 1 - 5)					

**Phase II Small MS4 Annual - Report - 2016-2017  
CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

<b>Name: Rose Hess</b>	<b>Title: Director of Public Works</b>	<b>Date: 10/16/2017</b>
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**Phase II Small MS4 Annual - Report - 2016-2017  
ATTACHMENTS**

<b>Attachment Title</b>	<b>Description</b>	<b>Date Uploaded</b>	<b>Attachment Type</b>	<b>Attachment Hash</b>	<b>Doc Part No/Total Parts</b>
Buellton and Solvang Transmittal (Email) - IDDE Sampling-Chlorine	Buellton and Solvang Transmittal (Email) - IDDE Sampling-Chlorine	2017-10-06 17:11:31.0	Supporting Documentation	f96ee4dafd11edb5fa65c8b3b1428cb5395752669e2c2743de2b798879e5771	1/1
Memorandum of Understanding Between the Cities of Solvang and Buellton	Memorandum of Understanding Between the Cities of Solvang and Buellton	2017-10-05 11:03:17.0	Supporting Documentation	67ef2c28866931b064195c7b995e636e8864f8f594772f84da3da31d84f	1/1
PEAIP-Buellton and Solvang	PEAIP-Buellton and Solvang	2017-10-05 14:11:44.0	Supporting Documentation	3688936dc72a206d3f852524b37036bd3a74b0ba6ff1ac234b3af939c723478	1/1
Buellton and Solvang Transmittal (Email) - IDDE Sampling-Chlorine	Buellton and Solvang Transmittal (Email) - IDDE Sampling-Chlorine	2017-10-06 17:15:25.0	Supporting Documentation	f96ee4dafd11edb5fa65c8b3b1428cb5395752669e2c2743de2b798879e5771	1/1
303(d) Monitoring Program Summary Results 16-17	303(d) Monitoring Program Summary Results 16-17	2017-10-06 15:53:02.0	Supporting Documentation	a882b13bc88978f5a337f19f8f69adf88cc66cd58383c515b7dbf1429d87767	1/1
PEAIP Annual Summary-FY2016-2017-Buellton and Solvang	PEAIP Annual Summary-FY2016-2017-Buellton and Solvang	2017-10-16 15:11:30.0	Supporting Documentation	e99178eff68789cc1f18c5d9037d934d8b66db15d9af7a197171c262272226e	1/1

**MEMORANDUM OF UNDERSTANDING  
BETWEEN THE CITIES OF SOLVANG AND BUELLTON**

**Regarding the status of the Cities of Buellton and Solvang as Co-Permittees,  
and preparation and submittal of Annual Reports required by the  
Phase II Small MS4 NPDES Municipal Stormwater General Permit**

This Memorandum of Understanding (MOU or Agreement) is entered into between the City of Buellton and the City of Solvang, referred to herein as the “Parties,” for the purpose of defining agency roles, responsibilities, and commitments in connection with the Parties functioning as Co-Permittees under their respective Phase II Small MS4 NPDES Municipal Stormwater General Permits, and the preparation and submittal of Annual Reports required by the Permits. In consideration of the mutual covenants and conditions contained herein, the Parties agree as follows:

**1. Description**

The new Phase II Small MS4 NPDES Municipal Stormwater General Permit, adopted by the State Water Resources Control Board on February 5, 2013, includes a provision for agencies regulated under the Permit to comply with certain aspects of the Permit as “Co-Permittees”. Agencies covered under the Permit as Co-Permittees may submit a single joint Annual Report. It is the intent and purpose of this MOU to define the roles and responsibilities of the Parties for the purpose of preparing and submitting joint Annual Reports. The Parties agree that upon execution by both Parties this MOU is to be effective beginning Fiscal Year 2013-14.

**2. Lead Agency**

The City of Buellton shall be the Lead Agency and sole administrator of the joint Annual Report, and shall be responsible for preparing and submitting the joint Annual Report on behalf of the Parties. The City of Buellton shall also be responsible for contracting with a qualified stormwater consultant, as may be necessary, to prepare the joint Annual Report, and shall be the sole administrator of said consultant contract.

**3. Insurance Coverage and Indemnification**

The Parties agree to maintain liability insurance in an amount sufficient to protect against claims that may be filed against the Parties for the services they provide. The Parties may elect to self-insure against such claims as provided by their respective government policies, or procure third party insurance coverage.

In lieu of and notwithstanding the pro rata risk allocation which might otherwise be imposed between the parties pursuant to Government Code Section 895.6, the parties agree that all losses or liabilities incurred by a party shall not be shared pro rata but instead the Parties agree that pursuant to Government Code Section 895.4, each of the parties hereto shall fully indemnify and hold each of the other parties, their officers, board members, employees and agents, harmless from any claim, expense or cost,

damage or liability imposed for injury (as defined by Government Code Section 810.8) occurring by reason of the negligent acts or omissions or willful misconduct of the indemnifying party, its officers, board members, employees or agents, under or in connection with or arising out of any work, authority or jurisdiction delegated to such party under this Agreement. No party, nor any officer, board member, employee or agent thereof shall be responsible for any damage or liability occurring by reason of the negligent acts or omissions or willful misconduct of other parties hereto, their officers, board members, employees or agents, under or in connection with or arising out of any work, authority or jurisdiction delegated to such other parties under this Agreement.

#### **4. Funding**

It is anticipated that the City of Buellton, as the Lead Agency, will utilize Consultant services to prepare and submit the joint Annual Reports. The Parties will share equally in the net Consultant costs associated with the preparation and submittal of the joint Annual Reports. Staff time costs and incidental costs incurred by each Party in connection with preparation of the joint Annual Report shall be borne separately by each Party.

The Parties agree to annually budget for and commit sufficient funds to complete the preparation and submittal of joint Annual Reports. The funding allocation is subject to final budget approval by the respective city councils. The City of Buellton will bill the City of Solvang annually for its share of the joint Annual Report by approximately October 31. The City of Solvang agrees to make payment to the City of Buellton within 30 days of receipt of invoice.

All other aspects of each Parties stormwater management program shall be administered and funded separately unless identified otherwise in this MOU.

#### **5. Term of Agreement**

The Agreement will remain in effect until such time as one of the Parties so chooses to terminate the Agreement. The party choosing to terminate the Agreement shall give the other party a minimum of 6 months advanced notice prior to terminating the Agreement.

#### **6. Annual Reporting**

On an annual basis, the City of Buellton shall prepare and submit, or have Consultant prepare and submit Annual Report for both agencies as Co-Permittees to the Regional Water Quality Control Board (RWQCB). The City of Buellton shall be responsible for addressing any comments from RWQCB, and prepare and submit revised Annual Report as may be required.

#### **7. Records**

The Parties shall keep such records as may be necessary to assist in completion of Annual Reports. In addition, the City of Buellton shall keep records comprising the

Annual reports, and shall maintain such records for a period of five (5) years. All accounting records shall be kept in accordance with generally accepted accounting principles. Either Party shall have the right to review all such documents and records at any time during City of Buellton's regular business hours upon reasonable notice.

#### **8. Cooperation and Coordination Meetings**

Staff of the Parties agree to communicate regularly and cooperate with each other to the full extent as may be required for successful completion of Annual Reports. Staff of the Parties agree to meet at least once annually to discuss implementation of the MOU, and other stormwater management issues of common interest.

#### **9. Contracting for Consultant Services**

In March of each year the City of Buellton shall solicit a fee proposal(s) from its qualified Consultant(s) specifically to prepare and submit the joint Annual Report for the purposes of budgeting and cost sharing. The fee amount shall be communicated by the City of Buellton to the City of Solvang by April 15 allowing the Parties to incorporate the appropriate amount in their draft fiscal budgets.

#### **10. Consultant Insurance**

The City of Buellton shall require any Consultant performing work in connection with the preparation and submittal of joint Annual Reports to maintain general liability insurance, professional liability insurance, automobile liability insurance, and workers compensation insurance each in amount not less than \$1,000,000 while performing work, and for a period of two years following completion of such work. The insurance certificate shall include the City of Solvang as additional insured. Consultant shall provide both Parties with copies of the Certificates of Insurance, including the endorsement(s) naming the Parties as additional insured. The insurance certificate shall require the insurance carrier to provide 30 days written notice to the Parties in the event of cancellation.

#### **11. Amendment**

This MOU may only be amended in writing with consent of both Parties.

#### **12. Termination**

Either Party to this MOU may terminate its participation under this Agreement by giving 6 months written notification to the other Party.

#### **13. Points of Contact**

All notices referenced in this Agreement shall be in writing and shall be given by first class mail addressed as follows, or at such other address or to such person that the parties may from time to time designate in writing:

**City of Buellton**  
Public Works Director  
107 West Highway 246  
Buellton, CA 93427

**City of Solvang**  
Public Works Director  
411 Second Street  
Solvang, CA 93463

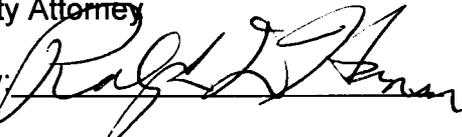
**Signatures**

**CITY OF BUELLTON**

  
\_\_\_\_\_  
Mark Bierdzinski, City Manager

11-14-2013  
Date

Approved as to Form:  
Ralph Hanson  
City Attorney

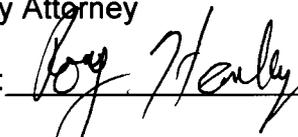
By:   
\_\_\_\_\_  
Ralph Hanson, City Attorney for City of  
Buellton

**CITY OF SOLVANG**

  
\_\_\_\_\_  
Brad Vidro, City Manager

11-25-13  
Date

Approved as to Form:  
Roy Hanley  
City Attorney

By:   
\_\_\_\_\_  
Roy Hanley, City Attorney for City of  
Solvang

## Mary Zepeda

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**From:** Sharkey, Lucas@Waterboards <Lucas.Sharkey@waterboards.ca.gov>  
**Sent:** Thursday, August 10, 2017 9:51 AM  
**To:** Mary Zepeda  
**Subject:** RE: IDDE Sampling - Chlorine

I am not convinced sampling for chlorine will provide you anything. Especially given your attachments. You have my blessing to remove it from your list, especially as the table specifically states you can ignore Flouride if supply water is not fluoridated. I am guessing chlorine in drinking water will “disappear” if delivered through the soil matrix. And if delivered overland, will be investigated via visually tracking water to the source (i.e. walking the flow path to determine if a) over watering, b) car washing, c)pool, etc. etc.).

In the chance there is a water line break delivering water, this would be the only usefulness of collecting chlorine. I think there are likely other ways of finding that (e.g. green grass where it should be dead, erosion and scour, loss of pressure, etc. etc.). And this discharge is not prohibited “discharge from potable water source” as long as where intentional there is a BMP in place to protect from erosion and de-chlorinate the water.

Lucas

=====  
**Lucas J. Sharkey, P.E.** | Water Resource Control Engineer  
Central Coast Water Board | 895 Aerovista Place, Suite 101 | San Luis Obispo, CA 93401  
P: (805) 594-6144

 Think before you print

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**From:** Mary Zepeda [<mailto:mzepeda@mnsengineers.com>]  
**Sent:** Thursday, August 10, 2017 9:37 AM  
**To:** Sharkey, Lucas@Waterboards <[Lucas.Sharkey@waterboards.ca.gov](mailto:Lucas.Sharkey@waterboards.ca.gov)>  
**Subject:** IDDE Sampling - Chlorine

Hi Lucas,

Please reaffirm when substituting Chlorine for IDDE Sampling (E.9.c) to analyze your sample for total chlorine and not free residual chlorine. As mentioned, when sampling in the field, we are conducting a field test in conduct for total and not free chlorine. For your convenience, I have attached the email discussion from David Innis as well as a copy of references from the Section E.9.c and the CWP IDDE Guidance Manual which is referenced within the footnote of the section.

Your guidance and confirmation is much appreciated.

Mary

### Mary Zepeda

*Stormwater Program Coordinator  
Government Services Division*

### MNS Engineers, Inc.

201 Industrial Way, Ste A / Buellton, CA 93427  
Direct (805) 697-1407/ Cell (805) 722-7140  
[mzepeda@mnsengineers.com](mailto:mzepeda@mnsengineers.com)



## Mary Zepeda

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**From:** Innis, David@Waterboards <David.Innis@waterboards.ca.gov>  
**Sent:** Wednesday, June 10, 2015 10:31 AM  
**To:** Zepeda, Mary  
**Subject:** RE: Chorine

Yes. Also known as TRO, Total Residual Oxidant, but that was for seawater where Chlorine and Bromine abound.

--Dave

---

**From:** Zepeda, Mary [<mailto:mzepeda@mnsengineers.com>]  
**Sent:** Wednesday, June 10, 2015 10:15 AM  
**To:** Innis, David@Waterboards  
**Subject:** Chorine

Hi David

Is the parameter?

Total Residual Chlorine or Total Free Chlorine

### **Mary Zepeda**

*Stormwater Program Coordinator  
Government Services Division*

### **MNS Engineers, Inc.**

201 Industrial Way, Ste A / Buellton, CA 93427  
Direct (805) 697-1407 / Cell (805) 722-7140  
[mzepeda@mnsengineers.com](mailto:mzepeda@mnsengineers.com)

Phase II MS4 Genera; Permit ( E.9.c)

any outfalls that are flowing or ponding more than 72 hours after the last rain event. The Permittee shall also conduct dry weather sampling (more than 72 hours since the last rain event) of outfalls annually identified as priority areas.

(ii) **Implementation Level** – The Permittee shall:

- (a) Conduct monitoring<sup>17</sup> for the following indicator parameters identified in Table 1 to help determine the source of the discharge. Alternatively, the Permittee may select parameters based on local knowledge of pollutants of concern in lieu of sampling for the parameters listed in Table 1. Modifications and associated justifications shall be identified within SMARTS prior to conducting field sampling as specified in Section E.9.c.(i).

Table 1. Indicator Parameters

Indicator Parameters Used to Detect Illicit Discharges					
Parameter	Discharge Types It Can Detect				Laboratory/Analytical Challenges
	Sewage	Washwater	Tap Water	Industrial or Commercial Liquid Wastes	
Ammonia	●	⊙	○	⊙	Can change into other nitrogen forms as the flow travels to the outfall
Color	⊙	⊙	○	⊙	
Conductivity	⊙	⊙	○	⊙	Ineffective in saline waters
Detergents – Surfactants	●	●	○	⊙	Reagent is a hazardous waste
Fluoride*	○	○	●	⊙	Reagent is a hazardous waste Exception for communities that do not fluoridate their tap water
Hardness	⊙	⊙	⊙	⊙	
pH	○	⊙	○	⊙	
Potassium	⊙	○	○	●	May need to use two separate analytical techniques, depending on the concentration
Turbidity	⊙	⊙	○	⊙	

● Can almost always (>80% of samples) distinguish this discharge from clean flow types (e.g., tap water or natural water). For tap water, can distinguish from natural water.  
 ⊙ Can sometimes (>50% of samples) distinguish this discharge from clean flow types depending on regional characteristics, or can be helpful in combination with another parameter  
 ○ Poor indicator. Cannot reliably detect illicit discharges, or cannot detect tap water  
 N/A: Data are not available to assess the utility of this parameter for this purpose.  
 Data sources: Pitt (  
 \*Fluoride is a poor indicator when used as a single parameter, but when combined with additional parameters (such as detergents, ammonia and potassium), it can almost always distinguish between sewage and wash water.

<sup>17</sup> A description of indicator parameter sampling equipment is described in Chapter 12: Indicator Monitoring in the CWP IDDE: Guidance Manual found at: [http://www.epa.gov/npdes/pubs/idde\\_manualwithappendices.pdf](http://www.epa.gov/npdes/pubs/idde_manualwithappendices.pdf). Sampling may be conducted using field test kits.

*Chapter 12: Indicator Monitoring*

*Adapting the Flow Chart Method*

The Flow Chart Method is a robust tool for identifying illicit discharge types, but may need to be locally adapted, since much of the supporting data was collected in one region of the country. Program managers should look at four potential modifications to the flow chart in their community.

- 1) Is boron or surfactants a superior local indicator of detergents?

Surfactants are almost always a more reliable indicator of detergents, except for rare cases where groundwater has been contaminated by sewage. The disadvantage of surfactants is that the recommended analytical method uses a hazardous chemical as the reagent. Boron uses a safer analytical method. However, if boron is used as a detergent indicator, program managers should sample boron levels in groundwater and tap water, since they can vary regionally. Also, not all detergent formulations incorporate boron at high levels, so it may not always be a strong indicator.

- 2) Is the ammonia/potassium ratio of one the best benchmark to distinguish sewage from washwater?

The ammonia/potassium ratio is a good way to distinguish sewage from washwater, although the exact ratio appears to vary in different regions of the country. The benchmark value for the ratio was derived from extensive testing in one Alabama city. In fact, data collected in another Alabama city indicated an ammonia/potassium ratio of 0.6 distinguished sewage from washwater. Clearly, program managers should evaluate the ratio in their own community, although the proposed ratio of 1.0 should still capture the majority of sewage discharges. The ratio can be refined over

time using indicator monitoring at local outfalls, or through water quality sampling of sewage and washwater flow types for the chemical library.

- 3) Is fluoride a good indicator of tap water?

Usually. The two exceptions are communities that do not fluoridate their drinking water or have elevated fluoride concentrations in groundwater. In both cases, alternative indicator parameters such as hardness or chlorine may be preferable.

- 4) Can the flow chart be expanded?

The flow chart presented in Figure 47 is actually a simplified version of a more complex flow chart developed by Pitt for this project, which is presented in Appendix H. An expanded flow chart can provide more consistent and detailed identification of flow types, but obviously requires more analytical work and data analysis. Section 12.5 provides guidance on statistical techniques to customize the flow chart method based on your local discharge data.

**Single Parameter Screening**

Research by Lalor (1994) suggests that detergents is the best single parameter to detect the presence or absence of the most common illicit discharges (sewage and washwater). The recommended analytical method for detergents uses a hazardous reagent, so the analysis needs to be conducted in a controlled laboratory setting with proper safety equipment. This may limit the flexibility of a community if it is conducting analyses in the field or in a simple office lab.

Ammonia is another single parameter indicator that has been used by some communities with widespread or severe

### Ammonia

Ammonia is a good indicator of sewage, since its concentration is much higher there than in groundwater or tap water. High ammonia concentrations may also indicate liquid wastes from some industrial sites. Ammonia is relatively simple and safe to analyze. Some challenges include the tendency for ammonia to volatilize (i.e., turn into a gas and become non-conservative) and its potential generation from non-human sources, such as pets or wildlife.

### Boron

Boron is an element present in the compound borax, which is often found in detergent and soap formulations. Consequently, boron is a good potential indicator for both laundry wash water and sewage. Preliminary research from Alabama supports this contention, particularly when it is combined with other detergent indicators, such as surfactants (Pitt, IDDE Project Support Material). Boron may not be a useful indicator everywhere in the country since it may be found at elevated levels in groundwater in some regions and is a common ingredient in water softeners products. Program managers should collect data on boron concentrations in local tap water and groundwater sources to confirm whether it will be an effective indicator of illicit discharges.

### Chlorine

Chlorine is used throughout the country to disinfect tap water, except where private wells provide the water supply. Chlorine concentrations in tap water tend to be significantly higher than most other discharge types. Unfortunately, chlorine is extremely volatile, and even moderate levels of organic materials can cause chlorine

levels to drop below detection levels.

Because chlorine is non-conservative, it is not a reliable indicator, although if very high chlorine levels are measured, it is a strong indication of a water line break, swimming pool discharge, or industrial discharge from a chlorine bleaching process.

### Color

Color is a numeric computation of the color observed in a water quality sample, as measured in cobalt-platinum units (APHA, 1998). Both industrial liquid wastes and sewage tend to have elevated color values. Unfortunately, some "clean" flow types can also have high color values. Field testing by Pitt (IDDE Project Support Material) found high color values associated for all contaminated flows, but also many uncontaminated flows, which yielded numerous false positives. Overall, color may be a good first screen for problem outfalls, but needs to be supplemented by other indicator parameters.

### Conductivity

Conductivity, or specific conductance, is a measure of how easily electricity can flow through a water sample. Conductivity is often strongly correlated with the total amount of dissolved material in water, known as Total Dissolved Solids. The utility of conductivity as an indicator depends on whether concentrations are elevated in "natural" or clean waters. In particular, conductivity is a poor indicator of illicit discharge in estuarine waters or in northern regions where deicing salts are used (both have high conductivity readings).

Field testing in Alabama suggests that conductivity has limited value to detect sewage or wash water (Pitt, IDDE Project Support Material). Conductivity has some



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**SCOTT D. MCGOLPIN**  
Director

**THOMAS D. FAYRAM**  
Deputy Director

**Memorandum**

Date: October 6, 2017  
To: 303(d) Monitoring Partner Agencies:  
Erin Maker, City of Carpinteria  
Everett King, City of Goleta  
Bridget Elliot, City of Solvang  
Rose Hess, City of Buellton  
Mary Zepeda, MNS representing Buellton and Solvang  
From: Cathleen Garnand, County of Santa Barbara  
Subject: Transmittal of 303(d) Monitoring Program Results, 2016-2017

**Background**

In accordance with the NPDES California Phase II General Municipal MS4 Permit section E.13.c requirements, the County, along with partner cities of Carpinteria, Goleta, Solvang, and Buellton, implemented a storm water quality monitoring program. This program, consisting of a Monitoring Plan and QAPP, was approved by the Central Coast Regional Water Quality Control Board in their letter dated March 4, 2016.

The storm water quality monitoring is intended to address both the requirements of E.13.c but also to work toward addressing the program effectiveness assessment approach of E.14.a.iii by focusing on wet weather runoff from urban areas, and using that data to support a pollutant loading model.

The following summary and supporting documents describe implementation of the second year of that monitoring effort.

**Summary**

During the reporting period of Jul1 2016 – Jun30 2017, six separate wet weather events were monitored at the six unique sampling sites. These include:

Date	Rainfall (in)	Location	Type
Oct 28	0.65	Solvang	Residential

Nov 20	0.60	Goleta	Commercial
Nov 26	0.48	Buellton	Industrial
Jan 04	0.76	Goleta	Industrial
Jan 09	0.69	Carpinteria	Residential
Jan 20	1.30	Carpinteria	Agricultural

The Sampling Log (Attachment 1) describes the storm events that were tracked throughout the year. The log includes details on forecasts, events that were considered but not monitored, and events that we attempted to monitor but had to abort for reasons such as lack of sufficient runoff or lab closures.

The lab results are summarized in Attachment 2. Each year, additional monitoring data will be included on this spreadsheet. After three years of successful monitoring, the results will be used for to revise event mean concentrations used in the pollutant load model for the various land use types, as appropriate.

Thresholds and standards do not exist for many of the parameters analyzed, however results that are noteworthy for discussion include the following:

Aluminum (WQ Standard 1000 ug/l)

Site: Carpinteria Urban Agriculture (1700 ug/l)

Sources can be metal roofing and gutters, deteriorating scrap metal, also associated with naturally occurring soil and geologic conditions, high concentrations may be linked to erosion in the watershed or within a stream channel. The Water Quality Control Plan for the Central Coast Basin, 2011, established a Maximum Contaminant Level of 1000 ug/l. It is unclear if this references total or dissolved aluminum. The EPA National Recommended Water Quality Aquatic Life Criteria lists Criterion Maximum Concentration at 750 ug/l expressed in terms of total recoverable metal in the water column.

Copper (WQ Standard 10 ug/l)

Site: Goleta Commercial (17 ug/l)

Possible sources include pesticides and fungicides (anti-fouling coatings), automotive brake pads, and metal and electrical manufacturing.

Cyfluthrin (WQ Standard 12.5 ng/l)

Site: Carpinteria Residential (28 ng/l)

Pyrethroid insecticide used for structural pest control and livestock operations.

Dichloran (Contaminant of Emerging Concern - No WQ Standard)

Site: Solvang Residential

Fungicide used commercially on celery and lettuce, post-harvest treatment for cut flowers, not available for retail sale. No reported uses recorded with the Agricultural Commissioner's Office for 2016 in Santa Barbara County. Not sure of possible sources.

L-Cyhalothrin (WQ Standard 3.5 ng/l)

Site: Goleta Commercial (38 ng/l)

Pyrethroid insecticide used for crop protection, structural pest control, and for treating parks, recreational areas, and athletic fields.

Permethrin (WQ Standard 10.6 ng/l)

Sites: Goleta Commercial (33 ng/l)

Buellton Industrial (84 ng/l)

Pyrethroid insecticide used as crop protectant, and for indoor and outdoor residential pest control. Also a common ingredient in lice and scabies treatments.

Perylene-d12 (Contaminant of Emerging Concern - No WQ Standard)

All sites

No water quality standards. This compound is a Polycyclic aromatic hydrocarbon (PAH). PAHs are a class of chemicals associated with coal, crude oil, and gasoline. Also produced organics are combusted (forest fires, burning fuel)

Triphenyl phosphate (Contaminant of Emerging Concern - No WQ Standard)

All sites

Used as a flame retardant in electronics, PVC, and upholstery, and as a plasticizer in varnishes and lacquers including nail polish.

1,3-Dimethyl-2-nitrobenzene (Contaminant of Emerging Concern - No WQ Standard)

All sites

Derivative of Xylene, an aromatic hydrocarbon that is widely used in the petrochemical industry. Safety Data Sheet states this substance is toxic to aquatic life with long lasting effects, discharge to the environment must be avoided.

Zinc (WQ Standard 4 ug/l)

All sites

Goleta Commercial (210 ug/l)

Buellton Industrial (51 ug/l)

Solvang Residential (11 ug/l)

Goleta Industrial (74 ug/l)

Carpinteria Urban Ag (66 ug/l)

Carpinteria Residential (7 ug/l)

Major sources are galvanized surfaces (roofs, gutters, flashing, fencing, guard rails, downspouts and drainage pipes), and wear debris from vehicle tires.

### Toxicity

*Hyalella azteca* was the test organism used.

Sample date	Site Name	% Survival in 100% Sample	% Survival in Control
10/28/2016	Solvang Residential	70	90
11/20/2016	Goleta Commercial	75	95
11/26/2016	Buellton Industrial	95	100
1/4/2017	Goleta Industrial	90	100
1/9/2017	Carpinteria Residential	45	90
1/20/2017	Carpinteria Urban Agriculture	90	100

# Attachment 1 – Sampling Log for 2016-2017

Rainfall data sources and distance to sampling locations

Carpinteria: Santa Barbara County Flood Control District Official Daily Rainfall Record Station 208, Carpinteria Fire Station, within 0.75 miles of both Carpinteria sampling locations.

