

**City of Modesto
Annual Municipal Storm Water Report
September 1, 2011**

Certification Statement

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Executed on the _____ day of _____ 2011 at the City of Modesto.

THOMAS SINCLAIR
REGULATORY COMPLIANCE SUPERVISOR

Certification Statement

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Distribution

City of Modesto

Central Valley Regional Water Quality Control Board


City of Modesto 2010-2011 Annual Report

Executive Summary

This Annual Progress Report represents the third progress report under the City of Modesto's stormwater permit (Order R5-2008-0092) that was issued on June 13, 2008, by the Central Valley Regional Water Quality Control Board (RWQCB). Following reissuance of the permit the City submitted an administrative draft Stormwater Management Plan (SWMP) on December 1, 2008, which was subsequently revised based on RWQCB comments and resubmitted on August 17, 2009. The SWMP was adopted by the RWQCB in December 2009 (Resolution R5-2009-0119).

The City's SWMP includes an Effectiveness Assessment Strategy, which is used to determine whether the City's stormwater management program¹ is achieving intended outcomes, and ultimately, whether continued implementation will result in maintaining or improving water quality. Outcome levels are used to categorize and describe the desired results of goals of the Control Measures and Program Elements. The effectiveness assessment is expected to change from year to year as new information is learned and trends are assessed. In this third year of the permit, the assessment will initially focus on Outcome Level 1. Highlights of each Program Element and Monitoring Program for the reporting year 2010-2011 are noted below.

| Outcome Level | Description |
|---------------|------------------------------------|
| 6 | Protecting Receiving Water Quality |
| 5 | Improving Runoff Quality |
| 4 | Reducing Loads from Sources |
| 3 | Changing Behavior |
| 2 | Raising Awareness |
| 1 | Documenting Activities |



Program Management

Internal coordination with six major City departments (and numerous divisions) continued to result in effective implementation of the requirements of the stormwater management program. The current economic downturn continues to impact the City, in a similar manner as many other municipalities, and fewer resources were available to the stormwater program (and likewise for other City activities). As a result of this paradigm shift, City staff took over many of the tasks formally done by outside consultants. The estimated budget for the coming year shows reductions in several of the programs, but overall the budget is higher because of additional resources allocated for street cleaning and sweeping that support the stormwater program Control Measures. Program Management achievements were realized with the approval of the SWMP by the RWQCB, continued management of the overall program, and the development of the Annual Progress Report.

¹ The SWMP is organized around Program Elements, which include: Program Management; Illicit Discharge and Illegal Connections; Public Education and Outreach; Municipal Operations; Industrial and Commercial Businesses; Construction; Planning and Land Development; Water Quality Based Programs; and Monitoring.

Illicit Discharge and Illegal Connections

Illicit discharges and illegal connections can be a significant source of pollutants to the storm drainage system. The City has developed a comprehensive program for detecting, responding to, investigating, and eliminating these types of connections/discharges in an efficient and effective manner.

| Type of Problem/Request Called into Hotline | 2008-2009 | 2009-2010 | 2010-2011 |
|---|-----------|-----------|-----------|
| Clogged catch basins | 153 | 783 | 150 |
| Illegal discharges/illegal connections | 410 | 363 | 258 |
| Missing/damaged curb marker | N/A | N/A | NA |
| General stormwater information | 18 | 45 | 104 |
| Total | 581 | 1191 | 512 |

- The 24- hour hotline, where the public, city staff, and other governmental agencies can report water pollution complaints, remained a very effective tool for learning about potential illicit discharges. This year the number of calls decreased by 42% from the previous year’s hotline calls. However, the total number of calls was consistent with the hotline calls during prior years.
- The City’s field crews continued to be an effective source of detecting illicit discharges and illegal connections. The field crews detected and reported 263 illicit discharges and illegal connections, with an additional seven detected, reported, and responded to by the Fire Department.
- The City investigated 100% of the hotline reports of illicit discharges, and initiated appropriate response actions for the incidents that were verified. The City updated the waste categories used to characterize the wastes discharged in order to reduce the number of discharges defined as uncategorized. Ultimately, this will allow the City to better target outreach and illicit discharge control practices. All the incidents were categorized this year by type of material released. Sewage spills represent about 25% of the incidents, and these are managed under the City’s Sanitary Sewer Overflow (SSO) and Backup Response Plan, and the SSO General Permit. Pool/Spa/Fountain discharges (10%) and petroleum products (14%) represent the next largest percentage of incidents.
- The City continued to implement progressive enforcement consistent with the Enforcement Response Plan (ERP). A total of 144 enforcement actions related to illicit discharges or illegal connections were made, including six referrals to the RWQCB.
- Training, both external and internal, of City staff and supporting public agencies (e.g., Stanislaus County) is an important part of this program; 220 individuals participated in 12 training opportunities.

Public Education, Outreach, and Participation

The Public Outreach and Education Program Element educates the community about how everyday activities can impact stormwater discharges and what the community can do to minimize these impacts.

- The City estimates that they have provided more than 56 million impressions (an impression is the number of people seeing or exposed to a message, e.g., people seeing a billboard or hearing a Public Service Announcement or PSA on the radio). The overwhelming majority of these impressions were achieved through advertising on bus stop benches throughout the City.
- The City conducted a public opinion survey to gauge the awareness and effectiveness of the stormwater program's outreach efforts. Modesto residents consider pollution prevention to be "close to very important" (on a rating scale of 0-3 from 'not important at all' to 'very important'), and residents exhibited a considerable understanding of what causes pollution to the water supply. Approximately three of five residents are aware of the "Only Rain Down the Drain" slogan.
- As noted above, the City maintained the 24-hour hotline in 2010-2011. The hotline continued to serve as the focal point for both public and internal reporting of illicit discharges. The City logged 512 calls to the hotline in 2010-2011 a decrease of 43% from the previous year but was consistent with 2008-09. In addition to illicit discharges, calls to the hotline include general stormwater information requests and reports of clogged storm drains.
- The City distributed informational brochures on stormwater issues to existing businesses during facility inspections and provided brochures to new businesses through the permit approval process. In total, 3,927 general brochures were distributed to existing and new businesses.
- In 2010-2011, City staff made 51 presentations to a total of 2,430 Modesto elementary school children.
- The City conducted periodic tailgate sessions with construction contractors. The City staff documented 38 tailgate sessions that included 18 construction contractors with a total number of 83 participants.
- Grass-roots (community-led) clean up days, in partnership with the stormwater program staff to involve the community to remove litter and debris before it gets into waterways. Seven such events were coordinated with 3,405 volunteers.

Municipal Operations

This Program Element focuses on City activities that can add pollutants into the environment. Control measures are identified and implemented to help ensure these activities are performed in a way that minimizes the discharge of pollutants into the storm drain system.

- The City was able to recover 100% of 86% of all SSO's reported. The City recovered 6% of the remaining 14% of SSO's.
- The City updated the SWPPPs for the City's two permitted industrial activities (City Airport and Bus Yard), and inspections were conducted pursuant to the state's Industrial General Permit.

- The City maintained placards on 95