Goleta: National Weather Service Station KSBA, Santa Barbara Airport, within 1 mile of both Goleta sampling locations.

Buellton: Santa Barbara County Flood Control District Official Daily Rainfall Record Station 233 Buellton Fire Station #31, 0.50 miles.

Solvang: Santa Barbara County Flood Control District Official Daily Rainfall Record Station 393 Solvang PW Water, 1.3 miles.

5 October 2016

Forecast Discussion says models hint at possibility of some showers Sunday night/Monday morning. Nothing materialized.

14-16 October 2016

Three fronts to move through the forecast area from Friday night to Sunday night, totals to be 0.01-0.1”.

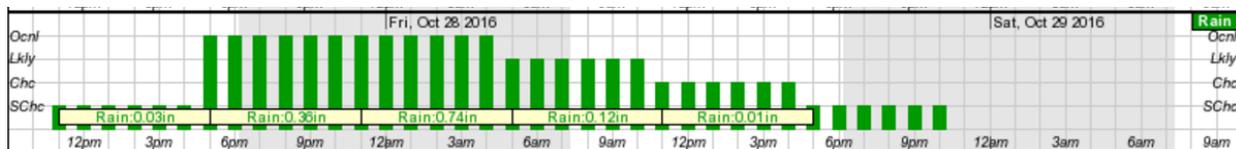
Street sweeping Oct 13-Oct 14, started in North County. Rainfall totals for the storm were 0.33 Santa Maria and 0.20 Santa Barbara. Rainfall was mostly light rain and drizzle.

28 October 2016

Solvang Residential sampled

Bridget Elliott

Moisture laden storm system to bring rain to Central Coast, forecast models show bulk of the moisture hitting the area tonight before weakening. Hourly weather forecast shows rain to start at 5pm,



20 November 2016

Goleta Commercial sampled

Belyea

Watched radar and forecast updates Saturday night, storm arrived later than forecasted, checked at 3am, 5am, 730am, got text from Cathleen at 230 that it was raining in Gaviota, got work truck and was back in Goleta before the rain started. Cloud burst at Winchester in western Goleta, headed to the site about 4 miles east

4:07pm arrived at the site, parking lot surface still dry, barely raining

4:17pm steady rain, no runoff yet

Observed first flow exiting the outfall and hitting the dry creek bed, water soaked in for maybe 20 mins, gently pooled upstream of the outfall and then starting flowing downstream. Several

pieces of trash exited the outfall with the first flow of water. No real odor at the site besides rain on asphalt and the soil and vegetation in the creek bed.

4:40pm first sample

~5:55pm rain easing up and runoff decreased

6:14pm sprinkling

26 November 2016

Buellton Industrial sampled

Belyea

Sunshine with large billowy clouds on the way to the office, not raining yet as I left the office. Drove into the rain as headed north, no runoff visible on roadside until close to El Cap, it was dumping in Gaviota large drops raining very hard had to drive slowly with wipers on full, afraid I was going to miss the storm as the forecast said the system was fast moving, lots of runoff suddenly. Raining hard on approach to the site, large volume of water flowing down Industrial Way and into the storm drains. At the site, water was already flowing into the basin and starting to pool. Odd odor at the site, noticeable as soon as I opened the truck door, best description was rotting trash, kind of sulfury, but not quite. Water looked black and slightly cloudy when first arrived on site, clearing as sampling progressed. Raining hard on arrival to the site then tapered to steady rain, lessening around 1145am, steady soft rain through 1230pm.

15 December 2016



Decision to sample during daylight hours only for this storm, due to safety concerns. Erin Maker to try to sample the Carpinteria Residential site. Storm did not arrive to allow for daytime sampling, no collections made for this storm event.

21 December 2016

Minor rainfall in the area, some surface flow in the street gutters in downtown Santa Barbara, not in Goleta, very brief storm, not enough to attempt sampling.

23 December 2016



0.5 to 1.5 inches forecast for coastal/valley areas, no rain as of 12pm. Forecast Discussion says heavy rain for the Central Coast this morning spreading into Santa Barbara County, late afternoon moving through Venrura. QPF shows heaviest rain between 4pm and 10pm. Not sampling this storm event due to constraints with staffing at Weck Labs and holiday fees for processing samples at both labs. Samples submitted to Weck Saturday Dec 24 would not be composited until Monday, and analysis maybe not started until Tuesday.

SANTA BARBARA COUNTY...

SIYC1:SANTA MARIA CITY	LGT	LGT	0.2	0.2		0.3	LGT
SBTC1:SANTA BARBARA POTRERO	LGT	LGT	0.1	0.1		0.5	LGT
GBRC1:GIBRALTAR DAM	LGT	LGT	0.2	0.2		1.3	LGT
SMCC1:SAN MARCOS PASS	LGT	LGT	0.2	0.2		1.3	LGT
SBFC1:SANTA BARBARA COUNTY BUILDING	LGT	LGT	0.1	0.1		0.7	LGT

SBA: PEAK 1-HR RATES: CST/VLY 0.50-0.75 FTHLS/MTNS 0.76-1.00  
 EXPECTED TO OCCUR BETWEEN 1600-2200  
 CHANCE THUNDERSTORMS: NO

29-31 December 2016

Watched the radar all night 29 Dec, didn't get enough rain to sample. Couldn't sample the rain on the 30 or 31 because of lab closures. For table below, columns are 1 hr, 3hrs,6 hrs, 24 hrs precip.

31 Dec 4:53 pm	52	40	63	N	7	10.00		FEW050	29.87	1011.7	29.88		
31 Dec 3:53 pm	56	42	60	WNW	8	10.00		SCT043	29.86	1011.5	29.87		0.02
31 Dec 2:53 pm	56	43	62	SSW	5	10.00		BKN040,BKN050	29.88	1012.0	29.89		
31 Dec 1:53 pm	54	41	61		3	10.00		BKN070	29.88	1012.2	29.89		
31 Dec 12:53 pm	52	48	86	WSW	7	10.00		OVC050	29.91	1013.0	29.92	T	0.02
31 Dec 11:53 am	50	46	86	NNW	7	6.00	Lt Rain, Mist	SCT028,OVC042	29.93	1013.8	29.94	0.02	
31 Dec 11:26 am	51	49	92	NW	9	6.00	Lt Rain, Mist	FEW008,SCT015,OVC028	29.94		29.95	0.01	
31 Dec 10:53 am	53	51	93	N	CALM	10.00		OVC024	29.94	1014.1	29.95	T	
31 Dec 9:53 am	53	52	96	W	7	10.00		BKN018,OVC029	29.95	1014.3	29.96		T
31 Dec 9:06 am	53	53	100	W	5	7.00		SCT008,BKN012,OVC021	29.94		29.95		
31 Dec 8:53 am	53	53	100	W	5	5.00	Mist	FEW009,OVC021	29.94	1014.2	29.95	T	
31 Dec 8:30 am	54	54	100	N	CALM	5.00	Lt Rain, Mist	OVC016	29.94		29.95	T	
31 Dec 8:01 am	53	53	100	N	CALM	8.00		BKN011,OVC019	29.93		29.94		
31 Dec 7:53 am	53	52	96	N	CALM	10.00		OVC023	29.93	1013.9	29.94		
31 Dec 6:53 am	53	52	96	E	3	10.00		OVC023	29.93	1013.7	29.94		
31 Dec 5:53 am	52	52	100	E	5	8.00		OVC020	29.93	1013.7	29.94		
31 Dec 4:53 am	51	51	100	N	CALM	7.00		OVC017	29.92	1013.5	29.93		
31 Dec 4:15 am	50	50	100	N	CALM	6.00	Mist	OVC015	29.92		29.93		
31 Dec 3:53 am	50	50	100	N	CALM	6.00	Mist	BKN013,OVC019	29.92	1013.5	29.93		0.17
31 Dec 2:53 am	50	50	100	N	CALM	8.00		OVC010	29.92	1013.6	29.93		
31 Dec 2:46 am	49	49	100	N	CALM	6.00	Mist	OVC010	29.92		29.93		
31 Dec 2:26 am	50	50	100	WNW	3	3.00	Mist	BKN008,OVC028	29.93		29.94		
31 Dec 2:00 am	50	50	100	N	CALM	1.00	Mist	VV007	29.93		29.94		
31 Dec 1:53 am	49	49	100	N	CALM	0.25	Fog	VV006	29.93	1013.7	29.94		
31 Dec 1:50 am	48	48	100	N	CALM	0.24	Fog	VV006	29.92		29.93		
31 Dec 1:35 am	50	50	100	N	CALM	0.50	Fog	VV008	29.92		29.93		
31 Dec 1:23 am	51	51	100	N	CALM	0.25	Fog	VV009	29.92		29.93		
31 Dec 1:10 am	52	52	100	N	CALM	1.75	Mist	CLR	29.92		29.93		
31 Dec 12:53 pm	52	52	100	ENE	3	5.00	Mist	CLR	29.92	1013.6	29.93		
30 Dec 11:53 pm	53	53	100	ENE	6	6.00	Mist	SCT006	29.93	1013.9	29.94		
30 Dec 10:53 pm	53	53	100	E	3	4.00	Mist	BKN008	29.94	1014.3	29.95		
30 Dec 10:07 pm	54	54	100	ESE	5	5.00	Mist	SCT009,BKN090	29.94		29.95		
30 Dec 9:53 pm	55	55	100	ESE	6	5.00	Mist	BKN009,OVC085	29.94	1014.2	29.95		0.07
30 Dec 9:11 pm	55	55	100	WSW	5	9.00		OVC008	29.95		29.96		
30 Dec 8:53 pm	55	55	100	SW	3	8.00		BKN010,OVC095	29.96	1014.7	29.97		
30 Dec 7:53 pm	54	54	100	NE	5	10.00		OVC110	29.94	1014.1	29.95		
30 Dec 6:53 pm	54	54	100	N	CALM	8.00		BKN065,OVC095	29.95	1014.3	29.96		0.07
30 Dec 5:53 pm	54	54	100	W	6	7.00		SCT060,OVC085	29.94	1014.3	29.95		
30 Dec 4:57 pm	55	55	100	W	3	3.00	Mist	FEW010,SCT041,OVC090	29.94		29.95		
30 Dec 4:53 pm	56	55	97	N	CALM	2.50	Mist	FEW041,SCT080,BKN100	29.94	1014.3	29.95	0.07	
30 Dec 3:53 pm	56	56	100	NW	3	2.50	Mod Rain, Mist	BKN035,OVC044	29.97	1015.3	29.98	0.09	0.10
30 Dec 3:40 pm	57	55	94	NW	6	2.00	Mod Rain, Mist	BKN034,OVC044	29.98		29.99	0.05	
30 Dec 2:53 pm	58	55	90	W	3	4.00	Lt Rain, Mist	OVC043	29.97	1015.3	29.98	0.01	
30 Dec 1:53 pm	59	53	81	N	CALM	10.00		FEW033,OVC050	29.98	1015.4	29.99		

4 January 2017  
 Goleta Industrial sampled  
 Belyea

04-07 07-10 10-13 13-16 | 16-22 22-04

SANTA BARBARA COUNTY...

SIYC1:SANTA MARIA CITY	0.1	0.1	0.2	0.2		0.3	0.3
SBTC1:SANTA BARBARA POTRERO	LGT	LGT	0.1	0.1		0.2	0.2
GBRC1:GIBRALTAR DAM	LGT	LGT	0.1	0.1		0.2	0.2
SMCC1:SAN MARCOS PASS	LGT	LGT	0.1	0.1		0.2	0.3
SBFC1:SANTA BARBARA COUNTY BUILDING	LGT	LGT	LGT	LGT		LGT	0.2

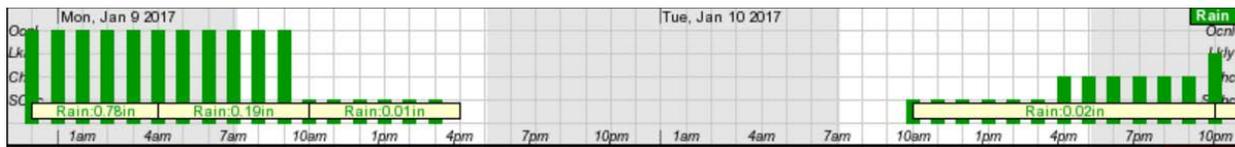
SBA: PEAK 1-HR RATES: CST/VLY 0.11-0.25 FTHLS/MTNS 0.11-0.25  
 EXPECTED TO OCCUR BETWEEN 1600-2200

CHANCE THUNDERSTORMS: NO

Light rain all day long, slight increase in intensity around 4pm, first sample taken at 532pm. Forecast called for heavier intensity later in the night, but that did not materialize. It was good that we sampled when we did.

9 January 2017  
 Carpinteria Residential sampled  
 Erin Maker and Bree Belyea

Rain intensity so strong on the drive from Goleta to the office, it was difficult to drive. Lots of pooling on the 101, worried about starting too late. Arrived at ~12:40am and grabbed 1st sample immediately, rain stopped 1250, raining again at 1am. Light sprinkle until around 130am, heavier drops around 2am increasing until last sample.



Carpinteria Ag is the last site left to sample. This site requires two people and must be sampled during the day because of safety and outfall access issues.

20 January 2017  
 Carpinteria Urban Agriculture  
 Belyea and Garnand

Carpinteria Urban Agriculture site sampled this morning, steady rainfall for the entire duration of the sampling period, with rain intensity greatly increasing around the time of sample #12 (910am). Heavy flow in Franklin Creek, very muddy, so much suspended sediment the water was opaque looking, very murky. Water from outfall was significantly clearer, but not totally free of sediment, each sample cup had some small sand or asphalt fines, not too much suspended sediment. No site odor. One piece of Styrofoam floated down Franklin (not from the outfall) about an hour and half into sampling. Lots of sticks seen in Franklin, not from outfall though.

Date (PST)	Temp (F)	Dew Point (F)	Relative Humidity (%)	Wind Direction	Wind Speed (MPH)	Fuel Temp (F)	Fuel Moisture (%)	Solar Radiation (W/m <sup>2</sup> )	Solar Pct of psbl	Precip Accumulated (inches)	1 Hour Precip (inches)	3 Hour Precip (inches)	6 Hour Precip (inches)	24 Hour Precip (inches)
20 Jan 2:07 pm	56	47	71	W	6G11	57	26	323	44%	13.05		0.14	1.66	2.17
20 Jan 1:07 pm	54	51	91	N	2G14	54	26	126	16%	13.05	0.10	0.56	1.89	2.17
20 Jan 12:07 pm	55	54	97	SE	1G4	58	26	160	20%	12.95	0.04	1.16	1.86	2.09
20 Jan 11:07 am	54	53	98	ENE	1G9	55	26	41	6%	12.91	0.42	1.52	1.93	2.05
20 Jan 10:07 am	53	52	97	E	4G16	52	26	16	3%	12.49	0.70	1.33	1.55	1.63
20 Jan 9:07 am	50	49	95	ENE	4G11	49	26	13	3%	11.79	0.40	0.70	0.86	0.93
20 Jan 8:07 am	50	49	96	ENE	5G11	49	26	7	4%	11.39	0.23	0.41	0.48	0.53
20 Jan 7:07 am	50	49	95	E	3G11	49	26	0	--	11.16	0.07	0.22	0.28	0.30
20 Jan 6:07 am	49	48	95	ENE	4G8	49	26	0	--	11.09	0.11	0.16	0.21	0.23
20 Jan 5:07 am	48	47	96		CALM	48	25	0	--	10.98	0.04	0.07	0.10	0.12
20 Jan 4:07 am	48	45	91	ENE	2G5	47	25	0	--	10.94	0.01	0.06	0.06	0.09
20 Jan 3:07 am	48	45	90	ENE	1G6	47	25	0	--	10.93	0.02	0.05	0.05	0.19
20 Jan 2:07 am	48	46	93	N	1G4	48	24	0	--	10.91	0.03	0.03	0.03	0.46
20 Jan 1:07 am	50	44	80		CALM	48	23	0	--	10.88				0.58

Analyte	Water Quality Standard	WQS Units	Source WQS	Detection Limit	Units	31 Jan 2016													
						5 Jan 2016 Goleta Commercial	11 Nov 2016 Goleta Commercial	5 Jan 2016 Carpinteria Residential	9 Jan 2017 Carpinteria Residential	5 Jan 2016 Buellton Industrial	26 Nov 2016 Buellton Industrial	Carpinteria Urban Agriculture	20 Jan 2017 Carpinteria Urban Ag	17 Feb 2016 Goleta Industrial	4 Jan 2017 Goleta Industrial	5 Mar 2016 Solvang Residential	28 Oct 2016 Solvang Residential		
Toxicity % survival in 100% sample	n/a	n/a	n/a			90	75	5	45	90	95	65	90	75	90	95	70		
pH	6.5-8.3		Water Quality Control Plan for the Central Coast Basin,			n/a		8.2	n/a	8.6	n/a	7.8	6.6	7.2	6.5	8.0	8.2	6.5	
1-(3,4-Dichlorophenyl)-3-methylurea				0.14	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1-(3,4-Dichlorophenyl)urea				0.070	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,3-Dimethyl-2-nitrobenzene					ng/l	534	84	538	86	495	85	469	94	831	83	589	82		
3,4-Dichloroaniline				0.12	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
3-Hydroxycarbofuran				0.48	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acetamiprid	10.5 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates		ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Aldicarb	10 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.38	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Aldicarb sulfone	140 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.45	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Aldicarb sulfoxide	21.5 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.41	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Allethrin	1.05 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.85	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Aluminum, Dissolved				1.3	ug/l	11	26	15	23	29	16	40	17	58	27	19	20		
Aluminum, Total	1000 ug/l		Water Quality Control Plan for the Central Coast Basin, Municipal/Domestic, 2011	1.3	ug/l	290	820	940	480	980	800	1600	1700	2000	450	370	750		
Ammonia as N				0.048	mg/l	0.17	0.38	0.20	ND	0.14	ND	0.18	ND	0.87	0.2	ND	0.22		
Azinphos methyl (Guthion)	0.08 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	5.5	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bifenthrin	800 ng/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.79	ng/l	3.3	ND	28	71	2.0	ND	5.6	ND	ND	ND	ND	4.4		
Bolstar/Sulprofos				4.6	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Cadmium, Dissolved	1.8 ug/l		USEPA Aquatic Life Ambient Water Quality Criteria, acute freshwater 2016	0.041	ug/l	ND	0.12	ND	ND	ND	ND	ND	ND	0.19	ND	ND	ND	ND	
Cadmium, Total	5.733 ug/l		USEPA Aquatic Life Ambient Water Quality Criteria, acute freshwater 2016	0.041	ug/l	ND	0.35	ND	ND	0.13	0.21	0.12	0.14	0.44	0.17	0.14	0.2		
Calcium, Total				0.0160	mg/l	4.90	9.91	6.50	9.88	8.49	5.71	9.77	9.14	24.0	6.54	11.0	6.6		
Carbaryl	0.85 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.48	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbofuran	1.115 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.59	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chlorpyrifos	0.05 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	6.9	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Clothianidin	11 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates		ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Copper, Dissolved	10 ug/l		Water Quality Control Plan for the Central Coast Basin, Aquatic Life, 2011	0.13	ug/l	4.5	17	4.9	3.1	5.6	4.2	5.1	3.2	31	7.4	8.6	4.9		
Copper, Total				0.13	ug/l	9.1	29	12	4.7	12	10	13	12	46	11	12	8.3		
Coumaphos	0.037 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	5.1	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Cyfluthrin	12.5 ng/l		OPP Aquatic Life Benchmarks, acute invertebrates		ng/l	2.5	ND	14	28	ND	ND	ND	ND	ND	ND	3.5	ND		
Cypermethrin	210 ng/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.66	ng/l	2.8	15	4.5	ND	3.8	ND	ND	ND	ND	ND	ND	ND	ND	
Deltamethrin/Tralomethrin	0.055 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	1.9	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Demeton-o				10	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Demeton-s				10	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Desulfinylfipronil	100 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	2.0	ng/l	6.8	ND	110	36	9.2	13	ND	ND	ND	ND	3.1	8.1		
Diazinon	105 ng/l		OPP Aquatic Life Benchmarks, acute invertebrates	5.2	ng/l	10	ND	ND	ND	ND	ND	58	ND	ND	ND	ND	ND	ND	
Dichloran				0.80	ng/l	3.2	ND	2.0	ND	3.6	ND	ND	ND	ND	ND	ND	2		
Dichlorvos	0.035 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	2.9	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dimethoate	21.5 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	6.2	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dinotefuran	484150 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates		ug/l	ND	ND	ND	ND	ND	ND	0.85	ND	ND	ND	ND	ND	ND	
Disulfoton	1.95 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	10	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Diuron	80 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.060	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethoprop	22 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	6.7	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethyl parathion				5.4	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fenpropathrin (Danitol)	0.265 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	2.0	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fensulfothion				2.9	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fenthion				3.8	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fenvalerate/Esfenvalerate				0.98	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fipronil	110 ng/l		OPP Aquatic Life Benchmarks, acute invertebrates	2.0	ng/l	27	12	170	40	15	ND	ND	ND	ND	ND	3.1	12		
Fipronil sulfide				2.0	ng/l	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fipronil sulfone	360 ng/l		OPP Aquatic Life Benchmarks, acute invertebrates	2.0	ng/l	23	23	300	130	45	72	ND	ND	ND	ND	12	34		
Hardness as CaCO3, Total	>100 = hard, <100=soft	mg/l CaCO3	Water Quality Control Plan for the Central Coast Basin, 2011	0.0894	mg/l	14.9	31.2	22.8	37.3	28.6	20.4	36.6	32.8	76.2	20.5	34.1	22.8		
Imidacloprid	34.5 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates		ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iron, Dissolved	5000 ug/l		Water Quality Control Plan for the Central Coast Basin, Agricultural, 2011	0.91	ug/l	ND	23	ND	ND	42	33	96	49	84	30	ND	23		
Iron, Total				0.91	ug/l	380	1100	1200	470	1500	1300	2100	2300	2800	550	580	1200		
L-Cyhalothrin	3.5 ng/l		OPP Aquatic Life Benchmarks, acute invertebrates	1.2	ng/l	ND	38	ND	ND	ND	ND	11	ND	140	ND	48	ND		
Lead, Dissolved	50 ug/l		Water Quality Control Plan for the Central Coast Basin, Municipal/Domestic, 2011	0.031	ug/l	ND	ND	ND	ND	ND	ND	0.21	ND	0.61	0.23	ND	ND		
Lead, Total				0.031	ug/l	0.92	2.1	1.7	0.8	2.0	2.2	5.2	5.7	8.5	2.4	0.55	0.78		
Linuron	60 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates		ug/l	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	ND	n/a	ND	n/a		
Magnesium, Total				0.0120	mg/l	0.657	1.57	1.60	3.06	1.81	1.5	2.97	2.44	3.97	1.02	1.62	1.54		
Malathion	0.1 ug/l		USEPA Aquatic Life Criteria, chronic freshwater	7.6	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	34	19	ND	ND		
Merphos				5.8	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methiocarb	3.5 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.57	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methomyl	2.5 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.30	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methyl parathion				6.3	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Mevinphos				4.2	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Naled	0.07 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	7.6	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nitrate as N				0.041	mg/l	0.15	0.72	0.42	0.75	0.13	0.34	2.8	3.1	1.2	0.44	0.18	0.26		
Nitrate as NO3	45 mg/l		Water Quality Control Plan for the Central Coast Basin, municipal supply, 2011		mg/l	0.6645	3.1896	1.8606	3.3225	0.5759	1.5062	12.404	13.733	5.316	1.9492	0.7974	1.1518		
Nitrite as N				10	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	160	ND	ND	ND		
Nitrite as NO2	10000 ug/l		Water Quality Control Plan for the Central Coast Basin, livestock watering, 2011		ug/l	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	526.4	n/a	n/a	n/a		
Nitrogen, Total	0.38 mg/l		USEPA Nutrient Criteria Rivers and Streams Ecoregion III, 2002	0.060	mg/l	1.2	3.4	25	1.3	0.93	1	3.8	3.9	5.3	1.3	0.70	1.3		

Analyte	Water Quality Standard	WQS Units	Source WQS	Detection Limit	Units	5 Jan 2016	11 Nov 2016	5 Jan 2016	9 Jan 2017	5 Jan 2016	26 Nov 2016	31 Jan 2016		17 Feb 2016	4 Jan 2017	5 Mar 2016	28 Oct 2016
						Goleta Commercial	Goleta Commercial	Carpinteria Residential	Carpinteria Residential	Buellton Industrial	Buellton Industrial	Carpinteria Urban Agriculture	Carpinteria Urban Ag	Goleta Industrial	Goleta Industrial	Solvang Residential	Solvang Residential
NO2+NO3 as N				10	ug/l	170	760	440	770	160	350	2900	3100	1400	480	200	260
o-Phosphate as P				0.0017	mg/l	0.16	0.24	0.18	0.15	0.13	0.15	0.91	0.84	0.20	0.23	0.17	0.38
o-Phosphate as P, dissolved				1.7	ug/l	160	240	180	150	130	150	870	840	ND	230	170	370
Oxamyl	90 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.48	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pendimethalin	140 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.50	ng/l	9.3	23	2.6	ND	2.6	ND	ND	ND	ND	ND	ND	3.3
Permethrin	10.6 ng/l		OPP Aquatic Life Benchmarks, acute invertebrates	5.0	ng/l	8.8	33	ND	ND	9.7	84	12	ND	ND	20	5.1	
Perylene-d12					ng/l	215	104	197	104	303	96	224	82	162	110	206	96
Phorate	0.3 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	3.0	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phosphorus as P, Total	0.02188 mg/l		USEPA Nutrient Criteria Rivers and Streams Ecoregion III, 2002	0.035	mg/l	0.19	0.45	0.24	0.18	0.21	0.24	1.1	0.98	0.66	0.3	0.24	0.48
Phosphorus, Dissolved				0.035	mg/l	0.15	0.25	0.17	0.15	0.13	0.082	0.93	1	0.26	0.24	0.15	0.61
Prallethrin	3.1 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.92	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propoxur (Baygon)	5.5 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.60	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ronnel (Fenchlorphos)				4.1	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Stirophos (Tetrachlorvinphos)	0.95 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	3.1	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sumithrin (Phenothrin)	2.2 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	2.4	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tefluthrin	0.035 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates	0.93	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thiacloprid	18.9 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates		ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thiamethoxam	17.5 ug/l		OPP Aquatic Life Benchmarks, acute invertebrates		ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN				0.050	mg/l	1.0	2.6	24	0.52	0.77	0.7	0.94	0.85	4.0	0.81	0.51	1.1
Tokuthion (Prothiofos)				7.8	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Suspended Solids					mg/l	19	58	46	14	36	51	100	52	73	20	42	36
Trichloronate				6.7	ng/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Triphenyl phosphate					ng/l	1010	129	620	93	742	100	709	137	1010	95	893	98
Triphenyl phosphate					ng/l	671	305	326	145	542	149	334	94	919	129	348	145
Zinc, Dissolved	4 ug/l		Water Quality Control Plan for the Central Coast Basin, Aquatic Life, 2011	0.94	ug/l	61	160	13	7	29	51	32	66	150	74	10	11
Zinc, Total				0.94	ug/l	92	210	41	16	73	100	84	170	300	100	22	33

nitrate as NO3 values determined by multiplying Nitrate as N by factor of 4.43  
nitrate as NO2 values determined by multiplying Nitrite as N by factor of 3.29

**Program Effectiveness Assessment and Improvement Plan  
(PEAIP) Framework for Traditional MS4s**

F E B R U A R Y 2 0 1 6

C I T Y O F B U E L L T O N A N D C I T Y O F S O L V A N G

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# Program Effectiveness Assessment and Improvement Plan

*Prepared by*

MNS ENGINEERS, INC.

This *Program Effectiveness Assessment and Improvement Plan* uses the California Stormwater Quality Association (CASQA) guidance document, *A Strategic Approach to Planning for and Assessing the Effectiveness of Stormwater Programs* (February 2015), as its basis and is consistent with the approach described therein. Much of the text in this document is directly from the CASQA guidance document.

## Collaborative Project Partners

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The Program Effectiveness Assessment and Improvement Plan (PEAIP) were developed by the following agencies involved in this multi-agency PEAIP:

- City of Buellton
- City of Solvang

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# 1. Introduction

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The Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit<sup>1</sup> (Phase II Permit) requires the development and implementation of a *Program Effectiveness Assessment and Improvement Plan* (PEAIP). The PEAIP must address each of the elements outlined in Provision E.14 (traditional small MS4s). The PEAIP must include the strategy that the City of Buellton (COB) and City of Solvang (COS) will use to track the short- and long-term effectiveness of the stormwater program, the specific measures that will be used to assess the effectiveness of the prioritized best management practices (BMPs), groups of BMPs, and/or the stormwater program as a whole, and a description of how the COB and COS will use the information obtained through the PEAIP to improve the stormwater program.

The COB and COS's stormwater program addresses many pollutants of concern (POCs) and implements a wide range of BMPs; however, consistent with Provision E.14 requirements, the PEAIP will present a plan for assessing the effectiveness of a subset of prioritized BMPs that are focused on high- and medium-priority POCs. This approach provides a manageable assessment program that can be improved, targeted, and refined.

The COB and COS has developed this PEAIP as a guide for its stormwater staff to assist them in conducting program effectiveness assessments (EAs). The PEAIP is modeled after the methodology described within the California Stormwater Quality Association (CASQA) document, *A Strategic Approach to Planning for and Assessing the Effectiveness of Stormwater Programs* (February 2015).<sup>2</sup> The PEAIP outlines the approach that the COB and COS will use to adaptively manage its stormwater program to improve its effectiveness at reducing the identified high- and medium-priority POCs, thereby achieving the maximum extent practicable (MEP) standard and protecting water quality.

The PEAIP is focused on the *impact* that the stormwater program is having rather than the strict *implementation* of the program. By focusing the EA in this manner, the COB and COS will increase their ability to understand if its stormwater program is achieving the intended outcomes and can identify necessary modifications to the program to make it more effective.

This PEAIP addresses the requirements in Provision E.14, as summarized in **Table 1**.

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<sup>1</sup> Order No. 2013-0001-DWQ, effective July 1, 2013

<sup>2</sup> Language from the 2015 CASQA Guidance Document is used as the basis for much of the PEAIP.

**Table 1. Phase II Permit PEAIIP Provisions and Corresponding PEAIIP Sections (Traditional MS4s)**

Phase II Permit Provision(s)	PEAIIP Section
E.14.a.(i-iii)	1. Introduction
E.14.a.(i) E.14.a.(ii)(b)(5)	2.1. Identification of Sources and Impacts 2.1.2. Urban Runoff and MS4 Contributions <sup>3</sup>
E.14.a.(i) E.14.a.(ii)(b)(1)	2.3. Identification of the Stormwater Program Activities
E.14.a.(i) E.14.b.(i) and (ii)	5. Program Reporting and Modifications
E.14.a.(ii)(a)(1)	1.1. Stormwater Program Goals and Objectives
E.14.a.(ii)(a)(2-9)	2. Program Effectiveness Assessment Approach and Development
E.14.a.(ii)(b)(2)	2.2. Identification of the Key Target Audiences 2.2.2. Barriers and Bridges to Action <sup>4</sup>
E.14.a.(ii)(b)(3)	2.2. Identification of the Key Target Audiences 2.2.1. Target Audience Actions <sup>5</sup>
E.14.a.(ii)(b)(4)	2.1. Identification of Sources and Impacts 2.1.3. Source Contributions <sup>6</sup>
E.14.a.(ii)(b)(6)	2.1. Identification of Sources and Impacts 2.1.1. Receiving Water Conditions
E.14.a.(ii)(c-d)	4. Data Assessment and Collection
E.14.a.(ii)(e-f)	3. Management Questions

The schedule for the implementation of the PEAIIP is as follows:

- Year 2 Annual Report (October 15, 2015): Submit the PEAIIP
- Year 3 and Year 4 Annual Reports (October 15, 2016 and October 15, 2017): Describe the implementation of the PEAIIP, summarize the data obtained, and provide an analysis of the data (i.e., the EA)
- Year 5 Annual Report (October 15, 2018): Describe the implementation of the PEAIIP, summarize the data obtained, provide an analysis of the data (i.e., the EA), and describe any program modifications identified

<sup>3</sup> Provision E.14.a.(ii)(b)(5) uses the term “MS4 Discharge Quality” for Outcome Level 5; however, the 2015 CASQA Guidance Document and this PEAIIP use the term “Urban Runoff and MS4 Contributions” for Outcome Level 5 to reflect the new approach that has been developed.

<sup>4</sup> Provision E.14.a.(ii)(b)(2) uses the term “Awareness” for Outcome Level 2; however, the 2015 CASQA Guidance Document and this PEAIIP use the term “Barriers and Bridges to Action” for Outcome Level 2 to reflect the new approach that has been developed.

<sup>5</sup> Provision E.14.a.(ii)(b)(3) uses the term “Behavior” for Outcome Level 3; however, the 2015 CASQA Guidance Document and this PEAIIP use the term “Target Audience Actions” for Outcome Level 3 to reflect the new approach that has been developed.

<sup>6</sup> Provision E.14.a.(ii)(b)(4) uses the term “Pollutant Load Reductions” for Outcome Level 4; however, the 2015 CASQA Guidance Document and this PEAIIP use the term “Source Contributions” for Outcome Level 4 to reflect the new approach that has been developed.

## 1.1. STORMWATER PROGRAM GOALS AND OBJECTIVES

Stormwater programs are inherently complex due to a number of factors such as: the number of pollutant sources (construction, industrial, commercial, residential, new development, etc.), the limited ability to directly control the behaviors of target audiences, the extensive geographic coverage of the programs, the number of constituents that must be addressed, the co-mingling of flows within the drainage system, and the potential impacts to water quality from other sources (wind-blown materials, groundwater seepage, aerial deposition, etc.).

The overall goals of the COB and COS's stormwater management program are to a) reduce the potential impact(s) of pollution from urban areas on waters of the State and waters of the United States (U.S.) and protect their beneficial uses; and b) develop and implement an effective stormwater program that is well-understood and broadly supported by stakeholders.

The core objectives of the stormwater program are to:

1. Identify and make a reasonable effort to control those pollutants in urban runoff that exceed water quality objectives (WQOs), as measured in the waters of the State and waters of the U.S., and protect the beneficial uses of the receiving waters;
2. Comply with the federal and State regulations to eliminate or control, to the MEP, the discharge of pollutants associated with urban runoff from the COB and COS's stormwater drainage system;
3. Develop a cost-effective program which focuses on the prevention of pollution in urban stormwater;
4. Seek cost-effective alternative solutions where prevention is not a practical solution for exceedances of WQOs; and
5. Coordinate the implementation of control measures with other agencies.

The PEAIIP supports these stormwater program goals and objectives by providing a framework for the implementation and assessment of prioritized BMPs focused on the high- and medium-priority POCs, as well as a feedback loop for the adaptive management of the COB and COS's stormwater program. When considered as part of a larger program planning process, assessment principles and approaches can help to guide managers toward implementation strategies with the greatest opportunity for long-term success.

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## 2. Program Effectiveness Assessment Approach and Development

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This PEAIIP was developed to implement a focused evaluation of priority program elements and BMPs, ensuring that they are well-targeted and determining whether intended results are being achieved.

Stormwater program management<sup>7</sup> can be described by a cycle divided into three phases of activity (**Figure 1**):

- **Program Planning and Modification** – In this phase, the COB and COS is identifying the critical components and POCs for its stormwater program, as well as developing an EA approach and associated management questions to assist in determining if the program is achieving the intended results.
- **Program Implementation** – In this phase, the COB and COS is implementing the program and obtaining the assessment data needed to answer the management questions.
- **Effectiveness Assessment** – In this phase, the COB and COS is conducting EAs, reviewing the results, and determining if any program modifications are necessary. This is typically conducted as a part of the Annual Reports and/or Report of Waste Discharge, but may also be a part of other regulatory requirements such as 303(d) Monitoring or Total Maximum Daily Loads (TMDLs) when proposed or established. Once identified, the COB and COS can make the program modifications and initiate the next round of implementation, leading again to renewed assessment and planning (see **Section 5**).



**Figure 1. The Program Management Cycle (CASQA, 2015)**

This process is applied repeatedly over time in order to focus the stormwater program in on the most effective BMPs and the achievement of the desired results.

The CASQA EA approach<sup>8</sup> utilizes a general model that aggregates three primary components from the six outcome levels and associated, general outcome types (**Figure 2**). The three primary components are:

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<sup>7</sup> See 2015 CASQA Guidance Document, Section 3.0: Introduction to Strategic Planning for Stormwater Management Programs

<sup>8</sup> See 2015 CASQA Guidance Document, Section 2.0: Stormwater Management Approach

- Sources and Impacts (Outcome Levels 4-6) – This component addresses the generation, transport, and fate of urban runoff pollutants. It includes sources (sites, facilities, areas, etc.), stormwater conveyance systems, and the water bodies that ultimately receive the source discharges (receiving waters). This component is typically assessed on a long-term basis.
- Target Audiences (Outcome Levels 2-3) – This component focuses on understanding the behaviors of the people responsible for source contributions. It explores the factors that determine existing behavioral patterns and looks for ways to replace polluting behaviors with non-polluting behaviors. This component is typically assessed on a short- and/or long-term basis.
- Stormwater Programs (Outcome Level 1) – Stormwater programs are the road map for the improvements that managers wish to attain in receiving waters. Their immediate purpose is to describe programs that will facilitate changes in the behaviors of key target audiences. This component is typically assessed on a short-term basis.

The six categories of outcome levels establish a logical and consistent organizational scheme for assessing and relating individual outcomes.

This PEAIIP will focus primarily on the Target Audiences (Outcome Levels 2 and 3) and the Sources and Impacts (Outcome Level 4 and 5) and will provide a plan to collect data that can be used to improve the stormwater program and protect water quality. Assessment at Outcome Level 6 may be undertaken once program implementation has progressed to a point that improvements in outfall and receiving water quality are statistically significant. The timeframe for this level of change to be realized will vary based on a variety of factors.

The approach to be used for each of the outcome levels is described in more detail within this section.

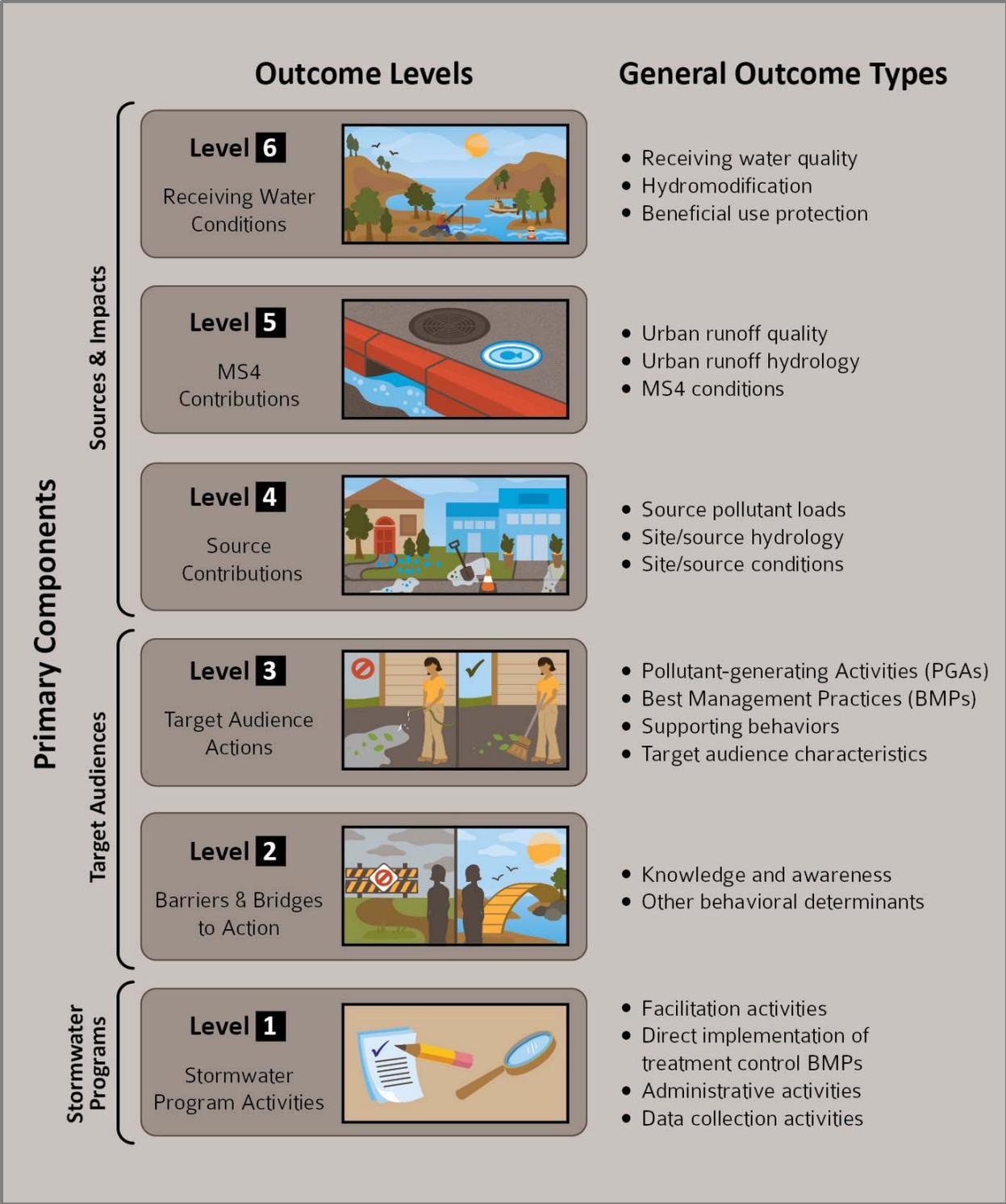


Figure 2. General Stormwater Management Model (CASQA, 2015)

## 2.1. IDENTIFICATION OF SOURCES AND IMPACTS<sup>9</sup>

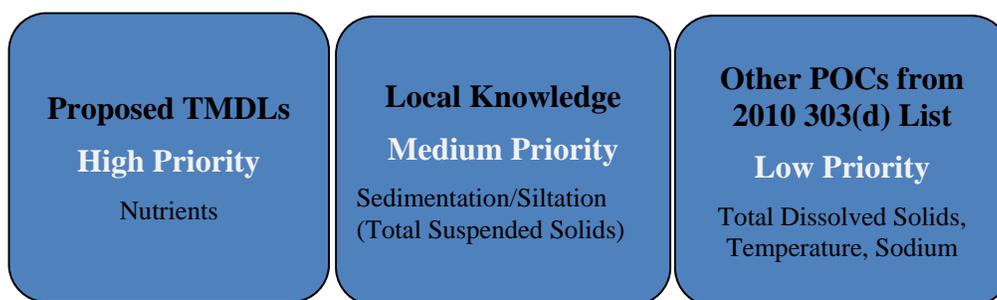
### 2.1.1. Receiving Water Conditions (Outcome Level 6)<sup>10</sup>

One of the primary objectives of the stormwater program is the protection of the beneficial uses of the receiving waters. The Phase II Permit recognizes that there is a need to conduct the EA based on prioritized POCs. The number of POCs ultimately selected may be determined by established TMDLs, other known pollutants present in 303(d) listed waterbodies and/or regional issues identified by COB and COS.

This PEaip will focus on high- and medium POCs (see **Section 2.1.2**) and will, over time and to the extent feasible, assess protection of the beneficial uses of the receiving waters through attainment of the water quality objectives (WQO's).

Although Outcome Level 6 assessments (i.e. instream monitoring of receiving water conditions) may occur in future as a part of this effort or as part of a regional effort, COB and COS used current receiving water conditions to focus this PEaip, and in the selection of key metrics to assess the effectiveness of the stormwater program.

In order to identify the POCs for the PEaip, the COB and COS reviewed the a) proposed TMDLs by the Central Coast Regional Water Quality Control Board, b) 2010 303(d) List of Impaired Waterbodies, c) Central Coast Regional Water Quality Control Board (CCRWQCB) April 24<sup>th</sup>, 2014 Consultation Handout "Solvang – Buellton Urban Water Quality Profile", d) Central Coast Ambient Monitoring Program's (CCAMP) Ambient Water Quality Data, e) COB and COS Storm Water Management Plan's (SWMP) Guidance Document's List of POCs, and f) proposed regional Urban Storm Water Monitoring Plan. Best professional judgment, knowledge of local and/or regional water quality issues and common urban pollutants were also factors in the identification of POCs and summarized in Attachment B. The category of receiving water impairment that was identified and considered to be for prioritization is in **Appendix B** and summarized and ranked below in **Figure 3**.



**Figure 3. Prioritized POCs for the PEaip**

<sup>9</sup> See 2015 CASQA Guidance Document, Section 4.0: Source and Impact Strategies

<sup>10</sup> See 2015 CASQA Guidance Document, Section 4.2 Outcome Level 6: Receiving Water Conditions.

The highest priority POC was selected because of the proposed TMDL under development by the Central Coast Regional Water Quality Control Board and in consideration of known steelhead habitat sensitivity. Medium-priority POCs continue to be addressed through implementation of the stormwater management program / Guidance Document. Low-priority POCs are also addressed through the stormwater management program, although urban runoff contributions are considered minor, and will not be addressed in this PEAIP.

**2.1.2. Urban Runoff and MS4 Contributions (Outcome Level 5)<sup>11</sup>**

Level 5 Outcomes may be measured either within the MS4 or within discharges from the MS4. In either case, evaluation typically focuses on pollutant concentrations or loads, or both. Level 5 Outcomes provide a direct linkage between upstream sources and receiving waters and, as such, are a critical expression of stormwater program success. However, due to the temporal and spatial variability of water quality data, it is extremely challenging and takes many years and a significant amount of data to establish linkages between pollutants in MS4 discharges and the conditions within the receiving waters.

The COB and COS used known urban runoff and MS4 contributions were used to focus the PEAIP and select the key metrics that will be used to assess the effectiveness of the stormwater programs. The COB and COS will focus its evaluation of Outcome Level 5 on the high- and medium-priority POCs and by doing so will help direct the COB and COS’s efforts and provide the basis for the management questions outlined in **Section 3**.

Since TMDLs will have a significant influence on the stormwater program, nutrients are considered to be a high-priority for this PEAIP.

As shown in Figure 3 above, the COB and COS recognizes other pollutants based on 303(d) listed water bodies where urban runoff has been listed as the source of the pollutant (Table 2). Other sources and factors contribute to these impairments. The 303(d) list does not attribute magnitude to any urban runoff.

**Table 2. PERMITTEE-Listed Water Bodies**

Watershed	Water Body <sup>1</sup>	Pollutant	Source Category
Santa Ynez (314)	Santa Ynez River	Sedimentation/Siltation	Agriculture Resource Extraction Urban Runoff / Storm Sewers
Santa Ynez (314)	Santa Ynez River	Sodium	Agriculture Flow Regulation / Modification Grazing-Related Sources Natural Sources Other Urban Runoff

<sup>11</sup> See 2015 CASQA Guidance Document, Section 4.3 Outcome Level 5: MS4 Conditions

Santa Ynez (314)	Santa Ynez River	Temperature, water	Agriculture Disturbed Sites (Land Develop.) Flow Regulation / Modification Grazing-Related Sources Other Urban Runoff
Santa Ynez (314)	Santa Ynez River	Total Dissolved Solids	Agriculture Municipal Point Sources Natural Sources Other Urban Runoff

Note:

1. 2010 303(d) List

Although nutrients and sediment were selected as the high- and medium-priority POCs, the COB and COS recognize the value of considering other pollutants listed on the 303(d) list as well as common urban pollutants. The COB and COS will continue to assess the 303(d) list to understand which TMDLs may be developed in the future and plan for them as needed. Professional judgment and knowledge of local and regional water quality issues will continue to be factors in the identification of priority POCs. Due to the large size of the watershed compared to the urbanized portion and the very small proportion of urban contribution compared to background, agricultural, and runoff affected by water supply-related flow regulation, these pollutants are currently considered a low priority urban source.

In time, the COB and COS will be able to evaluate the effectiveness of its stormwater program at Outcome Levels 5 using our stormwater discharge monitoring results for the selected POCs. Depending upon data availability, Outcome Level 5 may allow the COB and COS to quantify the pollutant concentrations and/or load reductions achieved by the stormwater program. Given the time and data necessary to assess these Outcome Levels, the COB and COS will incorporate these results into long-term effectiveness assessments.

The POCs identified for the PEaip for specific COB and COS are summarized in **Table 3**.

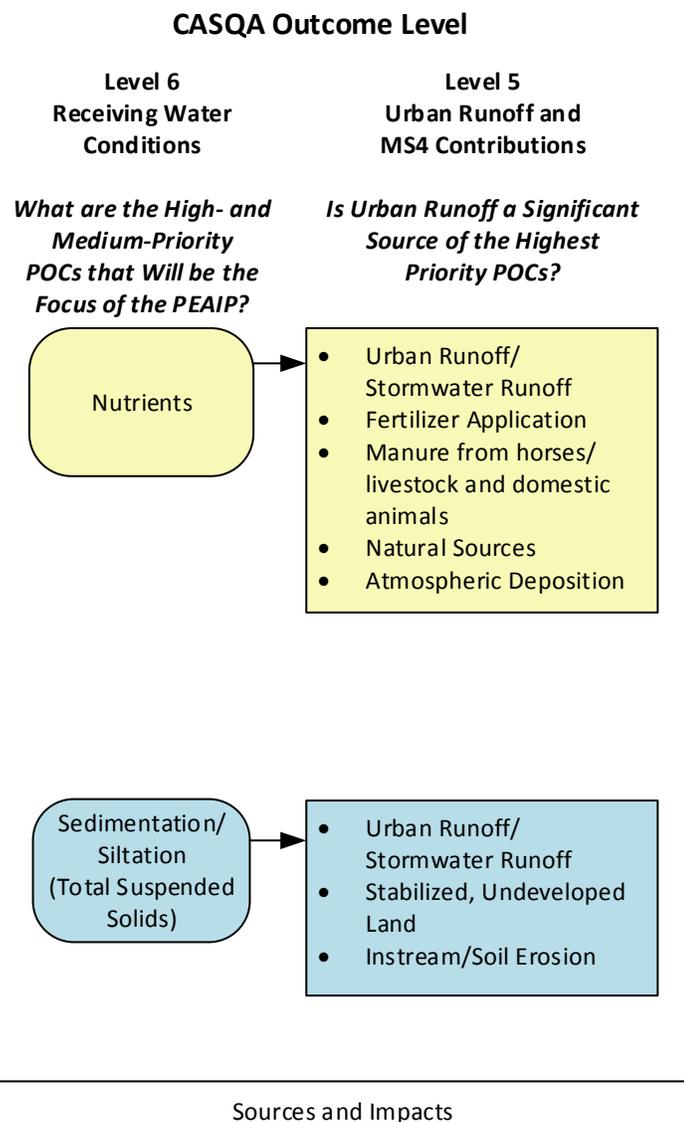
**Table 3. High- and Medium-Priority POCs<sup>1</sup>**

Permittee	PEaip Pollutants for Concern (POCs)	
	Nutrients	Sedimentation/Siltation (Total Suspended Solids)
COB	✓	✓
COS	✓	✓

Note:

1. This table is current as of June 17, 2015. It is dynamic and subject to change as new information is received.

The POC-specific shading shown in **Figure 4** is used throughout the remainder of the document to visually connect the various figures and tables.



**Figure 4. Sources of the High- and Medium-Priority POCs**

### 2.1.3. Source Contributions (Outcome Level 4)<sup>12</sup>

Outcome Level 4 addresses urban sources and the discharges from them. A source is anything with the potential to generate pollutants prior to their introduction to the MS4. Source loadings are the pollutant loadings added by the urban sources to an MS4. Source reductions are the changes in the amounts of pollutants associated with specific sources before and after BMPs are employed. However, it is challenging to measure source loadings and/or reductions achieved by individual and/or groups of BMPs. As a result, the COB and COS will need to rely on direct measurements (where possible) and/or estimates of source reductions.

The COB and COS will focus its evaluation of Outcome Level 4 on the high- and medium-priority POC. Doing so will help direct the COB and COS's efforts and provide the basis for the management questions outlined in **Section 3**.

As management questions are developed, the COB and COS will consider the implementation requirements of future TMDLs, as well as best professional judgment. In order to determine the specific target audiences and the appropriate prioritized BMPs, the COB and COS has evaluated the POCs as they relate to urban land use to identify the primary urban runoff sources of each POC, as shown in **Figure 5**. The COB and COS expects assessment at this Outcome Level to be included in long-term EAs through a 303(d) water quality monitoring program.

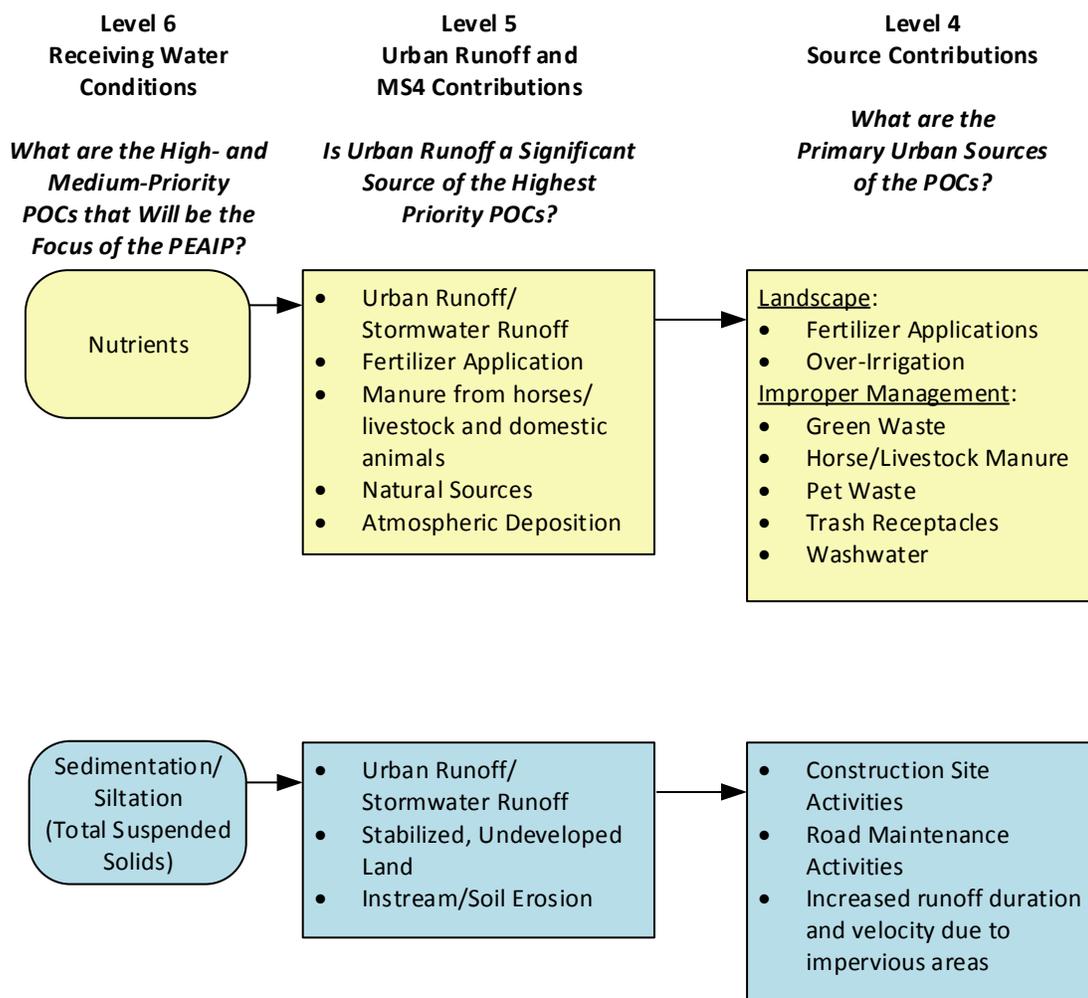
The 303(d) water quality monitoring program will be conducted at two locations in urban areas of the Santa Ynez River watershed: Buellton and Solvang. Data will be incorporated into a pollutant load model to estimate average annual baseline pollutant loads -- from the full watersheds, the jurisdictional MS4 areas, and the storm drain system subcatchments -- using a static average-annual land use based spreadsheet calculation.

The model is a static spreadsheet approach that can estimate pollutant load reductions anticipated from BMPs during wet weather loading. Pollutants that can be modeled are: indicator bacteria, nutrients (total nitrogen, total phosphorus, nitrate, total kjeldahl nitrogen, dissolved phosphorus), metals (total copper, total lead, total zinc), and/or TSS. (Refer to the Geosyntec Consultants Modeling Approach Memorandum "Program Effectiveness Assessment and Improvement Plan Approach to Quantify Pollutant Loads and Pollutant Load Reductions dated October 12, 2015 that was submitted through the Storm Water Multiple Application and Report Tracking System Database).

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<sup>12</sup> See 2015 CASQA Guidance Document, Section 4.4 Outcome Level 4: Source Contributions

### CASQA Outcome Level



**Figure 5. Primary Urban Sources of the High- and Medium-Priority POCs**

## 2.2. IDENTIFICATION OF THE KEY TARGET AUDIENCES (OUTCOME LEVELS 2 AND 3)<sup>13</sup>

This component focuses on the actions of target audiences and the factors that influence them. Target audiences are the individuals and populations that a stormwater program is directed to and may include, but are not limited to, municipal employees, contractors, and the general public. Because source reductions can only be achieved by the people responsible for pollutant loadings, a successful program will be one that is able to induce positive behavioral changes in the target audiences.

Although Outcome Levels 3 (Target Audience Actions) and 2 (Barriers and Bridges to Action) are closely related, they are distinct outcome levels.

- Outcome Level 3 focuses on the identification of target audiences associated with the primary sources of high- and medium priority POCs, as well as the behavioral patterns of these target audiences, with the goal of assessing *behavior change* over time.
- Outcome Level 2 focuses on identification of the factors that influence target audience behaviors, with the goal of using these factors to develop strategies to increase target audience *awareness* of the need to reduce pollutant-generating activities (PGAs) and implement prioritized BMPs. Level 2 Outcomes are often used to gauge progress in, or to refine approaches for, achieving Level 3 Outcomes (see **Section 2.2.2**).

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<sup>13</sup> See 2015 CASQA Guidance Document, Section 5.0: Target Audience Strategies

### 2.2.1. Target Audience Actions (Outcome Level 3)<sup>14</sup>

Level 3 Outcomes address the actions of target audiences and whether or not changes are occurring within these target audiences over time. The major categories of target audience actions are:

- PGAs – behaviors that contribute pollutants to urban runoff (e.g., pressure washing without containment, improper pet waste disposal, spills during materials loading and unloading)
- BMPs – activities or other controls that are implemented to reduce or eliminate discharges of pollutants (e.g., integrated pest management (IPM) practices, implementation of secondary containment)
- Supporting behaviors – include a wide range of potential actions that are distinct from BMP implementation but help support the implementation (e.g., pollution incident reporting, public involvement)

The COB and COS will focus its evaluation of Outcome Level 3 on the actions of target audiences for the high- and medium-priority POCs. The COB and COS has identified the critical target audience(s) for the specific urban runoff source(s) of each high- and medium-priority POC (**Figure 6**), along with management questions that delineate the critical target audience actions (**Section 3**).

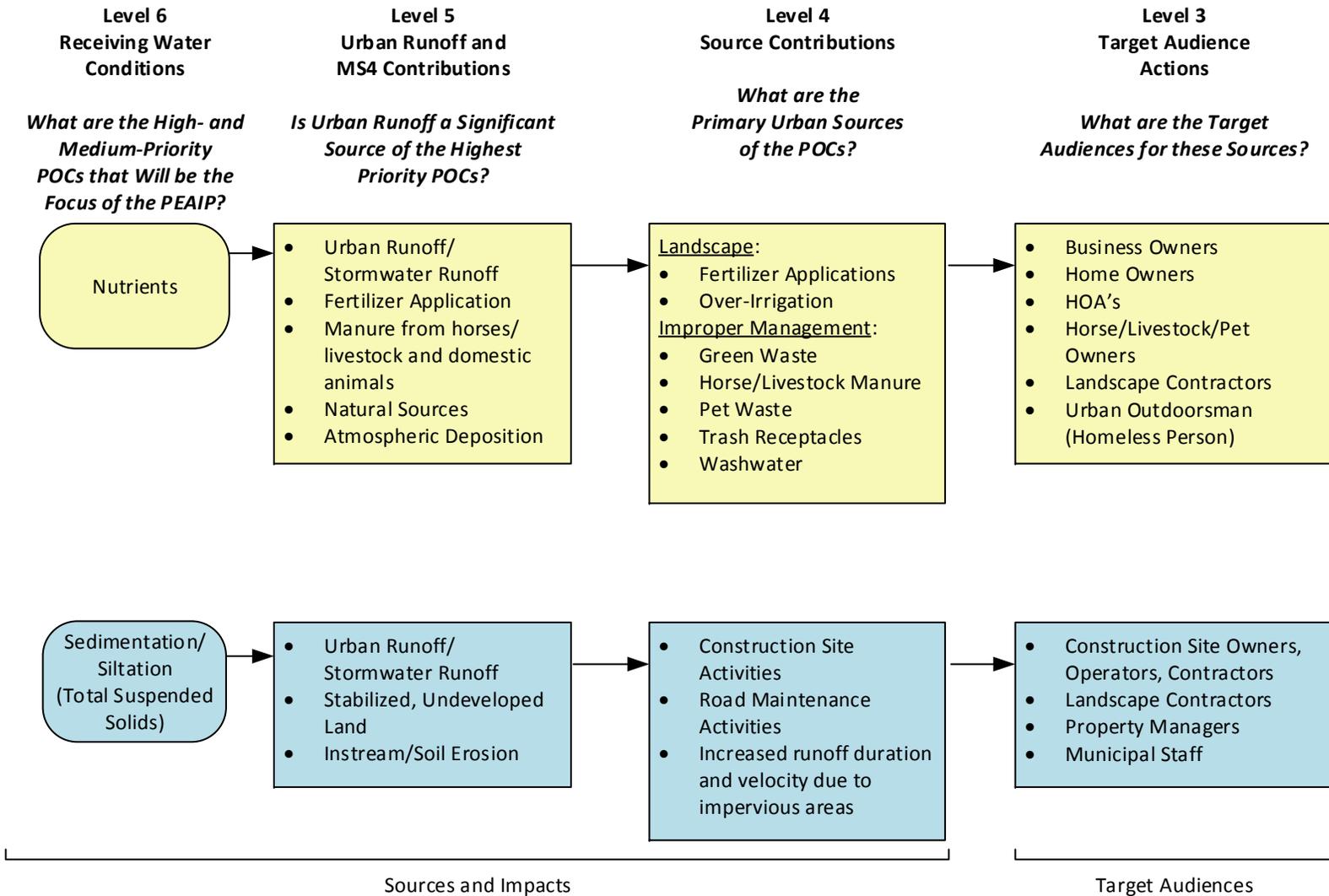
The COB and COS will evaluate the effectiveness of its stormwater program at Outcome Level 3 by using the management questions to guide its assessment of target audience implementation of BMPs and reduction of PGAs. It is expected that assessment at this outcome level will be included in the short- and long-term EAs.

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<sup>14</sup> See 2015 CASQA Guidance Document, Section 5.2 Outcome Level 3: Target Audience Actions

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### CASQA Outcome Level



**Figure 6. Target Audiences Identified for Urban Runoff Source Contributions of POCs**

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## 2.2.2. Barriers and Bridges to Action (Outcome Level 2)<sup>15</sup>

Outcome Level 2 is critical because it forms the basis for achieving desired behavioral changes and provides a means of gauging progress toward achievement. The term “barriers and bridges” refers to the fact that there are factors that may aid or inhibit a desired behavior and that these need to be understood in order to affect the desired change. The targeted audience won’t behave differently unless they understand the problem and are motivated and able to change.

Outcome Level 2 provides a means of gauging whether the prioritized activities (e.g., outreach, municipal staff training) are producing changes in the behavior of the target audiences through increased knowledge, awareness, and changes in attitudes. Examples of Outcome Level 2 range from awareness of basic concepts (e.g., why stormwater pollution is a problem; the difference between storm drains and the sanitary sewer) to specific knowledge (e.g., how to properly dispose of pet waste; how to properly install and maintain a silt fence).

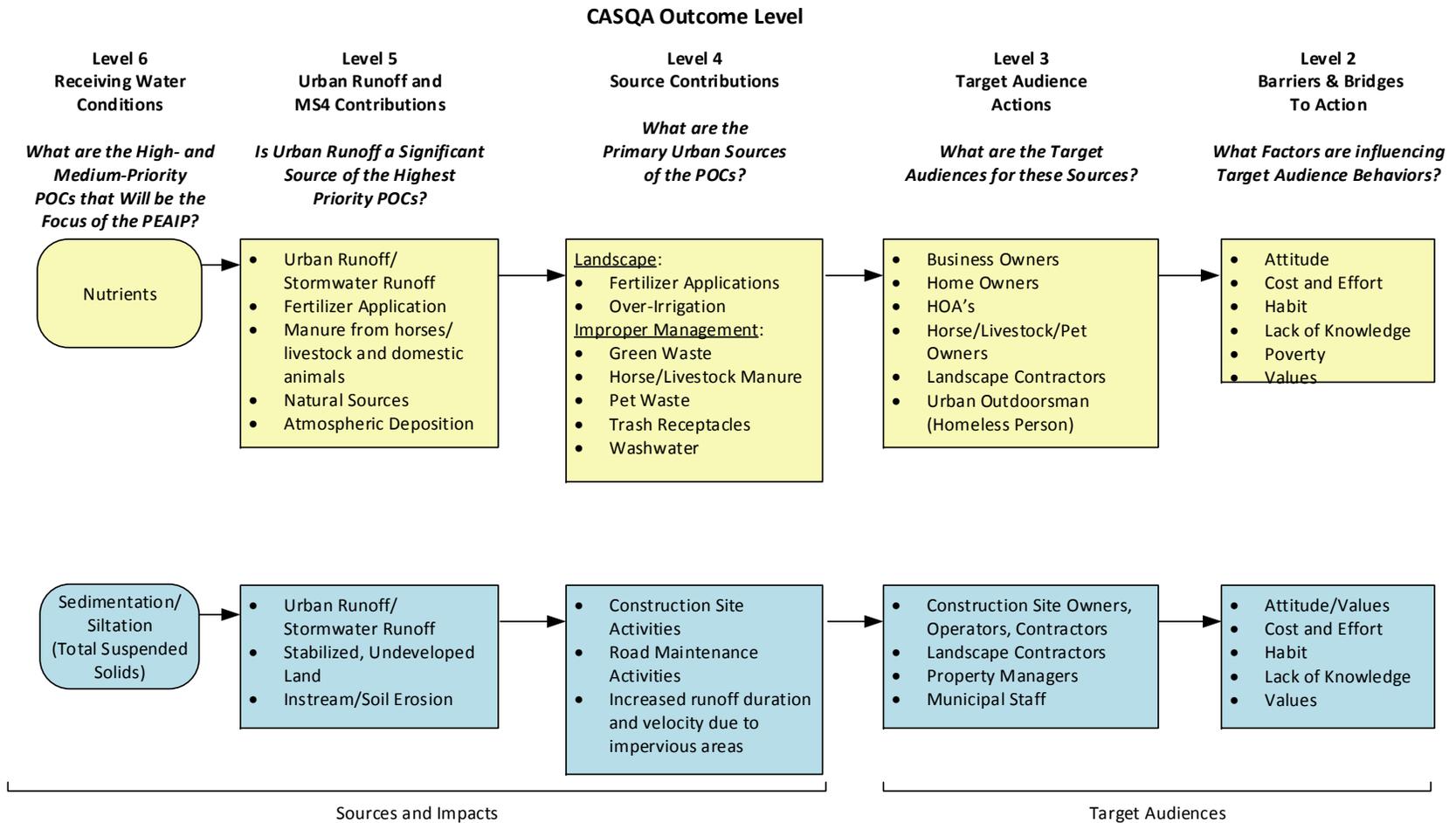
Outcome Level 2 provides a means to gauge progress in, or to refine approaches for, achieving Outcome Level 3. That is, an understanding of whether awareness, knowledge, and/or attitudes have changed will allow the identification of barriers and bridges that may be influencing the desired target audience behavior.

The COB and COS will work to identify barriers and bridges that may be influencing target audience behavior. The COB and COS will assess Outcome Level 2 on an as-needed basis as part of the adaptive management process (**Figure 7**). The COB and COS expects assessment at this Outcome Level to be included in short- and long-term EAs.

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<sup>15</sup> See 2015 CASQA Guidance Document, Section 5.3 Outcome Level 2: Barriers and Bridges to Action

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**Figure 7. Assessment of Barriers and Bridges to Action**

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### 2.3. IDENTIFICATION OF THE STORMWATER PROGRAM ACTIVITIES (OUTCOME LEVEL 1)<sup>16</sup>

Level 1 Outcomes focus on the various activities that are conducted within a program. Examples of these activities include providing education to residents, inspecting businesses, conducting surveys of target audiences, and conducting monitoring. Outcome Level 1 only measures the *implementation* of the stormwater program, rather than the *impact* of the program is having. The EAs will focus on the impact of the stormwater program by assessing Outcome Levels 2 through 5 as they relate to the high- and medium-priority POCs.

Based on the identification of the high- and medium-priority POCs and their potential sources, target audiences, and key implementation activities (prioritized BMPs), the COB and COS has identified the Program Elements for which the implementation of prioritized BMPs will be assessed (**Table 4**).

The COB and COs used this as the basis for both the management questions (see **Section 3**) and the identification of prioritized BMPs, or key implementation activities, for specific target audiences.

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<sup>16</sup> See 2015 CASQA Guidance Document, Section 6.0 Program Implementation Strategies and Section 6.2 Step 1-A: Program Implementation Activities

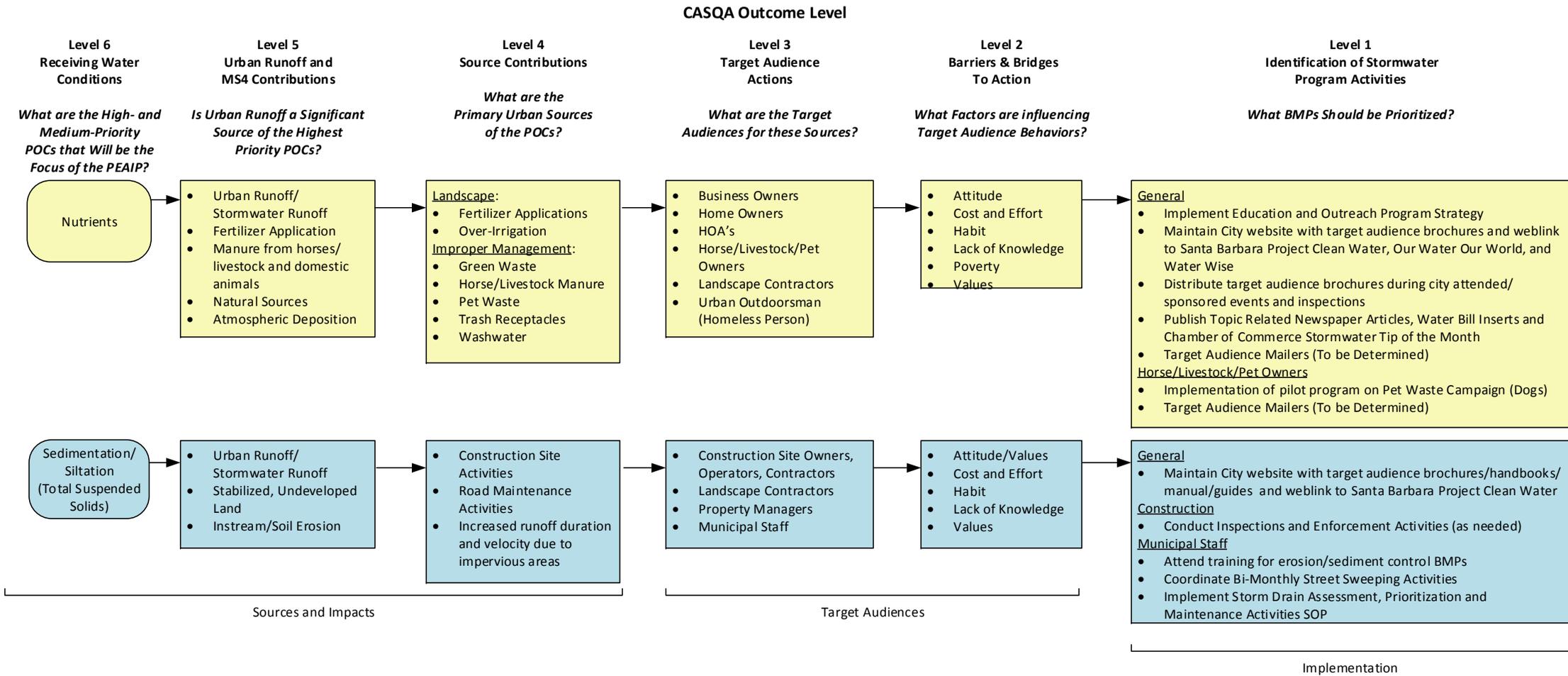
**Table 4. Program Elements for Which Prioritized BMPs Will Be Assessed through the Identified Management Questions**

Program Element	Phase II Permit Provision(s)	Pollutants of Concern (POCs)	
		Nutrients	Sedimentation/Siltation (Total Suspended Solids)
Education and Outreach	E.7	✓	✓
Public Involvement and Participation	E.8	✓	--
Illicit Discharge Detection and Elimination (IDDE)	E.9	✓	✓
Construction Site Stormwater Runoff Control	E.10	--	✓
Pollution Prevention/Good Housekeeping	E.11	✓	✓
Post Construction Stormwater Management	E.12	--	✓
Water Quality Monitoring	E.13	✓	✓

For each high- and medium-priority POC, a summary of prioritized BMPs for the identified target audiences is provided in

**Figure 8.** More detail is provided within the management questions (**Section 3**), as well as the data assessment and collection table(s) within **Section 4**.

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**Figure 8. Prioritized BMPs Identified for Target Audiences**

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### 3. Management Questions<sup>17</sup>

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In order to focus the EAs, the COB and COS has identified management questions for the prioritized BMPs that may be implemented to address the high- and medium-priority POCs.

The assessment data and information collected by the COB and COS (**Section 4**) are focused on Outcome Levels 2 through 5 and will be used to answer programmatic-based management questions related to the prioritized BMPs.

Pursuant to Provision E.14(a)(ii)(e-f), the types of questions that were considered for this PEAIIP include the following:<sup>18</sup>

- 
- To what extent did implementation of the BMPs, group of BMPs, or stormwater program enhance or change the urban runoff and discharge quality?<sup>19</sup> [OL5]
- To what extent did prioritized BMPs or group of BMPs reduce pollutant loads from their sources to the storm drain system?<sup>20</sup> [OL4]
- To what extent did prioritized BMPs or group of BMPs change the target audience's behavior?<sup>21</sup> [OL3]
- What barriers or bridges are influencing or could influence the target audience's ability or desire to implement the prioritized BMPs or group of BMPs? [OL2]

**Section 4** summarizes the management questions and CASQA Outcome Level(s) addressed.

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<sup>17</sup> See 2015 CASQA Guidance Document, Section 7.3 Assessment Objectives, Attachment B: Sources and Activities Profile Sheets, and Attachment C: Pollutant Profile Sheets

<sup>18</sup> The PEAIIP is focused on the *impact* that the stormwater program is having rather than the strict *implementation* of the program. Thus, the question listed in Provision E.14.a.(ii)(e)(1) regarding implementation of the Permit requirements is not included in the PEAIIP.

<sup>19</sup> E.14.a.(ii)(f)(1)

<sup>20</sup> E.14.a.(ii)(e)(3)

<sup>21</sup> E.14.a.(ii)(e)(2)

## 4. Data Assessment and Collection

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### 4.1. DATA ASSESSMENT METHODS<sup>22</sup>

During the EA process, the data collected will be assessed and/or analyzed using a variety of methods, such as:

- **Qualitative assessment** includes confirmation that an activity (e.g., construction site inspections) was conducted and/or that a specific task (e.g., completion of a pet waste brochure) was completed, as well as narrative assessment.
- **Descriptive statistics** are numbers that are used to summarize and describe data. Several descriptive statistics are often used at one time, to give a full picture of the data. Examples of descriptive statistics are counts (includes quantification and tabulation), averages, variance, etc. Other information includes: direct quantitative measurements of pollutant load removal, estimates of pollutant load removal for BMPs where direct measurement of pollutant removal is overly challenging, and direct quantitative measurement of behaviors that serve as proxies of pollutant removal or reduction.
- **Comparisons to established reference points** involve comparing collected data to established targets (targeted outcomes, discharge prohibitions, WQOs, required activity levels, etc.) or other reference points (other programs, previous results, baseline values, visual comparison using photographs over time, etc.).
- **Temporal change** is change over time. This includes variability, trends, and changes due to program implementation (e.g., simple change [absolute or %] or statistical trends).
- **Spatial analysis** allows comparisons between watersheds or other geographic areas. Impacts of runoff and/or control measures can be evaluated based on characteristics of the geographic regions (differences in land use, geology and geomorphology, hydromorphology, etc.).

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<sup>22</sup> See 2015 CASQA Guidance Document, 6.3 Step 1-B Data Collection and Analysis Activities and 7.5 Data Analysis

## 4.2. DATA COLLECTION METHODS<sup>23</sup>

The assessment data will be collected through various means such as:

- **Internal Tracking by Stormwater Program** of internal program data only (e.g., inspection data, public outreach and education efforts)
- **Reporting to Stormwater Program** by third parties only (e.g., BMP maintenance certifications, industrial facility monitoring data)<sup>24</sup>
- **Site Investigations/Inspections** conducted by stormwater programs to directly observe or assess a practice (e.g., inspections, site visits, complaint investigations)
- **Interviews** conducted by stormwater programs to discern awareness and behavior (e.g., of third parties or stormwater program staff, municipal staff, public focus groups)
- **Surveying** by stormwater programs of third parties or stormwater program staff to discern knowledge, attitudes, awareness, behavior of a target audience (e.g., pre-/post-training surveys, public outreach surveys)
- **Monitoring and Sampling** data obtained directly by stormwater programs or contractors (e.g., receiving water or MS4 sampling, industrial facility visual observations during inspections)
- **Review of External Data Sources** by stormwater program staff (e.g., of data or information obtained via literature, the Regional Water Board, other regulatory programs, online databases, third parties)
- **Special Investigations** can encompass any of the categories above, but normally involve a more intensive one-time focus.

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<sup>23</sup> See 2015 CASQA Guidance Document, 6.3 Step 1-B Data Collection and Analysis Activities, 7.4 Data Collection, Attachment B: Sources and Activities Profile Sheets, and Attachment C: Pollutant Profile Sheets

<sup>24</sup> The Phase II Permit requires Permittees to identify assessment methods for privately owned BMPs. At this time, the PERMITTEE does not anticipate that these types of BMPs (e.g., structural, treatment control) will need to be evaluated for the high priority POCs that have been identified.

### 4.3. DATA REQUIREMENTS FOR SELECTED METRICS AND OUTCOME LEVELS

In the table(s) below, the POC-specific management questions representing focused program activities and/or prioritized BMPs are presented by Program Element, along with the assessment methods that will be used during the EA process and the associated assessment data that should be collected for evaluation (**Table 5**). The CASQA outcome levels that may be supported by the EA results are also indicated. Where applicable, the units for the required data are specified.

Although **Table 5** identifies the management questions, data assessment methods, and data collection methods that will initially be used for the EAs, future PEAIIPs may modify and/or incorporate other management questions or data assessment/collection methods based on the information gained from the implementation of the PEAIIP. Any modifications to the PEAIIP will be identified as a part of the Annual Reports.

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**Table 5. Nutrients Questions, Data Assessment Methods, and Data Collection Methods, by Program Element**

Management Questions	Data Assessment Methods	Data Collection Methods
<b>Education and Outreach [Outcome Level 2-3]</b>		
<ul style="list-style-type: none"> <li>• Has the City developed education and outreach materials with information regarding proper use and disposal of fertilizers?</li> <li>• Are education and outreach materials available at City designated facilities, City sponsored events or on the City website?</li> <li>• Does the City have a targeted pet waste/livestock educational program?</li> <li>• Does the County support education for landscape contractors to reduce fertilizer?</li> <li>• Are education and outreach materials provided during Fats, Oil and Grease (FOG) and/or Industrial Wastewater Discharge (IWD) Inspections?</li> </ul>	<p>Descriptive Statistics</p> <ul style="list-style-type: none"> <li>• Number of education and outreach events participated in and estimated of number of education and outreach materials distributed at City designated facilities, City's sponsored event's Stormwater Display Booth or thru City website</li> <li>• Number of education and outreach materials provided during FOG and/or IWD Inspections</li> <li>• Number of target audience mailers to landscape contractors, residents along the river/creek with livestock; and/or homebrew beer, wine and distillery waste etc.</li> </ul>	<p>Internal Tracking by Stormwater Program</p> <ul style="list-style-type: none"> <li>• Brochure Distribution at City designated facilities, City sponsored events or thru City website</li> <li>• City SWMP File Views/Hits (English and/or Spanish)</li> <li>• Number of Visitors to the City's sponsored event's Stormwater Display Booth</li> <li>• Number of target audience mailers to residents along the river/creek with livestock; landscape contractors; homebrew beer, wine and distillery waste</li> </ul> <p>Review of External Data Sources</p> <ul style="list-style-type: none"> <li>• Brochure Distribution during FOG and/or IWD Program Inspection</li> </ul>
<b>Public Involvement and Participation [Outcome Level 2-3]</b>		
<ul style="list-style-type: none"> <li>• Has the City developed opportunities for citizen participation at City's sponsored event's Stormwater Display Booth?</li> <li>• Has the City developed opportunities for citizen participation on-line thru the City's Stormwater Webpage or Survey Monkey?</li> </ul>	<p>Qualitative Assessment</p> <ul style="list-style-type: none"> <li>• Confirmation of Stormwater Pollution Prevention Interested Parties Sign-Up List at City's sponsored event's Stormwater Display Booth</li> </ul> <p>Descriptive Statistics</p> <ul style="list-style-type: none"> <li>• Number of Visitors and Stormwater Quiz's Completed via City's sponsored event's Stormwater Display Booth</li> <li>• Number of on-line Storm Water Management Program Survey's completed and interested parties sign-up inquiry via the City's Stormwater Webpage or Survey Monkey</li> </ul>	<p>Interviews/Surveys</p> <p>Internal Tracking by Stormwater Program</p> <ul style="list-style-type: none"> <li>• Number of Visitors and Stormwater Quiz's Completed via City's sponsored event's Stormwater Display Booth</li> <li>• Number of Stormwater Survey's Completed and Interested Parties Sign-up Inquiry via City Stormwater Website or Survey Monkey</li> </ul> <p>Review of External Data Sources</p> <ul style="list-style-type: none"> <li>• Number of Stormwater Survey's Completed and Interested Parties Sign-up Inquiry via or Survey Monkey</li> </ul>

Management Questions	Data Assessment Methods	Data Collection Methods
<b>Illicit Discharge Detection and Elimination [Outcome Level 4]</b>		
<ul style="list-style-type: none"> <li>• Has the City developed IDDE procedures?</li> <li>• Are FOG and IWD Program participants operating in a manner that prevents nutrients from leaving the site?</li> <li>• Are green waste and pet waste collection programs in place?</li> <li>• Does City have legal authority to address non-storm water discharges?</li> </ul>	<p>Qualitative Assessment</p> <ul style="list-style-type: none"> <li>• Confirmation of local waste hauler (green waste) and Christmas Treecycle Program</li> <li>• Confirmation of City Mutt Mitt Stations Bi-weekly Maintenance Program</li> <li>• Confirmation of on-going City Staff IDDE Training</li> <li>• Confirmation of establish City Municipal Code and Certification of Legal Authority</li> </ul> <p>Descriptive Statistics</p> <ul style="list-style-type: none"> <li>• Number of IDDE Investigations and/or Inspections and follow-up at facilities with deficiencies</li> <li>• Number of FOG and/or IWD Inspection Reports and/or Violations</li> </ul>	<p>Internal Tracking by Stormwater Program</p> <ul style="list-style-type: none"> <li>• Stormwater Incident Report Form</li> <li>• Mutt Mitt Station Bi-weekly Maintenance Site Investigations/Inspections</li> <li>• City IDDE Site Investigations and/or Inspections with direct observation of an IDDE</li> </ul> <p>Review of External Data Sources</p> <ul style="list-style-type: none"> <li>• FOG and/or IWD Inspection Reports and/or Violations</li> <li>• Local Hauler Green Waste Website/Mailers</li> </ul>
<b>Pollution Prevention and Good Housekeeping [Outcome Level 2-4]</b>		
<ul style="list-style-type: none"> <li>• Is City effectively implementing BMPs (e.g. Mutt Mitt Stations) that target nutrient reduction in waterways?</li> <li>• Are FOG and/or IWD Program participants implementing a Pollutant Prevention and Good Housekeeping practices?</li> <li>• Are FOG and/or IWD Program participants aware of Cities SWMP requirements?</li> <li>• Are FOG and/or IWD Program participants aware of SWMP requirements for their business activity?</li> <li>• Do the FOG and IWD Program participants believe they are in compliance with the City's SW Program?</li> </ul>	<p>Qualitative Assessment</p> <ul style="list-style-type: none"> <li>• Confirmation of on-going City Staff Training</li> </ul> <p>Descriptive Statistics</p> <ul style="list-style-type: none"> <li>• Number of FOG and/or IWD Inspection Reports</li> </ul>	<p>Interviews/Surveying</p> <p>Review of External Data Sources</p> <ul style="list-style-type: none"> <li>• FOG and/or IWD Inspection Reports</li> <li>• FOG and/or IWD Inspection Report Stormwater Questionnaires</li> </ul>

<b>Water Quality Monitoring [Outcome Level 5]</b>		
<ul style="list-style-type: none"> <li>Is the urban discharge a significant source of nutrients to receiving water?</li> </ul>	<ul style="list-style-type: none"> <li>Comparing modeled data to established targets</li> <li>Use local data acquired through regional 303(d) monitoring program</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring and sampling results</li> <li>Pollutant load model results</li> </ul>

**Table 6. Sedimentation/Siltation (Total Suspended Solids) Questions, Data Assessment Methods, and Data Collection Methods, by Program Element**

<b>Management Questions</b>	<b>Data Assessment Methods</b>	<b>Data Collection Methods</b>
<b>Education and Outreach [Outcome Level 2-3]</b>		
<ul style="list-style-type: none"> <li>Are City Grading Inspectors trained to review and inspect erosion and sediment control measures?</li> <li>Are there educational opportunities at county sponsored events?</li> <li>Are construction contractors informed of proper erosion and sediment control measures?</li> </ul>	Qualitative Assessment <ul style="list-style-type: none"> <li>Confirmation of on-going City Grading Staff Training</li> <li>Descriptive Statistics Number of new City Grading Staff Trained</li> <li>Number of outreach events participated in and outreach materials distributed to construction contractors</li> <li>Number of connections to construction contractors through grading permits and inspections</li> </ul>	Internal tracking by stormwater program <ul style="list-style-type: none"> <li>Internal Tracking by City Engineering Department and/or Division Training</li> <li>Number of Outreach Event Participation and Brochure Distribution via email</li> <li>Number of connections with Construction Contractors through grading permits and inspections</li> </ul>

<b>Illicit Discharge Detection and Elimination [ Outcome Level 4]</b>		
<ul style="list-style-type: none"> <li>Does City implement field investigation program for complaints and discoveries of illicit discharges?</li> <li>Does City have legal authority to address non-storm water discharges?</li> </ul>	<p>Qualitative Assessment</p> <ul style="list-style-type: none"> <li>Confirmation that the City has IDDE Procedures (Spill Response Plan)</li> <li>Confirmation of on-going City Staff IDDE Training</li> <li>Confirmations of establish City Municipal Code and Certification of Legal Authority</li> </ul> <p>Descriptive Statistics</p> <ul style="list-style-type: none"> <li>Number of IDDE Investigations and/or Inspections and follow-up at facilities with deficiencies</li> </ul>	<p>Internal tracking by stormwater program</p> <ul style="list-style-type: none"> <li>Stormwater Incident Report Form Site Investigations/Inspections</li> <li>City IDDE Site Investigations and/or Inspections with direct observation of an IDDE</li> </ul>
<b>Construction Site Stormwater Runoff Control [Outcome Level 2-3]</b>		
<ul style="list-style-type: none"> <li>Are construction sites being managed in compliance with City Municipal Code?</li> <li>Are Stormwater Pollution Prevention Plans (SWPPP), Erosion and Sediment Control Plans (E&amp;SCP) and/or Stormwater Control Plans (SWCP) reviewed prior to permit issuance?</li> <li>Are any sites a potential source of significant sediment discharge?</li> </ul>	<p>Descriptive Statistics</p> <ul style="list-style-type: none"> <li>Number of Construction Sites issued Grading Permits</li> <li>Number of SWPPP, E&amp;SCP and SWCP reviewed prior to issuance of permit</li> <li>Number of Construction Sites designated as a Water Quality Threat</li> <li>Number Construction Site Inspections</li> <li>Number of Verbal Warnings, Stop Work Order, Letter to Correct, Written Notice of Violation, Code Violations, Construction Bond, Penalties, Enforcement Actions (Administrative, Civil or Criminal Actions)</li> </ul>	<p>Internal tracking by stormwater program</p> <ul style="list-style-type: none"> <li>SWPPP, E&amp;SCP and SWCP</li> <li>Construction Site Inspections</li> <li>Construction Sites with Water Quality Threat</li> <li>Verbal Warnings, Stop Work Order, Letter to Correct, Written Notice of Violation, Code Violations, Construction Bond, Penalties, Enforcement Actions (Administrative, Civil or Criminal Actions)</li> </ul>

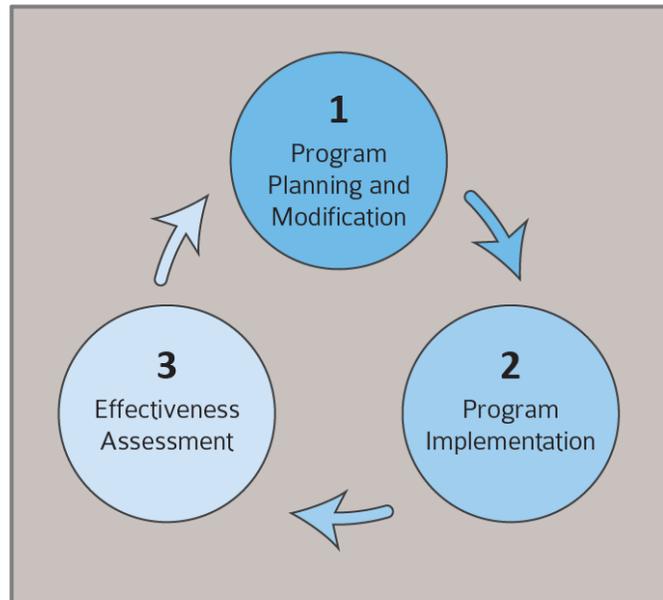
<b>Post-Construction Site Stormwater Runoff Control [Outcome Level 2-3]</b>		
<ul style="list-style-type: none"> <li>Is development being approved in compliance with Post-Construction Requirements (PCRs) and Low Impact Development (LID) Measures to promote runoff volume and rates?</li> </ul>	Descriptive Statistics <ul style="list-style-type: none"> <li>Number of projects reviewed in compliance with PCRs and LID measures</li> </ul>	Internal tracking by stormwater program <ul style="list-style-type: none"> <li>PCR and LID Projects</li> </ul>
<b>Pollution Prevention and Good Housekeeping [Outcome Level 2-3]</b>		
<ul style="list-style-type: none"> <li>Are City facilities managed to reduce erosion and promote sediment retention?</li> </ul>	Descriptive Statistics <ul style="list-style-type: none"> <li>Number of Pollution Prevention BMPs implemented at City owned and/or operated facilities</li> </ul>	Internal tracking by stormwater program <ul style="list-style-type: none"> <li>Pollution Prevention and Good Housekeeping BMPs implemented at City owned and/or operated facilities</li> </ul>
<b>Water Quality Monitoring [Outcome Level 5]</b>		
<ul style="list-style-type: none"> <li>Is the urban discharge a significant source of sediments to receiving water?</li> </ul>	<ul style="list-style-type: none"> <li>Compare modeled data to established targets</li> <li>Use local data acquired through regional 303(d) monitoring program</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring and sampling results</li> <li>Pollutant load model results</li> </ul>

## 5. Program Reporting and Modifications<sup>25</sup>

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Beginning in Year 3, the PEAIIP will be implemented, and EAs will be conducted each year and submitted along with the Annual Report. The completion of EAs is part of the program management cycle (**Figure 9**) and will, over time, inform program modifications.

During the EA process, the COB and COS will evaluate, assess, and/or analyze data and information collected using the methods in **Section 4.1**, and address specific management questions in **Section 4.3**.



**Figure 9. The Program Management Cycle (CASQA, 2015)**

The EA may include both written and visual (i.e., tabular, graphical) depictions of the raw data (e.g., inspection data tracked internally by stormwater program) and the analyses that are conducted (e.g., descriptive statistics, qualitative analysis). The COB and COS will consider the results of the analyses along with the POC-specific management questions. Depending on the availability of historical data, the COB and COS expects more complex trends analyses to occur as part of the long-term EAs.

Beginning with the Annual

Beginning with the Annual Report in Year 5, in conjunction with the long-term EAs, the COB and COS will review the EAs and recommendations based on the experience of stormwater staff in implementing the program and identify areas for improvement. The management questions and data collection results will be reviewed and used as the basis for summarizing the short- and long-term progress of the stormwater program towards reducing the potential impacts of urban runoff on receiving waters. The COB and COS will identify modifications that may be necessary to improve program effectiveness at reducing pollutant loads, achieving the MEP standard, and protecting water quality.

The COB AND COS will provide a summary identifying the following types of modifications (as applicable):

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<sup>25</sup> See 2015 CASQA Guidance Document, Section 7.0 Assessment Tools and Strategies, Section 7.2 Iterative and Adaptive Management, Section 7.3 Assessment Objectives, and Section 8.2 Program Modifications

- Improving upon the PEAIIP by identification of any potential data gaps and/or revisions that may be necessary for the evaluation of the POC-specific management questions;
- Improving upon prioritized BMPs (i.e., key implementation activities) that have not been fully implemented and/or did not achieve the expected result;
- Continuing and expanding upon prioritized BMPs that proved to be effective, including identifying new prioritized BMPs or modifications to existing prioritized BMPs, with the goal of increasing pollutant load reductions;
- Discontinuing BMPs that may no longer be effective; and
- Based upon identification of bridges and barriers, changes in how the COB AND COS intends to provide outreach to target audiences in order to reduce PGAs and increase implementation of prioritized BMPs.

The COB and COS will provide the summary of program modifications with the Year 5 Annual Report and include the identified priority program areas and the schedule to complete the identified modifications during the next permit term. By conducting these assessments and modifying the program as needed, the COB and COS will ensure utilization of the program management cycle.

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## List of Appendices

**APPENDIX A: GLOSSARY OF TERMS**

**APPENDIX B: PEAIP IDENTIFICATION OF POLLUTANTS OF CONCERN (POCS)**

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## Appendix A: Glossary of Terms<sup>26</sup>

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**Adaptive Management:** Adaptive Management is a structured process of directing decision-making with an aim toward achieving identified goals or milestones and addressing/reducing uncertainty over time.

**Assessment Methods:** Assessment Methods are processes used to obtain or evaluate assessment data or information. Depending on the particular outcome and/or management questions, numerous assessment methods may be used.

**Best Management Practice (BMP):** Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce pollutants discharged to waters of the United States.

**California Stormwater Quality Association (CASQA):** Since 1989 CASQA has been a leader in the stormwater field. CASQA represents a diverse range of stormwater quality management organizations and individuals, including cities, counties, special districts, industries, and consulting firms throughout the state. The Effectiveness Assessment Subcommittee has provided input and guidance on stormwater program effectiveness assessment issues since 2004; developing a standardized conceptual approach to evaluating municipal program elements in 2007 and updating that approach in 2015.

**Effectiveness Assessment (EA):** Effectiveness Assessment includes the methods and activities that stormwater managers use to evaluate how well their programs are working, and to identify modifications necessary to improve them. EA is the mechanism by which feedback is evaluated to enable ongoing adaptive management.

**Program Management Cycle:** The Program Management Cycle broadly divides stormwater program management into three phases:

1. Program planning and modification;
2. Program implementation; and
3. Effectiveness assessment.

Over time, the repeated application of this process—each phase continuously informing the next—should result in the improvement of stormwater programs and the achievement of the desired results that they are designed to achieve.

**Maximum Extent Practicable (MEP):** The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) for storm water that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source and/or treatment control BMPs. MEP primarily emphasizes pollution prevention and source control BMPs (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than best available technology or best available. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following

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<sup>26</sup> The Glossary of Terms is primarily based on the Glossary of Acronyms and Terms in the *Strategic Approach to Planning for and Assessing the Effectiveness of Stormwater Programs*, CASQA 2015

process over time: municipalities propose their definition of MEP by way of the programs set forth in their stormwater management plans/programs. Their total collective and individual activities conducted pursuant to the runoff management programs becomes the proposal for MEP as it applies both to overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance).

In the absence of a definition, the State Water Resources Control Board defined MEP as set forth in a memo dated 11 February 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel.<sup>27</sup>

**Municipal Separate Storm Sewer System (MS4)<sup>28</sup>:** An MS4 is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is:

- Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.;
- Designed or used to collect or convey stormwater;
- Not a combined sewer; and
- Not part of a Publicly Owned Treatment Works (POTW) (sewage treatment plant).

**Outcome Level:** The CASQA approach utilizes a series of six categories of outcomes to establish a logical and consistent organizational scheme for assessing and relating individual outcomes. The outcome levels represent a general progression of conditions that are assumed to be related in a sequence of causal relationships.

- **Outcome Level 6 (Receiving Water Conditions):** Level 6 Outcomes describe receiving water conditions. They can apply either to existing conditions or to improvements that will be sought over time through program implementation.
- **Outcome Level 5 (MS4 Contributions):** Level 5 Outcomes may be measured within the MS4, or as discharges from it. Evaluation typically focuses on pollutant concentrations and/or loads. Level 5 Outcomes provide a direct linkage between upstream sources and receiving waters and are a critical expression of program success.
- **Outcome Level 4 (Source Contributions):** Level 4 Outcomes measure reductions in the discharge of pollutants from sources.
- **Outcome Level 3 (Target Audience Actions):** Level 3 Outcomes address the actions of target audiences, and whether or not changes are occurring over time. The major categories of target audience actions are pollutant-generating activities (PGAs); best management practices (BMPs) and supporting behaviors.
- **Outcome Level 2 (Barriers and Bridges to Action):** Level 2 Outcomes provide a means of gauging whether activities are producing changes in the awareness, knowledge, or attitudes of target audiences. Level 2 Outcomes are often used to gauge progress in, or to refine approaches for, achieving Level 3 Outcomes.

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<sup>27</sup> [http://www.swrcb.ca.gov/water\\_issues/programs/stormwater/docs/def\\_mep\\_bj\\_21193.pdf](http://www.swrcb.ca.gov/water_issues/programs/stormwater/docs/def_mep_bj_21193.pdf)

<sup>28</sup> Based on the definition in Title 40 Code of Federal Regulations §122.26 (b)(8)

- **Outcome Level 1 (Stormwater Program Activities):** Level 1 Outcomes, which are often defined by specific stormwater permit requirements, address a variety of stormwater program activities. This outcome level measures the *implementation* of the program, not the *impact* that the stormwater program is having.

**Phase II MS4 Permit:** The Phase II Permit, issued in 1999, requires regulated small MS4s in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges. Each regulated MS4 is required to develop and implement a stormwater management program/approach to reduce and/or eliminate the discharge of pollutants from the MS4 to the maximum extent practicable (MEP) and effectively prohibit discharges of non-stormwater into its MS4, unless such discharges are authorized.

**Pollutant of Concern (POC):** A pollutant that is reasonably expected to be present in urban runoff and may reasonably be expected to affect the designated uses of the receiving water. Urban runoff pollutants of concern may include sediments, non-sediment solids, nutrients, pathogens, oxygen-demanding substances, petroleum hydrocarbons, heavy metals, floatables, polycyclic aromatic hydrocarbons (PAHs), trash, and/or pesticides and herbicides.

**Program Element:** Program Elements are distinct components of a stormwater program that focus on reducing pollutants from a particular activity or pollutant source/target audience. The Program Elements for the Phase II municipal stormwater program include the following:

- Program Management
- Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction
- Pollution Prevention/Good Housekeeping
- Post Construction
- Water Quality Monitoring

**Receiving Water Conditions:** Receiving Water Conditions can include any chemical, biological, or physical parameter that can be measured or assessed in receiving waters (i.e., chemical concentrations, dissolved oxygen levels, biological integrity, species diversity, eutrophication, microbiological or toxicological conditions, hydromodification).

**Source:** “Source” means anything with the potential to generate pollutants prior to their introduction to the MS4. A typical program broadly addresses the following source categories: residential areas, construction and development sites, commercial and industrial sources, and municipal operations. Sources may alternatively be defined by the populations associated with areas, facilities, or activities, e.g., residents, dog-walkers, mobile car washers, or restaurant employees.

**Source Contribution:** Source Contribution can refer either to a source loading or to a reduction in that loading. Source loadings are the pollutant loadings added by sources to a MS4. Source reductions are changes in the amounts of pollutants associated with specific sources before and after control measures are employed.

**Target Audience:** A “Target Audience” consists of the people (individuals and populations) that are expected to gain knowledge or engage in the behaviors that a stormwater program is intended to elicit. BMPs and other controls are implemented by many types of third parties, so the term “target audience” is broadly defined and virtually any group of people could be a target audience, including municipal staff members, the general public, elected and appointed officials, other government agencies, etc.

## Appendix B: PEAIIP Identification of Pollutants of Concern (POCs)

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**PROGRAM EFFECTIVENESS ASSESSMENT AND IMPROVEMENT PLAN (PEAIP)  
IDENTIFICATION OF POLLUTANTS OF CONCERN (POCs)  
CITY OF BUELLTON AND CITY OF SOLVANG**

2010 Integrated Report Clean Water Act Section 303(d) Listed Report Category 5 Santa Ynez River (Cachuma Lake to below city of Lompoc)	Solvang – Buellton Urban Water Quality Profile CCRWQCB Consultation April 24, 2014 Santa Ynez River at Highway 101 Monitoring Site	Central Coast Ambient Monitoring Program (CCAMP)	Urban Storm Water Monitoring Plan 2015-2018 Santa Barbara County, Buellton, Carpinteria, Goleta, Solvang	Buellton and Solvang SWMP Target POCs
Sedimentation / Siltation (Total Suspended Solids) [Yellow]	Sedimentation / Siltation (Total Suspended Solids) [Yellow]	Sedimentation / Siltation (Total Suspended Solids) [Yellow]	Acute Toxicity (Hyalalela azteca) [Black]	Sediments - (Total Suspended Solids) [Yellow]
Sodium (Na) [Grey]	Sodium (Na) [Grey]	Nitrogen, Total [Grey]	Dissolved Aluminum (Al) [Black]	Pathogens - Fecal Coliform [Grey]
Temperature [Red]	Temperature [Red]	Temperature [Red]	Dissolved Copper (Cu) [Black]	Pathogens - Total Coliform [Grey]
Total Dissolved Solids (TDS) [Grey]	Total Dissolved Solids (TDS) [Grey]	Total Suspended Solids (TSS) (duplicate) [Yellow]	Dissolved Zinc (Zn) [Black]	Pathogens - Escherichia Coli (E. Coli) [Grey]
	Total Suspended Solids (TSS) (duplicate) [Yellow]	OrthoPhosphate as P [Yellow]	Dissolved Cadmium (Cd) [Black]	Nutrients - Phosphorus (P) [Grey]
	Temperature (duplicate) [Red]	Algae-filamentous [Grey]	Dissolved Lead (Pb) [Black]	Nutrients - Nitrogen [Grey]
	Ammonia as Nitrate (N) [Green]	Nitrogen, Total Kjeldahl [Grey]	Dissolved Iron (Fe) [Black]	Nutrients - Nitrate (NO3) [Grey]
	Fecal Coliform [Grey]	Silica as SiO2 [Grey]	Hardness [Grey]	Nutrients - Nitrite (NO2) [Grey]
	Total Coliform [Grey]	Flow, Field Measurement [Grey]	Total Suspended Solids (TSS) [Yellow]	Detergents (MBAS) [Grey]
	Total Dissolved Solids (TDS) (duplicate) [Grey]		Pesticides [Purple]	Gross Pollutants (Litter, Trash and Debris) [Grey]
	Conductivity [Grey]		Nutrients [Purple]	Hydrocarbon (Oil and Grease, Lubricants) [Grey]
	Dissolved Oxygen (DO) [Red]			Metals [Grey]
	Toxicity-Fish Survival / Reproduction in Water [Black]			Pesticides [Grey]

**COLOR KEY AND NOTES:**

CCAMP COLOR CODE	Rating	Excellent [Green]	Good [Yellow]	Fair [Red]	Poor [Red]	Very Poor [Red]	Not Listed within CCAMP [Black]
	When NO goal is available	0-25%	25-50%	50-75%	75-100%		
OTHER COLOR CODE		Under CCRWQCB Review [Purple]					
BENEFICIAL USE GROUP	Aquatic Life						



**City of Buellton and City of Solvang  
Stormwater Program Effectiveness Assessment and Improvement Plan (PEAIP)  
Annual Summary 2016-2017**

**1. PEAIP Summary Introduction:**

The City of Buellton (COB) and City of Solvang (COS) prepared and submitted to the State Water Resources Control Board a multi-agency PEAIP for Year 2 on October 13, 2015 through the Storm Water Multiple Application and Report Tracking System (SMARTS) Database. COB and COS subsequently submitted a revision dated February 19, 2016 to be uploaded with Year 3 Annual Report. This report summarizes implementation of the PEAIP for Year 4 of the National Pollutant Discharge Elimination System's (NPDES) Phase II Municipal Small Separate Sewer (MS4) General Permit, for calendar year July, 1 2016 through June 30, 2017.

The purpose of the PEAIP is to track the short- and long-term effectiveness of the stormwater program, the specific measures that will be used to assess the effectiveness of the prioritized best management practices (BMPs), the groups of BMPs, and/or the stormwater program as a whole. The purpose of the PEAIP is also to provide a description of how the COB and COS will use the information obtained through the PEAIP to improve the stormwater program. The PEAIP outlines the approach that the COB and COS will use to adaptively manage its stormwater program to improve its effectiveness at reducing the identified high- and medium-priority Pollutants of Concern (POCs), thereby achieving the maximum extent practicable (MEP) standard and protecting water quality. The PEAIP is focused on the *impact* that the stormwater program is having rather than the strict *implementation* of the program. By focusing the Effectiveness Assessment in this manner, the COB and COS will increase their ability to understand if its stormwater program is achieving the intended outcomes and can identify necessary modifications to the program to make it more effective.

The PEAIP for Year 3 focused *primarily* on the California Stormwater Quality Association (CASQA) Outcome Levels for Target Audiences (Outcome Levels 2-3), and the Sources and Impacts (Outcome Level 4-5). The COB and COS developed management questions for high-priority POCs (Nutrients) and the medium-priority POCs (Sedimentation/Siltation and Total Suspended Solids), and then conducted a data collection assessment of each of these POCs. The data collected will be utilized by both the COB and COS to improve the stormwater program and protect water quality.

In order to determine the specific target audiences and the appropriate prioritized BMPs, the COB and COS reviewed the following: a) proposed TMDLs by the Central Coast Regional Water Quality Control Board, b) 2010 303(d) List of Impaired Waterbodies, c) Central Coast Regional Water Quality Control Board (CCRWQCB) April 24<sup>th</sup>, 2014 Consultation Handout "Solvang – Buellton Urban Water Quality Profile", d) Central Coast Ambient Monitoring Program's (CCAMP) Ambient Water Quality Data, e) COB and COS Storm Water Management Plan's (SWMP) Guidance Document's List of POCs, and f) proposed regional Urban Storm Water Monitoring Plan. Best professional judgment, knowledge of local and/or regional water quality issues and common urban pollutants were also factors in the identification of POCs.

Target audiences for each source of high- and medium-priority POCs have been identified and the COB and COS have actively taken steps, during each permit year, to identify and

bridge communication and action barriers through the selection and implementation of prioritized BMPs.

The prioritized BMPs reflect stormwater program activities that are intended to change behaviors of target audiences and result in pollutant source mitigation. The prioritized BMPs, listed below in Figure 8 Prioritized BMP Identified for Target Audiences within COB and COS PEAIIP, are being implemented as part of the Cities stormwater program, and where applicable, corresponding data was collected and analyzed at the close of Permit Year 4 in order to assess program effectiveness and identify opportunities for program improvement.

## **2. Data Summary – Program Assessment**

In accordance to the NPDES Phase II MS4 General Permit's Section E.7, both the COB and COS have developed and implemented a Stormwater Education and Outreach Program Strategy. The program's goal is to inform people of the impacts of stormwater discharge on water bodies and the steps they can take to reduce pollutants in stormwater and how they can become involved in restoration activities.

The Cities education and outreach campaign involves a combination of: (1) implementing a Community Based Social Marketing (CBSM) campaign to promote changes in people's behavior related to management of dog waste that will improve the quality of the Cities stormwater and surface waters; (2) conducting surveys or quizzes; (3) provide education and outreach materials (i.e. printed materials, billboard, mass transit advertisement, television advertisements, and websites) to target audiences as appropriate; (4) utilizing public input in developing outreach through event participation; (5) providing availability of water efficient/pesticide and fertilizer application/stormwater brochures within each City office and/or website; (6) promoting reporting of illicit discharges or connections; (7) providing availability of pesticide and fertilizer application within each City office and/or website; (8) provide educational materials to school children to promote stormwater pollution prevention; and (9) Develop messaging to reduce discharges from organized car washes, mobile cleaning and pressure washing activities.

On each of the City's stormwater website, an online survey was conducted to assess the public's knowledge on their Stormwater Management Program (SWMP). Based on the lack of participation in the online survey received for Year 2 (4 Responses COB; 10 Responses COS), Year 3 (1 Responses COB; 6 Responses COS) and Year 4 (2 Responses COB; 2 Response COS), the Cities altered their approach to promoting the online surveys through direct interactions with during City-sponsored events as described below within the POCs data summary to achieve the MEP standard.

For the PEAIIP, the COB and COS focused its data assessment for Nutrients and Sedimentation/Siltation (Total Suspended Solids) using the Management Questions, Data Assessment and Data Collection Methods outlined within Table 5 and 6 of the COB and COS PEAIIP. The data assessment for each POC consisted primarily of a qualitative assessment and/or a descriptive statistic methodology and the data collection methods included internal tracking by stormwater program, review of external data sources, interviews/surveys, site investigations/inspections; and monitoring and sampling as described below within COB and COS PEAIIP.

The data summary for the high-and medium-priority POCs by program element are as follows:

## **NUTRIENTS**

### **Education and Outreach [CASQA Outcome Level 2-3]**

#### COB Data Assessment/Collection:

During Year 4, COB participated in 3 education and outreach events (Buellton BBQ Bonanza, State of the City, Santa Ynez Valley Earth Day Event) and sponsored a Stormwater Display Booth at each event. The numbers of education and outreach materials distributed during events related to Nutrients (Brochures: Gardener's Guide to Clean Water; Homeowner's Guide to BMPs; Business Owner's Guide to BMP's; Recognizing and Reporting Stormwater Pollution; Protecting Water Quality from Urban Runoff; The Ocean Begins On Your Street; Our Water Our World Pests Bugging You; Our Water Our World Less-Toxic Pest Management-How to Control Weeds; Giveaways: Our Water Our World Got Bug's Get Answer Magnets; Santa Barbara County Project Clean Water Bookmarks) are as follows: Buellton BBQ Bonanza (78 Visitors: 20 Brochure Distribution, 8 Magnets; 10 Bookmarks); Buellton City Council 11/10/16 Meeting (10 Brochures); State of the City (15 Visitors; 3 Brochure Distribution); Santa Ynez Valley Earth Day (187 Visitors; 26 Brochure Distribution, 9 Magnets, 21 Bookmarks). The COB also distributed brochures through brochure displays at designated City facilities (City Hall, Planning Department). The numbers of education and outreach materials distributed at the City facilities related to Nutrients (3 Gardener's Guide to Clean Water; 3 Homeowners Guide to BMPs; 4 Business Owner's Guide to BMPs, 1 Recognizing and Reporting Stormwater Pollution; 0 Protecting Water Quality from Urban Runoff [Note: The Protecting Water Quality from Urban Runoff Brochure was removed from the Display on 1/31/17 and replaced with The Ocean Begins on Your Street]; 1 The Ocean Begins on Your Street as well as had 8963 File Views/Hits (5810 English; 3153 Spanish) thru the City's website. The City's website includes other documents related to Nutrients such as Creek Care and Creekside concerns for residents. The COB also provides weblinks to additional resources on the City's website to the Santa Barbara County Project Clean Water, Our Water Our World, Less is More and Santa Barbara County Water Wise website.

The COB and COS also maintains a permanent stormwater education and outreach display at the Santa Ynez Valley Botanical Garden's Information Kiosk. The numbers of education and outreach materials distributed at the Santa Ynez Valley Botanical Garden Information Kiosk related to Nutrients (40 Gardener's Guide to Clean Water; 28 Recognizing and Reporting Stormwater Pollution; 25 The Ocean Begins on Your Street; 3 Creek Concerns; 46 Make the Connection).

In addition, the COB's Authorized Contract Staff distributed 137 education and outreach materials distributed during Fats, Oil and Grease (FOG) and Industrial Waste Discharge (IWD) Inspection related to Nutrients (66 Business Owner's Guide to BMPs; 11 Beverage Manufacturing and Stormwater; 1 Mobile Cleaning – Food Service; 39 Restaurant Owners Guide; 38 FOG Program; 20 COB – SWRCB Industrial Storm Water Pollution Prevention Plan Requirements).

The COB also sent a "Notice: Stormwater Pollution Prevention For Restaurant Owners" target audience mailer to 44 Business Owners that included a Restaurants Owner's Guide (including an Survey Invite Card) to obtain assistance with the reduction and/or elimination

of nutrients that have the potential to end up in the river should they come in contact with stormwater runoff. The City also reissued the COB BMPs for Landscape Maintenance in English and Spanish to the Landscape Maintenance Contractor as well as began the process of revising the Landscape Maintenance BMP with the COS for future reissuance in English and Spanish during Year 5.

Although the COB intent was to pursue developing additional Spanish education and outreach materials in Year 4, the COB's Webmaster determined that the increase File Views/Hits counts were a result of internet search being counted as views/hits and not from direct views/hits from clicking on the document. As a result of these findings, the COB Webmaster moved forward with changes to the report to remove the extraneous data generated as a result of internet searches. During Year 5, the City will review the new data generated from the File Views/Hits Report to better assess which documents should be translated to Spanish.

#### COS Data Assessment/Collection:

During Year 4, the COS participated in 3 education and outreach events (Buellton BBQ Bonanza, State of the City, Santa Ynez Valley Earth Day Event) and sponsored a Stormwater Display Booth at each event. The numbers of education and outreach materials distributed during events related to Nutrients (Brochures: Gardener's Guide to Clean Water; Homeowner's Guide to BMPs; Business Owner's Guide to BMP's; Recognizing and Reporting Stormwater Pollution; Protecting Water Quality from Urban Runoff; The Ocean Begins On Your Street, Our Water Our World Pests Bugging You, Our Water Our World Less-Toxic Pest Management-How to Control Weeds, Giveaways: Our Water Our World Got Bug's Get Answer Magnets, Santa Barbara County Project Clean Water Bookmarks) are as follows: Buellton BBQ Bonanza (78 Visitors; 20 Brochure Distribution, 8 Magnets, 10 Bookmarks), State of the City (30 Visitors; 11 Brochure Distribution), Santa Ynez Valley Earth Day (187 Visitors; 26 Brochure Distribution, 9 Magnets, 21 Bookmarks), Solvang Farmers Market 9/14/16 (7 Visitors, 8 Brochure Distribution), Solvang Farmers Market 12/21/16 (13 Visitors, 3 Brochure Distribution).

Although COS's intent was to set up a Stormwater Display Book at the Solvang Farmers Market, the City determined that due to lack of local attendance at the booth during business hours that it would focus on providing stormwater education and outreach materials to residents attending the annual City Shred Day hosted by the Santa Ynez Valley Rotary Club. The numbers of education and outreach materials distributed during this event related to Nutrients (Brochures: Our Water Our World Pests Bugging You; Giveaways: Our Water Our World Got Bug's Get Answer Magnets, Santa Barbara County Project Clean Water Bookmarks) are as follows: Solvang Shred Day (0 Brochure Distribution, 12 Magnets, 58 Bookmarks).

The COS also distributed brochures through brochure displays at designated City facilities (City Hall, Planning Department). The numbers of education and outreach materials distributed at the City facilities related to Nutrients (22 Gardener's Guide to Clean Water; 4 Homeowners Guide to BMPs; 5 Business Owner's Guide to BMPs; 10 Recognizing and Reporting Stormwater Pollution; 9 The Ocean Begins on Your Street) as well as had 189 Unique Downloads thru the City's website. The COS also provides weblinks to additional resources on the City's website to the Santa Barbara County Project Clean Water, Our Water Our World, Less is More website and Santa Barbara County Water Wise website. The COB and COS also maintains a permanent stormwater education and outreach display at the Santa Ynez Valley Botanical Garden's information kiosk. The numbers of education and

outreach materials distributed at the Santa Ynez Valley Botanical Garden Information Kiosk related to Nutrients (40 Gardener's Guide to Clean Water; 28 Recognizing and Reporting Stormwater Pollution; 25 The Ocean Begins on Your Street; 3 Creek Concerns; 46 Make the Connection).

In addition, the COS also developed new Scope of Services contract language to be incorporated into all new and existing contracts at the time of renew that specifies that the "Contractor shall implement landscape management measures that rely on non-chemical solutions where possible such as amending soils with compost, hand weeding, and the use of native and climate appropriate plants. The City strictly prohibits the application of pesticides, herbicides and fertilizer during irrigation or within 72 hours of predicted rainfall with greater than 50% probability as predicted by National Oceanic and Atmospheric Administration (NOAA)". The City began the process of revising the Landscape Maintenance BMP with the COB for future reissuance in English and Spanish during Year 5.

Due the COB data discrepancies with the File/View Counts, the COS will assist in the review the new data generated from COB File Views/Hits Report to better assess which documents should be translated to Spanish during Year 5-6.

### **Public Involvement and Participation [CASQA Outcome Level 2-3]**

#### COB Data Assessment/Collection:

In addition to COB stormwater website online survey discussed in the Program Assessment Section above, the COB conducted an additional online survey for Restaurants that was promoted through the "Notice: Stormwater Pollution Prevention For Restaurant Owners" target audience mailer in which 44 Restaurants received an Survey Invite Card along with the Restaurants Owner's Guild. The COB received 1 partial response for Year 4 which appears to be a possible test of the system. Although the Cities received 1 partial response, the COB continues to promote the survey on the City's website as well as during direct interactions with Restaurants whenever possible.

The COB Contract Staff also initiated an annual survey during their FOG and IWD Program Inspections beginning Year 2 (11 FOG Questionnaires) Year 3 (27 FOG and 11 IWD Questionnaires) and Year 4 (65 FOG and 22 IWD Questionnaires) to engage the target audience with the following 3 questions: (1) Are you familiar with the COB's Storm Water Program?; (2) Are you aware of the requirements for your type of business activity?; and (3) Do you believe your business is in compliance with the City's Storm Water Program?. Even though the City inspects each business annually, the FOG and IWD Questionnaires showed that 47% of businesses are not familiar with the COB's Stormwater Management Program; 61% of businesses were unaware of their business activities impact to stormwater; and 15% did not believe their business was in compliance with the City's Stormwater Management Program. Based on the results, COB Contract Staff will continue to engage FOG and IWD Program participants by conducting the Stormwater Questionnaires and providing stormwater outreach related materials during the inspection.

The COB also participated in education and outreach events (Buellton BBQ Bonanza, State of the City, Santa Ynez Valley Earth Day Event). The number of Stormwater Quiz's/Survey's and Interested Parties Sign-up Inquiry at the Stormwater Display Booth are as follows: Buellton BBQ Bonanza (78 Visitors; 2 Stormwater Quiz; 2 Stormwater Survey-Event; 1 Interested Parties Sign-up); State of the City (15 Visitors; 1 Stormwater Quiz; 0

Interested Parties Sign-up); and Santa Ynez Valley Earth Day (187 Visitors; 2 Stormwater Quiz; 20 Stormwater Survey-Event; 20 Stormwater Survey-Website; 0 Interested Parties Sign-up; 15 Close The Poop Loop (CTPL) Interested Parties Signup).

As a direct result of distributing a Stormwater Giveaway (Reusable Grocery Bag) to survey participants at the Santa Ynez Valley Earth Day Event, COB and COS experienced an increase in the number of Stormwater Surveys completed. The COB did not have any additional Interested Parties Sign-ups through the City's Website. There no changes to the survey or quizzes at outreach events at this time until the COB have comparable data through on going surveys.

#### COS Data Assessment/Collection:

In addition to the COS stormwater website online survey discussed in the Program Assessment Section above, the COS conducted an additional online survey for Restaurants that was promoted through the "Notice: Stormwater Pollution Prevention For Restaurant Owners" target audience mailer in which 57 Restaurants received a Survey Invite Card along with the Restaurants Owner's Guide. The COS received 0 responses for Year 4.

The COS also participated in education and outreach events (Buellton BBQ Bonanza, State of the City, Santa Ynez Valley Earth Day Event). The number of Stormwater Quiz's/Survey's and Interested Parties Sign-up Inquiry at the Stormwater Display Booth are as follows: Buellton BBQ Bonanza: (78 Visitors; 2 Stormwater Quiz; 2 Stormwater Survey-Event; 1 Interested Parties Signup); State of the City (30 Visitors; 0 Stormwater Quiz; 0 Interested Parties Signup), Santa Ynez Valley Earth Day (187 Visitors; 2 Stormwater Quiz; 20 Stormwater Survey-Event; 20 Stormwater-Website; 0 Interested Parties Sign-up; 15 CTPL Interested Parties Signup). As a direct result of distributing a Stormwater Giveaway (Reusable Grocery Bag) to survey participants at the Santa Ynez Valley Earth Day Event, COB and COS experienced an increase in the number of Stormwater Surveys completed. The COS did not have any interested Parties Sign-up through the City's Website. There no changes to the survey or quizzes at outreach events at this time until the COS have comparable data through ongoing surveys.

### **Illicit Discharge Detection and Elimination [CASQA Outcome Level 4]**

#### COB Data Assessment/Collection:

During Year 4, the COB continues to implement its Illicit Discharge Detection and Elimination (IDDE) Program through Buellton Municipal Code (BMC) Title 15 Stormwater Chapter 15.01 Stormwater Management and Discharge Control also known as the Stormwater Management and Discharge Ordinance and the COB Stormwater Program Management Certification Statement which provides the COB full legal authority to implement and enforce each of the NPDES Phase II MS4 General Permit requirements. The COB also developed a draft Enforcement Response Plan that includes enforcement measures and tracking of the types of enforcement responses.

The COB has also implemented a Spill Response Plan which provides guidance to City Staff and Authorized Contract Staff responding to a complaint or notice of a spill discharge or illicit connection; and conducting an investigation to locate and identify the source of a non-stormwater discharge. During Year 4 (rescheduled dates in Year 5), both City Staff and Authorized Contract Staff (20 City Staff and 7 City Contract Staff) were provided IDDE and Staff and Site Operator Training. The training has provided an increase in stormwater general awareness amongst staff and has result in and an increase in reporting of possible

illicit discharges or connections. In Year 4, there were 5 out of 11 site investigations associated with potential and confirmed nutrient related discharges. The nutrient related investigations were located within both commercial and residential zones. As a result of these investigations, the COB issued 1 notice of violation, 3 verbal warnings; and 1 written notice with all incidents resolved/closed through the IDDE Program with the exception of 1 originates from an agricultural property outside the City limits and was referred to the CCRWQCB for resolution. During Year 4, the COB continued to stormwater conduct education and outreach efforts whenever possible through direct integrations or through direct mail/media campaign to both residents and businesses.

In addition, the COB's Stormwater Program Coordinator reviewed all FOG and IWD inspection reports and/or violations for non-stormwater discharges which were resolved/closed through the FOG/IWD program. Although the COB had implemented an IDDE Program, the City does not have enough comparable data at this time to warrant any changes to the program. The COB will continue education and outreach efforts to help minimize and eliminate pollutants from entering the storm drain system.

As part of the Stormwater Management Program, the COB continues to contract with a local waste hauler for management of green waste and coordinates and promotes the annual Christmas Treecycle Program through the Chamber of Commerce E-Newsletter, Buellton Buzz (Water Bill Insert) and both the COB and Waste Hauler websites. This program allows residents to drop off their trees until 2<sup>nd</sup> week in January for mulching and reuse within the community. The COB also maintains 10 Mutt Mitt Stations (5 River View Park; 3 Oak Valley Park; 1 PAWS Dog Park; 1 Via Corona Road). There are 4 additional Mutt Mitt Stations (1 North and 1 South Side along Highway 246 near the corner of Sycamore Drive; and 1 North and 1 South Side along Highway 246 near the corner of Valley Dairy) that are being maintained by Buellton Veterinary Clinic. In Year 4, the COB and COS reviewed the recommendations from the pilot pet waste campaign and relaunched the CTPL Pet Waste Campaign on the Cities website and promoted through direct mailers/media campaign at the Santa Ynez Valley Earth Day Event. The COB and COS revised and distributed education and outreach materials (28 CTPL Post Cards; 31 CTPL Dog Dispensers for Pet Waste; 29 Pet Food Scoops) to Dog Owners at this event who took a Pledge to CTPL and spread the word and use the CTPL bag dispenser for pet waste; and the CTPL pet food scoop to keep the message alive. The City also promoted the CTPL campaign through posting information at the Santa Ynez Valley Botanical Garden's Information Kiosk Display Board as well as incorporated the CTPL Campaign into the Stormwater Pollution Prevention Presentation given to local schools.

During Year 5, the COB and COS will expand the CTPL Campaign by placing a Pledge Form within the City Hall, SYV Human Society and other City sponsored events as well as to distribute the education and outreach materials to Dog Owners who take the CTPL Pledge. The Cities will also continue to conduct stormwater education and outreach efforts whenever possible through direct integrations or through direct mail/media campaign to both residents and businesses.

#### COS Data Assessment/Collection:

During Year 4, the COS continues to implement its IDDE Program through SMC Title 14 Stormwater Management also known as the Stormwater Management Ordinance and the COS Stormwater Program Management Certification Statement which provides the COS full

legal authority to implement and enforce each of the NPDES Phase II MS4 General Permit requirements.

The COS has also implemented a Spill Response Plan which provides guidance to City Staff and Authorized Contract Staff responding to a complaint or notice of a spill discharge or illicit connection; and conducting an investigation to locate and identify the source of a non-stormwater discharge. In Year 4, 14 City employees were provided IDDE and Staff and Site Operator. The training has provided an increase in stormwater general awareness amongst staff and has result in and an increase in reporting of possible illicit discharges or connections. In Year 4, there were 5 out of 15 site investigations associated with potential or confirmed nutrient related discharges. All nutrient related investigations were located within the commercial zone. As a result of these investigations, the COS issued 4 verbal warnings and 2 written notices with all incidents resolved/closed through the IDDE Program. During Year 5, the COS will continue to conduct stormwater education and outreach efforts whenever possible through direct integrations or through direct mail/media campaign.

As part of the Stormwater Management Program, the COS continues to contract with a local waste hauler for management of green waste and coordinates/promotes green waste recycling in the community through the waste hauler. The COS continues to maintain Mutt Mitt Stations (Hans Christian Andersen Park, Sunny Fields Park, Solvang Parks, and Veterans Memorial Building). In Year 4, the COB and COS reviewed the recommendations from the pilot pet waste campaign and relaunched the CTPL Pet Waste Campaign on the Cities website and promoted through direct mailers/media campaign at the Santa Ynez Valley Earth Day Event. The COB and COS revised and distributed education and outreach materials (28 CTPL Post Cards; 31 CTPL Dog Dispensers for Pet Waste; 29 Pet Food Scoops) to Dog Owners at this event who took a Pledge to CTPL and spread the word and use the CTPL bag dispenser for pet waste; and the CTPL pet food scoop to keep the message alive. The City also promoted the CTPL campaign through posting information at the Santa Ynez Valley Botanical Garden's Information Kiosk Display Board as well as incorporated the CTPL Campaign into the Stormwater Pollution Prevention Presentation given to local schools.

During Year 5, the COB and COS will expand the CTPL Campaign by placing a Pledge Form within the City Hall, SYV Human Society and other City sponsored events as well as to distribute the education and outreach materials to Dog Owners who take the CTPL Pledge. The Cities will also continue to conduct stormwater education and outreach efforts whenever possible through direct integrations or through direct mail/media campaign to both residents and businesses.

### **Pollution Prevention and Good Housekeeping [CASQA Outcome Level 2-4]**

#### COB Data Assessment/Collection:

During Year 2, the COB launched "Close the Poop Loop", a pilot pet waste campaign, aimed to target unattended dog waste throughout the City. The campaign was created in collaboration with the Cities of Carpinteria, Goleta, Guadalupe, Lompoc, Santa Barbara, Santa Maria, Solvang and the County of Santa Barbara's Project Clean Water to encourage residents to pick up after their dogs and toss the waste in the trash. The Mutt Mitt Program's efforts to continue to provide pet waste disposal bags at River View Park, Oak Park and PAWS Dog Park for use by the public, has helped reduce or eliminate pet waste at those locations. In total, the Mutt Mitt Program's Bi-weekly Maintenance provided approximately 72,000 bags during Year 3. The results of Year 2 pilot pet waste campaign Pre- and Post-

campaign Survey Results indicated that there was 0% change even though the COB developed strategic partnerships with 2 pet-related businesses within the targeted areas to display campaign materials to local dog owners in places they frequent and from people they trust as well as target 1 dog related event and conducted various messaging campaigns. The COS continues to conduct Mutt Mitt Station Bi-weekly Maintenance and provide pet waste bags disposal bags to Dog Owners.

In Year 4, the COB and COS reviewed the recommendations from the pilot pet waste campaign and relaunched the CTPL Pet Waste Campaign on the Cities website and promoted through direct mailers/media campaign at the Santa Ynez Valley Earth Day Event. The COB and COS revised and distributed education and outreach materials (28 CTPL Post Cards; 31 CTPL Dog Dispensers for Pet Waste; 29 Pet Food Scoops) to Dog Owners at this event who took a Pledge to CTPL and spread the word and use the CTPL bag dispenser for pet waste; and the CTPL pet food scoop to keep the message alive. The City also promoted the CTPL campaign through posting information at the Santa Ynez Valley Botanical Garden's Information Kiosk Display Board as well as incorporated the CTPL Campaign into the Stormwater Pollution Prevention Presentation given to local schools.

During Year 5, the COB and COS will expand the CTPL Campaign by placing a Pledge Form within the City Hall, SYV Human Society and other City sponsored events as well as to distribute the education and outreach materials to Dog Owners who take the CTPL Pledge.

The COB Contract Staff conducted a total of 86 FOG and 22 IWD Program Inspections with all non-storm water discharges resolved/closed through the FOG/IWD Program. As mentioned within the Education and Outreach [CASQA Outcome Level 2-3] Section, the COB Contract Staff initiated an annual survey during their FOG and IWD Program Inspections beginning Year 2 (11 FOG Questionnaires). Year 3 (27 FOG and 11 IWD Questionnaires), and Year 4 (65 FOG and 22 IWD Questionnaires) to engage the target audience with the following 3 questions: (1) Are you familiar with the COB's Storm Water Program?; (2) Are you aware of the requirements for your type of business activity?; and (3) Do you believe your business is in compliance with the City's Storm Water Program? Even though the City inspects each business annually, the FOG and IWD Questionnaires showed more than 47% of businesses were not familiar with the COB's Stormwater Management Program; 61% of businesses were unaware of their business activities impact to stormwater; and 15% of the businesses did not believe their business was in compliance with the City's Stormwater Management Program. Based on the results, the COB Contract Staff will continue to engage FOG and IWD Program participants by conducting the Stormwater Questionnaires and providing stormwater outreach related materials during the inspection. In Year 4, the COB will modify its FOG Questionnaire/Survey to address good housekeeping behaviors and habits.

The COB continues to provide IDDE and Staff and Site Operator Training as described within the Illicit Discharge Detection and Elimination [CASQA Outcome Level 4] Section above.

#### COS Data Assessment/Collection:

During Year 2, the COS has launched a Close the Poop Loop, a pilot pet waste campaign, aimed to target unattended dog waste throughout the City. The campaign was created in collaboration with the Cities of Carpinteria, Goleta, Guadalupe, Lompoc, Santa Barbara,

Santa Maria, Buellton and the County of Santa Barbara's Project Clean Water to encourage residents to pick up after their dogs and toss it in the trash. The Mutt Mitt Program's efforts to continue to provide pet waste disposal bags at Hans Christian Andersen Park, Sunny Fields Park, Solvang Parks, and Veterans Memorial Building for use by the public, has helped reduce or eliminate pet waste at those locations. In total, the Mutt Mitt Program's Bi-weekly Maintenance provided approximately 8,000 bags during Year 3. The results of Year 2 pilot pet waste campaign Pre- and Post-campaign Survey Results indicated that there was 0% change even though the COS developed strategic partnerships with 3 pet-related businesses within the targeted areas to display campaign materials to local dog owners in places they regularly frequent and from people they trust as well as target 1 dog related event and conducted various messaging campaigns. The COS continues to conduct Mutt Mitt Station Bi-weekly Maintenance and provide pet waste bags disposal bags to Dog Owners.

In Year 4, the COB and COS reviewed the recommendations from the pilot pet waste campaign and relaunched the CTPL Pet Waste Campaign on the Cities website and promoted through direct mailers/media campaign at the Santa Ynez Valley Earth Day Event. The COB and COS revised and distributed education and outreach materials (28 CTPL Post Cards; 31 CTPL Dog Dispensers for Pet Waste; 29 Pet Food Scoops) to Dog Owners at this event who took a Pledge to CTPL and spread the word and use the CTPL bag dispenser for pet waste; and the CTPL pet food scoop to keep the message alive. The City also promoted the CTPL campaign through posting information at the Santa Ynez Valley Botanical Garden's Information Kiosk Display Board as well as incorporated the CTPL Campaign into the Stormwater Pollution Prevention Presentation given to local schools.

During Year 5, the COB and COS will expand the CTPL Campaign by placing a Pledge Form within the City Hall, SYV Human Society and other City sponsored events as well as to distribute the education and outreach materials to Dog Owners who take the CTPL Pledge.

In Year 3, the COS's FOG Program is managed by the Wastewater Division. The Division provides FOG control material to new Food Service Establishments (FSE) and existing businesses experiencing FOG problems, surveys are not part of their education and outreach program.

In Year 4, the Stormwater Program created an online FOG Questionnaire/Survey. Survey invite cards were created with instructions and a link to the online survey. Wastewater staff was asked to distribute the survey cards during routine FOG inspections. The online survey asked the following 3 questions 1) Are you familiar with the COS's Storm Water Program?; 2) Are you aware of the requirements for your type of business activity?; and 3) Do you believe your business is in compliance with the City's Storm Water Program and other questions related to good housekeeping behaviors and habits.

The City did not receive any responses to the online survey. The low participation could be due in part to the lack of interest among restaurant employees and/or internal misunderstandings of stormwater and FOG program goals. Currently there is a low incident of FOG related SSO's in the City's commercial services areas. From a collection system perspective the FOG-control program is achieving the FOG-control's number one goal of preventing main line blockage and spills. While, additional data collection related to FOG-control is not discouraged it is also not a top priority for the collection system staff.

The stormwater program will continue to promote the on-line survey; make Restaurant BMPs that include proper grease disposal instruction available at City Hall and online; and include restaurant BMPs with all restaurant IDDE follow-ups.

In Year 5, the Stormwater Program will coordinate with the County Health Department to better understand their role in FOG-control. Program staff will also coordinate with the Wastewater Division during their annual effectiveness evaluation to better understand the existing FOG-control program and look for opportunities to integrate education and outreach requirements.

The COS continues to provide IDDE and Staff and Site Operator Training as described within the Illicit Discharge Detection and Elimination [CASQA Outcome Level 4] Section above.

### **Water Quality Monitoring [CASQA Outcome Level 5]**

Both the COB and COS are participating in the Santa Barbara County Public Works Department's regional water quality monitoring program. The draft Urban Storm Water Monitoring Plan (titled Receiving Water Monitoring Plan) FY 2015-2018 was submitted to Region 3 Water Board on December 29, 2014. This plan included a regional monitoring approach for Cities of Buellton, Solvang, Carpinteria, Goleta and the County of Santa Barbara. The Quality Assurance Project Plan along with the updated Urban Storm Water Monitoring Plan, revised to address comments from the Regional Board was submitted on October 13, 2015 through the SMARTS Database. On March 4, 2016, Santa Barbara County Project Clean Water received Executive Officer Approval for the revised Urban Stormwater Monitoring Plan (USWMP) and the Quality Assurance Plan (QAPP). Monitoring was initiated during Year 3 and results will be reported as part of the Year 3 and subsequent Annual Reports.

The results of the USWMP will provide a land use-based pollutant load prioritization and reduction model (LPRM) that will be used to calculate wet weather loads produced in the monitoring area, prioritize catchments for BMP placement, and evaluate the performance of existing and future BMPs. The monitoring data collected in Year 3 through the activities described in this Plan were used to inform the model, by providing site-specific land use pollutant concentration data. As described within the USWMP, the monitoring outfalls will be selected based on their drainage areas consisting of a more or less homogenous land use category. Once 8 to 10 storms have been analyzed, the EMCs used in the model will be revised to include our local runoff concentrations, and new modeling results will be reported.

On November 10, 2016, the CCRWQCB provided comments on how to refine the model approach to meet specific requirement listed in both Technical Report Order 13267 (issued on June 13, 2016) and 13383 (issued on June 1, 2017). During Year 5, the revised LPRM will be submitted to the CCRWQCB for review and approval.

### **SEDIMENTATION/SILTATION (Total Suspended Solids)**

#### **Education and Outreach [CASQA Outcome Level 2-3]**

#### COB Data Assessment/Collection:

During Year 4, the COB continued to implement a Spill Response Plan which provides guidance to City Staff and Authorized Contract Staff responding to a complaint or notice of a spill discharge or illicit connection; and conducting an investigation to locate and identify the source of a non-stormwater discharge. Both City Staff and Authorized Contract Staff (20 City Staff and 7 City Contract Staff) were provided IDDE; Staff and Site Operator Training; and Permittee Staff Training. The training has provided an increase in stormwater general awareness amongst staff and has result in and an increase in reporting of possible illicit discharges or connections.

The COB maintained connections with 6 construction contractors through issuance of grading permits and inspections which occur at various frequencies (Prior to Land Disturbance; Prior to Rainy Season; Prior to any Forecast Storm (50% or Greater); During Rainy Season; After Rain Events that cause Runoff; 24-Hour Interval during Extended Rain Event; During Active Construction; Following Active Construction; and/or Monthly) to ensure the construction contractors are informed of proper erosion and sediment control measures.

During Year 3, the COB provided each construction contractor a copy of EPA's Construction Outreach Poster (24 in x 36 in) "Stormwater and the Construction Industry" (via hand delivered and email). The poster was modified to include the COB contact information and Storm Drain Curb Marker Logo "Only Rain, Down the Storm Drain" contains both written and visual examples on how to "Maintain your BMPs" at a construction site. The COB made it clear that the poster does not replace BMP requirements listed with the sites Stormwater Pollution Plan (SWPPP) and/or Erosion and Sediment Control Plan (E&SCP) nor does it eliminate any additional BMPs that the construction contractor may be implementing as part of their plan. The EPA's Construction Outreach Poster (24 in x 36 in) "Stormwater and the Construction Industry" was also added to the COB website for availability to the construction industry. In addition, the COB uploaded and maintains the "Prevent Soil Erosion on Your Property – A Homeowner's Guide to Erosion Control" guide on the City's website and within the brochure displays at designated City facilities (City Hall, Planning Department) as additional education and outreach materials for Homeowners.

In Year 4, the COB and COS distributed workshop information to local Stormwater Professionals to promote the County of Santa Barbara Project Clean Water's Storm Water Technical Guide Workshop for Low Impact Development. The free workshop for land development professionals, civil engineers, architects, geotechnical engineers, development, agents, contractors and municipal staff. The workshop was held at 2 optional locations on February 7, 2017 (San Luis Obispo), February 8, 2017 (Santa Barbara). The COB made 29 education and outreach connections to Stormwater Professionals through the City Engineering Department via phone and/or email correspondence.

#### COS Data Assessment/Collection:

During Year 4, the COS continued to implement a Spill Response Plan which provides guidance to City Staff and Authorized Contract Staff responding to a complaint or notice of a spill discharge or illicit connection; and conducting an investigation to locate and identify the source of a non-stormwater discharge. There were 14 City Staff that were provided IDDE; Staff and Site Operator Training; and Permittee Staff Training. The training has provided an increase in stormwater general awareness amongst staff and has result in and an increase in reporting of possible illicit discharges or connections.

The COS maintained connections with 2 construction contractors through issuance of grading permits and inspections which occur at various frequencies to ensure the construction contractors are informed of proper erosion and sediment control measures.

During Year 3, the COS also provided each construction contractor a copy of EPA's Construction Outreach Poster (24 in x 36 in) "Stormwater and the Construction Industry" (via hand delivered and email). The poster which was modified to include the COS contact information and Storm Drain Curb Marker Logo "No Dumping, Drains to River" contains both written and visual examples on how to "Maintain your BMPs" at a construction site. The COS made it clear that the poster does not replace BMP requirements listed with the sites Stormwater Pollution Plan (SWPPP) and/or Erosion and Sediment Control Plan (E&SCP) nor does it eliminate any additional BMPs that the construction contractor may be implementing as part of their plan. The EPA's Construction Outreach Poster (24 in x 36 in) "Stormwater and the Construction Industry" was also added to the COS website for availability to the construction industry. In addition, the COS uploaded and maintains the "Prevent Soil Erosion on Your Property – A Homeowner's Guide to Erosion Control" on the City's website as and within the brochure displays at designated City facilities (City Hall, Planning Department) as additional education and outreach material for Homeowner's.

In Year 4, the COS and COS also distributed workshop information to local Stormwater Professionals to promote the County of Santa Barbara Project Clean Water's Storm Water Technical Guide Workshop for Low Impact Development. The free workshop for land development professionals, civil engineers, architects, geotechnical engineers, development, agents, contractors and municipal staff. The workshop was held at 2 optional locations on February 7, 2017 (San Luis Obispo), February 8, 2017 (Santa Barbara). The COB made 29 education and outreach connections to Stormwater Professionals through the City Engineering Department via phone and/or email correspondence.

#### **Illicit Discharge Detection and Elimination [CASQA Outcome Level 4]**

##### COB Data Assessment/Collection:

During Year 4, the COB continues to implement its IDDE Program through BMC Title 15 Stormwater Chapter 15.01 Stormwater Management and Discharge Control also known as the Stormwater Management and Discharge Ordinance and the COB Stormwater Program Management Certification Statement which provides COB full legal authority to implement and enforce each of the NPDES Phase II MS4 General Permit requirements. The COB also developed and implemented Enforcement Response Plan that includes enforcement measures and tracking of the types of enforcement responses.

The COB has also implemented a Spill Response Plan which provides guidance to City Staff and Authorized Contract Staff responding to a complaint or notice of a spill discharge or illicit connection; and conducting an investigation to locate and identify the source of a non-stormwater discharge. During Year 4, both City Staff and Authorized Contract Staff (20 City Staff and 7 City Contract Staff) were provided IDDE and Staff and Site Operator Training. The training has provided an increase in stormwater general awareness amongst staff and has result in and an increase in reporting of possible illicit discharges or connections. In Year 4, there were no site investigations associated with

sedimentation/siltation related discharges from construction site. As part of the Stormwater Management Program, the COB continues to work with construction contractors to resolve any corrective actions and/or discrepancies found during the inspection.

COS Data Assessment/Collection:

During Year 4, the COS continues to implement its IDDE Program through SMC Title 14 Stormwater Management also known as the Stormwater Management Ordinance and the COS's Stormwater Program Management Certification Statement which provides the City full legal authority to implement and enforce each of the NPDES Phase II MS4 General Permit requirements. The COS also developed a draft Enforcement Response Plan that includes enforcement measures and tracking of the types of enforcement responses. In Year 4, there were 3 site investigations associated with sedimentation/siltation related discharges from construction sites. As a result of these investigations, the COS issued 5 verbal warnings as a result of construction activities. As part of the Stormwater Management Program, the COS continues to work with construction contractors to resolve any corrective actions and/or discrepancies found during the inspection.

The COS has also implemented a Spill Response Plan which provides guidance to City Staff responding to a complaint or notice of a spill discharge or illicit connection; and conducting an investigation to locate and identify the source of a non-stormwater discharge. There were 14 City Staff that were provided IDDE; Staff and Site Operator Training; and Permittee Staff Training. The training has provided an increase in stormwater general awareness amongst staff and has result in and an increase in reporting of possible illicit discharges or connections.

**Construction Site Stormwater Runoff Control [Outcome Level 2-3]**

COB Data Assessment/Collection:

During Year 4, the COB issued 1 new construction site grading permits. Since the construction site is working under a SWPPP approved by the State Water Resources Control Board and the has ab E&SCP, the COB does not consider sites with an E&SCP a water quality threat as long as the site continues to actively implement the E&SCP.

There are 4 construction sites received discretionary approval after March 6, 2014 and required the submittal of a Storm Water Control Plan (SWCP) which was developed for compliance with Post Construction Requirements (PCRs) and Low Impact Development Measures. The COB completed the review and approval of 3 SWCP.

The COB also continued to inspection 6 construction sites which are occur at various frequencies to ensure the construction contractors are informed of proper erosion and sediment control measures. For these 6 construction sites I, the COB conducted the following type of inspections w Prior to Land Disturbance; Prior to Rainy Season; Prior to any Forecast Storm (50% or Greater); During Rainy Season; After Rain Events that cause Runoff; 24-Hour Interval during Extended Rain Event; During Active Construction; Following Active Construction; Monthly). As part of the Stormwater Management Program, the COB will continue to monitor the erosion and sediment control measures. Due to the high volume of construction inspections, the COB will re-evaluate the frequency of inspections to ensure effective use of resources while still complying with the NPDES Phase II MS4 General Permit requirements.

#### COS Data Assessment/Collection:

During Year 4, the COS issued 1 new construction site grading permit. The construction sites are working under a SWPPP approved by the State Water Resources Control Board. All 2 active construction sites have an E&SCP, the COS does not consider sites with an E&SCP a water quality threat as long as the site continues to actively implement the E&SCP. It should be noted that all 3 construction sites received discretionary approval prior to March 6, 2014; and therefore, these sites did not require the submittal of a SWCP to comply with PCRs and LID Measures. There was also 1 residential construction site that is on hold is not required to implement an E&SCP because it fell below the regulatory threshold requiring a SWPPP or a SWCP. Even though the residential construction site was not required to implement an E&SCP, the City requested that the construction documents include an E&SCP for City review and approval. As a result of our learning experience with this residential project, the COS will require an E&SCP for all future construction sites that are requesting a grading permit.

The COS also inspected the 2 active construction sites at various frequencies to ensure the construction contractors were informed of proper erosion and sediment control measures. As part of the Stormwater Management Program, the COS will continue to monitor the erosion and sediment control measures. The COS will re-evaluate the frequency of inspections to ensure effective use of resources while still complying with the NPDES Phase II MS4 General Permit requirements.

#### **Post-Construction Site Stormwater Runoff Control [CASQA Outcome Level 2-3]**

#### COB Data Assessment/Collection:

During Year 4, there were 2 out of 7 active construction sites that received discretionary approval after March 6, 2014 and were required to submit a SWCP to comply with PCRs and LID Measures. All 7 active construction sites that implemented LID Measure(s).

#### COS Data Assessment/Collection:

During Year 4, there was 1 active construction site that received discretionary approval after March 6, 2014 that required a submittal of a SWCP to comply with PCRs and LID Measures. Out of 2 active construction sites, there was 1 construction site that implemented LID Measure(s).

#### **Pollution Prevention and Good Housekeeping [CASQA Outcome Level 2-3]**

#### COB Data Assessment/Collection:

During Year 4, the COB Street Sweeping Maintenance Contractor continues to conduct Bi-Monthly Street Sweeping Activities on all municipal streets (residential and arterial roads but not private roads), alleyways, and parking lots based on a pre-determined frequency and route. By conducting street sweeping activities, the COB minimized sedimentation/siltation from entering the storm drain conveyance system. The COB also developed and implemented a Storm Drain System Assessment, Prioritization and Maintenance Standard Operating Procedure (SOP) to comply with the NPDES Phase II MS4 General Permit. As a pollution prevention and good housekeeping measure, City Staff were instructed to ensure dumpsters are closed; paint solvents, metals and other construction materials are

properly stored and covered; and to walk their facilities and pick up any trash or debris that has accumulated prior to forecast of rain.

During Year 3, the Storm Drain Maintenance Contractor (SDMC) inspected and cleaned all 137 catch basins and drop inlets and 10 area drains. COB also worked with a Landscape Maintenance Contractor (LMC) to schedule annual maintenance activities on 3 above-ground conveyance systems. During the inspection/maintenance activity, the SDMC was able to remove buckets of sediment/sand/dirt/rocks (including trash and debris) from the Storm Drain System. Based on the results of these activities, the COB also updated its inventory for Year 4 to include newly identified structures, replace/install damaged/missing Storm Drain Curb Markers; and facilitated storm drain infrastructure repairs. During Year 4, the COB continued to work with a SDMC and LMC to conduct inspection/maintenance activities on the City's Storm Drain System. The City reviewed Year 3 and Year 4 inspection results to prioritize inspection and maintenance activities in order to ensure effective use of resources while still complying with the NPDES Phase II MS4 General Permit requirements. During Year 4, the SDMC inspected and cleaned the City owned and operated catch basins, drop inlets and area drains.

#### COS Data Assessment/Collection:

During Year 4, the COS Street Sweeping Maintenance Contractor continues to conduct Street Sweeping Activities on all municipal streets (residential and arterial city streets) bi-monthly, downtown village area once per month, alleys downtown every month, and Hans Christian Andersen Park and Sunny Fields Park quarterly. By conducting street sweeping activities, the COS minimized sedimentation/siltation from the entering the storm drain conveyance system to comply with the NPDES Phase II MS4 General Permit.

In response to erosion control and soil preservation concerns during the rainy season, City Staff were instructed to inspect and secure any areas prone to flooding and erosion within their area of responsibility. In addition, the COS placed gravel bags along the access road to Reservoir 2. Public Works staff was provided various BMP installation details and received instructions on installation of the gravel bag BMPs.

The COS also developed and implemented a Storm Drain System SOP for Assessing & Prioritizing Maintenance Activities to comply with all required program elements of the NPDES Phase II MS4 General Permit. The COS has over 300 storm drain structures in its inventory. The COS does not have the resources to inspect and clean all storm drain structures annually. The COS used their GIS database to develop a method for prioritizing and assessing the inventory. All high-priority areas were inspected and minor maintenance was performed. Additional maintenance will be scheduled during Year 4. The City is going to continue with the assessment method describe above for the remainder of this permit term.

#### **Water Quality Monitoring [CASQA Outcome Level 5]**

Both the COB and COS are participating in the Santa Barbara County Public Works Department's regional water quality monitoring program. The draft Urban Storm Water Monitoring Plan (titled Receiving Water Monitoring Plan) FY 2015-2018 was submitted to Region 3 Water Board on December 29, 2014. This plan included a regional monitoring approach for Cities of Buellton, Solvang, Carpinteria, Goleta and the County of Santa Barbara. The Quality Assurance Project Plan along with the updated Urban Storm Water

Monitoring Plan, revised to address comments from the Regional Board was submitted on October 13, 2015 through the SMARTS Database. On March 4, 2016, Santa Barbara County Project Clean Water received Executive Officer Approval for the revised Urban Stormwater Monitoring Plan (USWMP) and the Quality Assurance Plan (QAPP). Monitoring was initiated during Year 3 and results will be reported as part of the Year 3 and subsequent Annual Reports.

The results of the USWMP will provide a land use-based prioritization and reduction (LPRM) model that will be used to calculate wet weather loads produced in the monitoring area, prioritize catchments for BMP placement, and evaluate the performance of existing and future BMPs. The Plan will be used to inform the model, by providing site-specific land use pollutant concentration data. As described within the USWMP, the monitoring outfalls were selected based on their drainage areas consisting of a more or less homogenous land use category. The first year of wet weather urban runoff was initiated in Year 3. Four storms were monitored at a total of 6 sites representing different land use types. Once 8 to 10 storms have been analyzed, the event mean concentrations used in the model will be revised to include our local runoff concentrations, and new modeling results will be reported

On November 10, 2016, the CCRWQCB provided comments on how to refine the model approach to meet specific requirement listed in both Technical Report Order 13267 (issued on June 13, 2016) and 13383 (issued on June 1, 2017). During Year 5, the revised LPRM will be submitted to the CCRWQCB for review and approval.

There no changes to the survey or quizzes at outreach events at this time until the COB have comparable data through ongoing surveys.

### **3. Short- and Long-Term Program Effectiveness**

During Year 4, the COB and COS continue to have two short term goals. Comply with the NPDES Phase II MS4 General Permit requirements and to fully implement the SOPs developed during this permit term to minimize the identified high- and medium-priority POCs from entering the Storm Drain System. Continue to collect and track program data that will be used to modify and improve each City's Storm Water Management Program.

The long term goal of the effectiveness assessment program is to reduce pollutants from the MS4 to the maximum extent practicable. By applying Best Management Practices that are effective in reducing or eliminating the discharge of pollutants to the waters of the U.S. Through the emphasis of pollutant reduction and source control BMPs to prevent pollutants from entering storm water run-off. Our Cities recognize that this is a dynamic process and may require changes over time as we gain experience and as new science and technologies become available.

Report\_Summary

Report Summary Text File - Auto-generated by SMARTS on 10/16/2017 15:43:02

Name of Report: Phase II Small MS4 Annual Report - Traditionals 2016 - 2017 Annual

Certifier Name: Rose Hess

Certifier Title: Director of Public Works

Certifier Password Hash:

4f49905484a997f113cf27b81c0fc5ac0b8c117fe74338b5b09b5e174ef7ddca

Certifier User Account ID: 626600

Certification Computer IP: 198.143.34.33

Certification Executed On:

WARNING - Unable to Retrieve Certifier Details or Confirmation Number

2016-2017

**Phase II Small MS4 Annual - Report**

REPORTING PERIOD:07/01/2016 - 06/30/2017

**WDID No:** 3 42M2000150

**Permittee Information**

City of Buellton

Marc Bierdzinski

marcb@cityofbuellton.com

PO Box 1819

Buellton

CA

93427

**Phase II Small MS4 Annual - Report - 2016-2017**  
**Questions & Answers**

Q No.	Text	DropDown Answer	CheckBoxAnswer	DescriptiveAnswer	Date Answer	Number Answer
1	<p>Did the Permittee upload the Central Coast Post-Construction Stormwater Requirements annual reporting form and all other documents required in the form? Access form here. If the form does not open, right click on the hyperlink and chose the option, 'Save Target As'. To get full utilization of the form, the form must be viewed and completed using Adobe software. Adobe Reader can be downloaded for free.</p>	Yes				

**Phase II Small MS4 Annual - Report - 2016-2017  
CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

<b>Name: Rose Hess</b>	<b>Title: Director of Public Works</b>	<b>Date: 10/16/2017</b>
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**Phase II Small MS4 Annual - Report - 2016-2017  
ATTACHMENTS**

<b>Attachment Title</b>	<b>Description</b>	<b>Date Uploaded</b>	<b>Attachment Type</b>	<b>Attachment Hash</b>	<b>Doc Part No/Total Parts</b>
PCRs Annual Report FY2016-2017-Long-Term Operation and Maintenance-Buellton	PCRs Annual Report FY2016-2017-Long-Term Operation and Maintenance-Buellton	2017-10-09 11:56:55.0	Supporting Documentation	8dd6f659afd129398c9489195111228bc727f93a4a02b4dcf2b894c991797	1/1
PCRs Annual Report FY2016-2017-Buellton	PCRs Annual Report FY2016-2017-Buellton	2017-10-09 11:35:52.0	Supporting Documentation	bfb876e780f925d3fde47f76bc8d6dd13e8c942cbab24e78ad4b7ef835a0a3	1/1
PCRs Annual Report FY2016-2017-Solvang	PCRs Annual Report FY2016-2017-Solvang	2017-10-09 12:08:39.0	Supporting Documentation	cca71ff5682bd5dba7ec07b88fe68d478ac438f7232c64b31402c4c984	1/1

Central Coast Post-Construction Stormwater Management Requirements (PCRs)

Resolution No. R3-2013-0032  
Annual Reporting Form  
August 2014 Version

**Due Date:** By October 15, 2014 and October 15 annually thereafter, Permittees must submit this reporting form.

**Instructions:** Complete form electronically. Answer questions and supply requested information for the Reporting Period only. Upload completed form to Storm Water Multiple Application and Report Tracking System (SMARTS) and name the file, "PCRs Annual Report [insert reporting period]". Also, upload requested attachments to SMARTS using specified nomenclature.

**SECTION I: GENERAL PERMITTEE INFORMATION**

WDID# and Permittee Name

County:

**SECTION II: REPORTING PERIOD**

Reporting Period:

**SECTION III: COMPLETED PROJECTS**

How many projects, that received occupancy completion documentation (e.g., Certificate of Occupancy) during the Reporting Period, created and/or replaced  $\geq$  2,500 square feet of impervious surface?

**SECTION III: CONTINUED ...**

Project categories based on created and/or replaced impervious surface area		Number of Projects in each category that received occupancy completion documentation (e.g., Certificate of Occupancy) during the Reporting Period and had an approval per PCRs Provision B.1.c
Lower Bound	Upper Bound	
≥ 2,500 square feet	<5,000 square feet Net Impervious Area (all projects except single-family homes) and <15,000 square feet Net Impervious Area (only single-family homes)	0
≥5,000 square feet Net Impervious Area (all projects except single-family homes) and ≥15,000 square feet Net Impervious Area (only single-family homes)	<15,000 square feet (all projects except single-family homes) and <15,000 square feet Net Impervious Area (only single-family homes)	0
≥15,000 square feet (all projects except single-family homes) and ≥15,000 square feet Net Impervious Area (only single-family homes)	<22,500 square feet	0
≥22,500 square feet	N/A	1
Total		1

**SECTION IV: PROJECTS SUBJECT TO POST-CONSTRUCTION REQUIREMENTS**

Performance Requirements*	Number of Projects subject to Performance Requirements that received completion documentation during the Reporting Period	Number of Projects with structural Water Quality Treatment, Runoff Retention, and/or Peak Management controls	Number of Projects where field verification of Site Design, Water Quality Treatment, Runoff Retention, and/or Peak Management controls was completed	Number of Projects where field verification confirmed <u>ALL</u> Site Design, Water Quality Treatment, Runoff Retention, and/or Peak Management controls were implemented in accordance with PCRs
Only No. 1	0	N/A		
Only Nos. 1 and 2		0		
Only Nos. 1, 2, and 3			0	
Only Nos. 1, 2, 3, and 4				1
Total	0	0	0	1

\* Only include projects once in table. For example, if a project triggers all four performance requirements, only address that project in the, "Only Nos. 1, 2, 3, and 4" row. Do not also count the project in the cells for the above three rows.

**SECTION V: SPECIAL CIRCUMSTANCES AND ALTERNATIVE COMPLIANCE**

Note: If the Permittee did not grant any Special Circumstances and/or Alternative Compliance for Projects that received completion documentation during the Reporting Period, skip Section V.

To add another Project, click 'Add Row'

Add Row

Delete Row

Names of Projects that received completion documentation during the Reporting Period and the Permittee granted Special Circumstances and/or Alternative Compliance	Alternative Compliance type (Select all that apply)							If technical infeasibility is rationale for Alternative Compliance, does Project's Stormwater Control Plan adequately demonstrate basis for infeasibility?	
	Watershed or Regional Plan	Urban Sustainability Area	Highly Altered Channel Special Circumstance	Intermediate Flow Control Facility Special Circumstance	Historic Lake or Wetland Special Circumstance	Technical Infeasibility Performance Requirement No. 2	Technical Infeasibility Performance Requirement No. 3		Technical Infeasibility Performance Requirement No. 4
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

**SECTION V: CONTINUED ...**

To add another Project, click 'Add Row'

Add Row

Delete Row

Names of Projects that received completion documentation during the Reporting Period and the Permittee granted Special Circumstances and/or Alternative Compliance	Alternative Compliance type (Select all that apply)									If technical infeasibility is rationale for Alternative Compliance, does Project's Stormwater Control Plan adequately demonstrate basis for infeasibility?
	Watershed or Regional Plan	Urban Sustainability Area	Highly Altered Channel Special Circumstance	Intermediate Flow Control Facility Special Circumstance	Historic Lake or Wetland Special Circumstance	Technical Infeasibility Performance Requirement No. 2	Technical Infeasibility Performance Requirement No. 3	Technical Infeasibility Performance Requirement No. 4		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

**SECTION VI: MITIGATION PROJECTS CONSTRUCTED FOR ALTERNATIVE COMPLIANCE**

Were there any mitigation projects constructed for Alternative Compliance during the Reporting Period?  Yes  No

If yes, did the Permittee upload to SMARTS the below information?

- A summary description of mitigation projects constructed during the Reporting Period comparing the expected aggregate results of Alternative Compliance projects to the results that would otherwise have been achieved by meeting the numeric Performance Requirements on-site. The summary should quantitatively compare results. For example, if the Alternative Compliance project is mitigating for a project that could not fully meet Performance Requirement No. 3 onsite, then the summary should quantify the following: 1) onsite retention volume required by Performance Requirement No. 3, 2) volume of runoff actually retained on site, and 3) volume of runoff retained at the Alternative Compliance project site.
- For public offsite mitigation projects, a summation of total offsite mitigation funds raised to date and a description (including location, general design concept, volume of water expected to be retained, and total estimated budget) of all pending public offsite mitigation projects

SMARTS upload title: *"PCRs Annual Report [insert reporting period] – Mitigation Projects"*

**SECTION VII: LONG-TERM OPERATION AND MAINTENANCE**

Did the Permittee upload to SMARTS a copy (e.g., screenshot) of the structural Stormwater Control Measure Operation and Maintenance database that shows all entries from the Reporting Period (see PCRs Provision E.3)?  Yes  No

SMARTS upload title: *"PCRs Annual Report [insert reporting period] – Long-Term Operation and Maintenance"*

**SECTION VIII: ADDITIONAL UPLOADS**

Did the Permittee upload to SMARTS information to demonstrate Performance Requirement No. 1 was applied to all applicable projects during the Reporting Period (including sample checklist)?  Yes  No

SMARTS upload title: *"PCRs Annual Report [insert reporting period] – Performance Req No1 Implementation"*

CITY OF BUELLTON  
 POST-CONSTRUCTION MANAGEMENT REQUIREMENTS FOR DEVELOPMENT PROJECTS IN THE CENTRAL COAST REGION  
 RESOLUTION NO. R3-2013-0032  
 Section E Operation and Maintenance for Structural Stormwater Control Measures (SCM)

Entry No.	Project Name	Project Number (City # / MNS #)	Project Address	SCM ID Number	SCM Type (List Applicable Codes*)	SCM Description (DMA#)	Completion Date (MM/DD/YY)				O&M Location (physical and/or electronic)	O&M Responsible Party		O&M Funding Source	O&M Maintenance Verification	Problems Identified During Inspection (including Vector or Nuisance Problems)
							Construction	Field Verification	Final Project Approval / Occupancy	O&M Plan Approval	Plan/Agreement	Name	Phone Number			
#	Tyson Development	##-ABC-## / 12345	5555 Tower Road; Tower City, CA 55555	PR4: Peak Management	SDRR2, WQT1	Retention/Detention Basin (DMA #)	7/1/14	12/15/14	2/15/15				Private			
5	Hampton Inn	14-FDP-01 / CIBUE.140183.00	600 McMurray Road, Buellton, CA 93427	PR4: Peak Management	SDRR2,SDRR3, WQT2, RR1, RR8, RR9, PM1	(1) Retention/Detention Basin (SCM-1) (2) Self-Treating Areas: Landscape Area (LS-1) Landscape Area (LS-2) Landscape Area (LS-3) Landscape Area (LS-4) Landscape Area (LS-5) Landscape Area (LS-6) Landscape Area (LS-7) Landscape Area (LS-8) Landscape Area (LS-9) Landscape Area (LS-10) Landscape Area (LS-11) Landscape Area (LS-12) Landscape Area (LS-13) Landscape Area (LS-14) Landscape Area (LS-15) Landscape Area (LS-16) Landscape Area (LS-17) Landscape Area (LS-18) Landscape Area (LS-19) Landscape Area (LS-20) (3) Self-Retaining Areas: Landscape Area (DMA SR-1) Landscape Area (DMA SR-2) Landscape Area (DMA SR 3) Landscape Area (DMA SR-4) Landscape Area (DMA SR-5)				7/28/16	Plan: Hard Copy-MNS Engineer Project File & Electronic Copy -MNS Engineer Electronic File and City of Buellton PWD Electronic File	James Flagg, Ocean Park Hotel BLT LLC	(805) 544- 0800	Private		
8	Tilton Engineering	14-FDP-04 / CIBUE.150087	890 McMurray Road, Buellton, CA 93427	PR4: Peak Management	SDRR2, SDRR4, WQT1, RR1,, RR8, RR9, PM1	(1) Underground Storage & Infiltration Facilities-Stormtech Chamber MC-3500: (Underground Storage 1 ) (Underground Storage 2 ) (2) Self-Retaining Areas: Landscape Area (Landscape 12) Landscape Area (Landscape 13) Landscape Area (Landscape 14) Landscape Area (Landscape 15) Landscape Area (Landscape 16) Landscape Area (Landscape 17)	11/2/16	11/28/16	12/28/16	8/31/16	Plan: Hard Copy-MNS Engineer Project File & Electronic Copy -MNS Engineer Electronic File and City of Buellton PWD Electronic File	Todd Cooper- Tilton Engineering, Inc.	(805) 688- 2353 x 120	Private		
9	Chumash Mixed Use Project	CIBUE.121089.00	890 McMurray Road, Buellton, CA 93427	PR4: Peak Management	Project On-Hold											
11	Fig Mountain Brewery Expansion	CIBU.160366	73/75 Industrail Way, Buellton, CA 93427	PR4: Peak Management	Project On-Hold SDRR2, WQT1, RR1, RR8, RR9, PM1											
*SCM Type Code	SDRR1: Direct roof runoff into cisterns or rain barrels for reuse SDRR2: Direct roof runoff onto vegetation areas SDRR3: Direct runoff from sidewalks, walkways and/or patios onto vegetated areas SDRR4: Direct runoff from driveways and/or uncovered parking lots, onto vegetated areas SDRR5: Construct bike lanes, driveways, uncovered parking lots, sidewalks, walkways and patios with permeable surfaces WQT1: LID Treatment System - Harvesting and Use, Infiltration and Evapotranspiration SCM w/Hydraulic Sizing Criteria (Retain Stormwater Runoff - 85 percentile 24-hour storm event based on local rainfall data) WQT2: Biofiltration Treatment System (Treat Storm Water Runoff - 0.2 inches/hour intensity or 2 X's 85 percentile hourly rainfall for the applicable area, based on historical records of hourly rainfall depth) WQT3a: Non-Retention Treatment Systems w/Hydraulic Sizing Criteria - Volume Hydraulic Design Basis (Treat Stormwater Runoff - 85 percentile 24-hour storm event, based on local rainfall data) WQT3b: Non-Retention Treatment Systems w/Hydraulic Sizing Criteria - Flow Hydraulic Design Basis (Treat Storm Water Runoff - 0.2 inches/hour intensity or 2 X's 85 percentile hourly rainfall for the applicable area, based on historical records of hourly rainfall depth) RR1: Retain 95th Percentile Rainfall Event - Optimizing Infiltration via Storage RR2: Retain 95th Percentile Rainfall Event - Optimizing Infiltration via Rainfall Harvesting RR3: Retain 95th Percentile Rainfall Event - Optimizing Infiltration via Evapotranspiration RR4: LID - Site Assessment Measures RR5: LID - Site Design Measures RR6: LID - Delineation of discrete Drainage Management Areas RR7: LID - Undisturbed and Natural Landscape Areas RR8: LID: Structural Stormwater Control Measures RR9: Hydrologic Analysis and Structural Control Measuring Sizing PM1: Post-development peak flows, discharge from the site, shall not exceed pre-project peak flows for the 2-10 year storm events.															

Central Coast Post-Construction Stormwater Management Requirements (PCRs)

Resolution No. R3-2013-0032  
Annual Reporting Form  
August 2014 Version

**Due Date:** By October 15, 2014 and October 15 annually thereafter, Permittees must submit this reporting form.

**Instructions:** Complete form electronically. Answer questions and supply requested information for the Reporting Period only. Upload completed form to Storm Water Multiple Application and Report Tracking System (SMARTS) and name the file, "PCRs Annual Report [insert reporting period]". Also, upload requested attachments to SMARTS using specified nomenclature.

**SECTION I: GENERAL PERMITTEE INFORMATION**

WDID# and Permittee Name

County:

**SECTION II: REPORTING PERIOD**

Reporting Period:

**SECTION III: COMPLETED PROJECTS**

How many projects, that received occupancy completion documentation (e.g., Certificate of Occupancy) during the Reporting Period, created and/or replaced  $\geq$  2,500 square feet of impervious surface?

**SECTION III: CONTINUED ...**

Project categories based on created and/or replaced impervious surface area		Number of Projects in each category that received occupancy completion documentation (e.g., Certificate of Occupancy) during the Reporting Period and had an approval per PCR's Provision B.1.c
Lower Bound	Upper Bound	
≥ 2,500 square feet	<5,000 square feet Net Impervious Area (all projects except single-family homes) and <15,000 square feet Net Impervious Area (only single-family homes)	0
≥5,000 square feet Net Impervious Area (all projects except single-family homes) and ≥15,000 square feet Net Impervious Area (only single-family homes)	<15,000 square feet (all projects except single-family homes) and <15,000 square feet Net Impervious Area (only single-family homes)	0
≥15,000 square feet (all projects except single-family homes) and ≥15,000 square feet Net Impervious Area (only single-family homes)	<22,500 square feet	0
≥22,500 square feet	N/A	0
Total		0

**SECTION IV: PROJECTS SUBJECT TO POST-CONSTRUCTION REQUIREMENTS**

Performance Requirements*	Number of Projects subject to Performance Requirements that received completion documentation during the Reporting Period	Number of Projects with structural Water Quality Treatment, Runoff Retention, and/or Peak Management controls	Number of Projects where field verification of Site Design, Water Quality Treatment, Runoff Retention, and/or Peak Management controls was completed	Number of Projects where field verification confirmed <u>ALL</u> Site Design, Water Quality Treatment, Runoff Retention, and/or Peak Management controls were implemented in accordance with PCRs
Only No. 1	0	N/A		
Only Nos. 1 and 2		0		
Only Nos. 1, 2, and 3			0	
Only Nos. 1, 2, 3, and 4				0
Total	0	0	0	0

\* Only include projects once in table. For example, if a project triggers all four performance requirements, only address that project in the, "Only Nos. 1, 2, 3, and 4" row. Do not also count the project in the cells for the above three rows.

**SECTION V: SPECIAL CIRCUMSTANCES AND ALTERNATIVE COMPLIANCE**

Note: If the Permittee did not grant any Special Circumstances and/or Alternative Compliance for Projects that received completion documentation during the Reporting Period, skip Section V.

To add another Project, click 'Add Row'

Add Row

Delete Row

Names of Projects that received completion documentation during the Reporting Period and the Permittee granted Special Circumstances and/or Alternative Compliance	Alternative Compliance type (Select all that apply)							If technical infeasibility is rationale for Alternative Compliance, does Project's Stormwater Control Plan adequately demonstrate basis for infeasibility?	
	Watershed or Regional Plan	Urban Sustainability Area	Highly Altered Channel Special Circumstance	Intermediate Flow Control Facility Special Circumstance	Historic Lake or Wetland Special Circumstance	Technical Infeasibility Performance Requirement No. 2	Technical Infeasibility Performance Requirement No. 3		Technical Infeasibility Performance Requirement No. 4
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

**SECTION V: CONTINUED ...**

To add another Project, click 'Add Row'

Add Row

Delete Row

Names of Projects that received completion documentation during the Reporting Period and the Permittee granted Special Circumstances and/or Alternative Compliance	Alternative Compliance type (Select all that apply)									If technical infeasibility is rationale for Alternative Compliance, does Project's Stormwater Control Plan adequately demonstrate basis for infeasibility?
	Watershed or Regional Plan	Urban Sustainability Area	Highly Altered Channel Special Circumstance	Intermediate Flow Control Facility Special Circumstance	Historic Lake or Wetland Special Circumstance	Technical Infeasibility Performance Requirement No. 2	Technical Infeasibility Performance Requirement No. 3	Technical Infeasibility Performance Requirement No. 4		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A

**SECTION VI: MITIGATION PROJECTS CONSTRUCTED FOR ALTERNATIVE COMPLIANCE**

Were there any mitigation projects constructed for Alternative Compliance during the Reporting Period?  Yes  No

If yes, did the Permittee upload to SMARTS the below information?

- A summary description of mitigation projects constructed during the Reporting Period comparing the expected aggregate results of Alternative Compliance projects to the results that would otherwise have been achieved by meeting the numeric Performance Requirements on-site. The summary should quantitatively compare results. For example, if the Alternative Compliance project is mitigating for a project that could not fully meet Performance Requirement No. 3 onsite, then the summary should quantify the following: 1) onsite retention volume required by Performance Requirement No. 3, 2) volume of runoff actually retained on site, and 3) volume of runoff retained at the Alternative Compliance project site.
- For public offsite mitigation projects, a summation of total offsite mitigation funds raised to date and a description (including location, general design concept, volume of water expected to be retained, and total estimated budget) of all pending public offsite mitigation projects

SMARTS upload title: *"PCRs Annual Report [insert reporting period] – Mitigation Projects"*

**SECTION VII: LONG-TERM OPERATION AND MAINTENANCE**

Did the Permittee upload to SMARTS a copy (e.g., screenshot) of the structural Stormwater Control Measure Operation and Maintenance database that shows all entries from the Reporting Period (see PCRs Provision E.3)?  Yes  No

SMARTS upload title: *"PCRs Annual Report [insert reporting period] – Long-Term Operation and Maintenance"*

**SECTION VIII: ADDITIONAL UPLOADS**

Did the Permittee upload to SMARTS information to demonstrate Performance Requirement No. 1 was applied to all applicable projects during the Reporting Period (including sample checklist)?  Yes  No

SMARTS upload title: *"PCRs Annual Report [insert reporting period] – Performance Req No1 Implementation"*

Report\_Summary

Report Summary Text File - Auto-generated by SMARTS on 10/16/2017 13:43:56

Name of Report: Central Coast Post-Construction Stormwater Requirements Annual Reporting 2016 - 2017 Annual

Certifier Name: Rose Hess

Certifier Title: Director of Public Works

Certifier Password Hash:

4f49905484a997f113cf27b81c0fc5ac0b8c117fe74338b5b09b5e174ef7ddca

Certifier User Account ID: 626600

Certification Computer IP: 198.143.34.33

Certification Executed On: 10/16/2017 13:43:36

Confirmation Number: 626600-198.143.34.33-20171016134336

Attachment Hash List:

2042280-8dd6f659afd129398c9489195111228bc727f93a4a02b4dcf2b894c991797

2042238-bfb876e780f925d3fde47f76bc8d6dd13e8c942cbab24e78ad4b7ef835a0a3

2042297-cca71ff5682bd5dba7ec07b88fe68d478ac438f7232c64b31402c4c984

Attachment 3 - Trash Provision Letter & Map



August 24, 2017

Executive Director  
State Water Resources Control Board  
101 I Street/P.O. Box 100  
Sacramento, CA 95814

Subject: Water Code Section Order - Statewide Trash Provisions, Compliance Option Letter

Dear Executive Director:

In accordance to the California Water Code Section 13383 Order, the City of Solvang (City) hereby submits this Compliance Option Letter to the State Water Resources Control Board to indicate that the City has selected Track 1 for its compliance method to the Statewide Trash Provisions.

In addition, the City will also be uploading to SMARTS as part of the Trash Amendment Option Submittal Report, a preliminary jurisdictional map that identifies the City's Priority Land Use areas and the corresponding storm drain network. Should you have any questions or require additional information, please contact me or Matt van der Linden at (805) 688-5575.

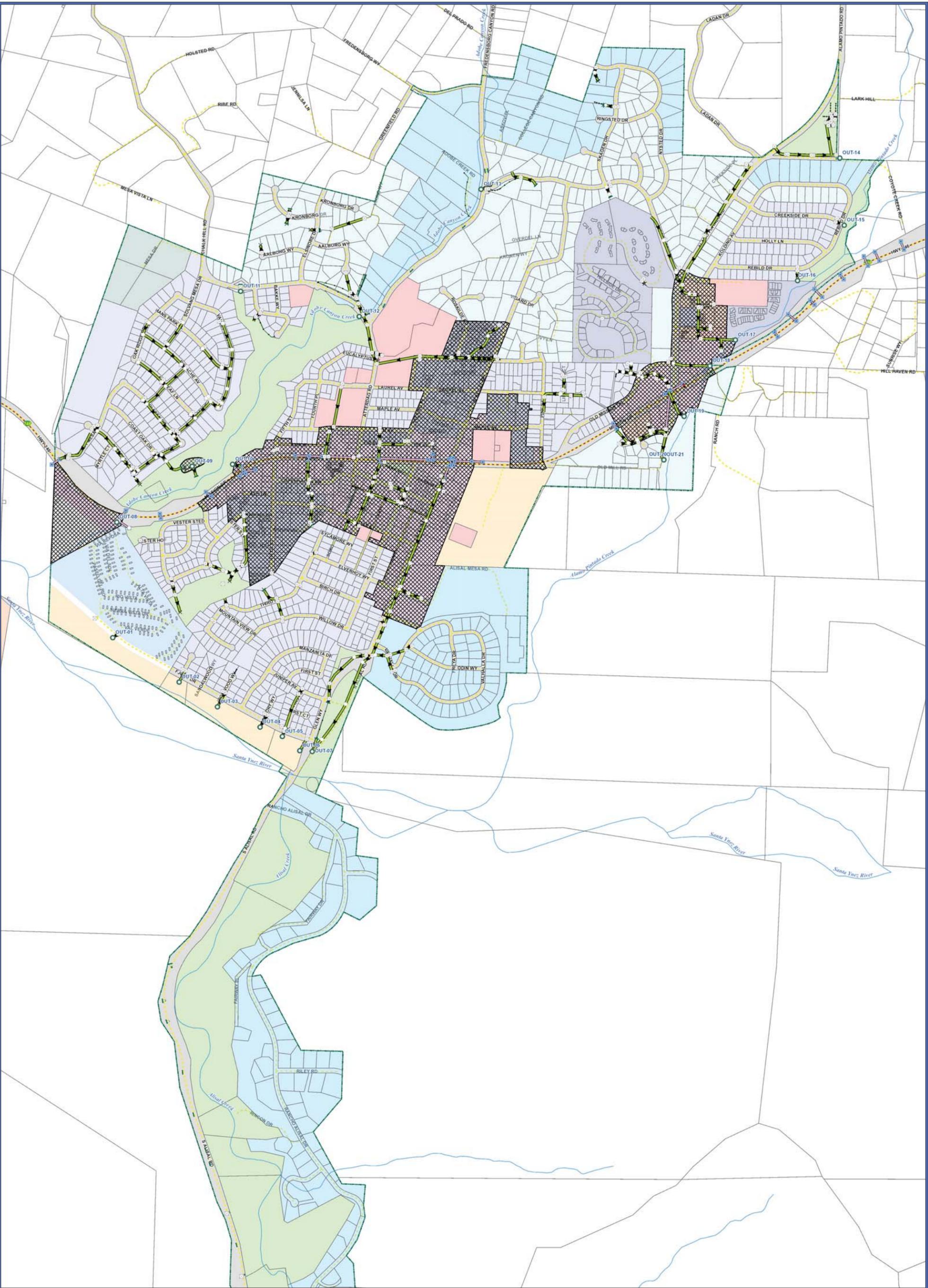
**CERTIFICATION:**

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Sincerely,

A handwritten signature in blue ink, appearing to read "B. Vidro".

Brad Vidro  
City Manager



**KEY TO FEATURES**

**STORM DRAIN INFRASTRUCTURE**

-  OUTFALL
-  CATCH BASIN AND MANHOLE
-  CATCH BASIN, INLET, DRAIN
-  HEADWALL, ENDWALL
-  JUNCTION
-  STRUCTURE RIP RAP
-  STORM DRAIN MANHOLE
-  STORM DRAIN CLEANOUT
-  STORM DRAIN PIPE
-  ABANDONED PIPES
-  CHANNELS & WATERWAYS
-  DITCH, WATERWAY, V-DITCH
-  CLAVERT
-  SWALE
-  RETENTION BASIN
-  RETENTION BASIN
-  CALTRANS - STRUCTURES
-  CALTRANS - CULVERTS
-  TRASH BMP AREAS
-  STREETS
-  TAX PARCELS

**OTHER**

-  CITY BOUNDARY
-  TAX ASSESSMENT PARCELS
-  CREEKS & STREAMS

**CITY LANDUSE**

-  Estate Residential - (1 DU/3 AC)
-  Low Density Residential - (1 DU/1 AC)
-  Low/Medium Residential - (2 DU/AC)
-  Medium Density Residential - (3-7 DU/AC)
-  High Density Residential - (8-20 DU/AC)
-  Mobile Home Park - (8 DU/AC)
-  Open Space/Recreation - NA
-  Agriculture - NA
-  Tourist Commercial - (22,000 SF/AC)
-  Retail Commercial - (10,000 SF/AC)
-  General Commercial - (10,000 SF/AC)
-  Light Industry - (10,000 SF/AC)
-  Public/Institutional - (9,000 SF/AC)
-  Professional/Office - (15,000 SF/AC)
-  Guest Ranch - (15,000 SF/AC)



State Plane California Zone V NAD 83  
 Lark Street Corner, California  
**Trash Provision Map**  
 City of Solvang

Compiled on 08-23-2017  
 DISCLAIMER: This map is for reference only. Although every effort has been made to ensure the accuracy of information, errors and conditions originating from physical sources used to develop the database may be reflected on this map. No level of accuracy is claimed for the boundary lines shown hereon and lines should not be used to obtain coordinate values, bearings or distances.  
 Prepared by: [unreadable]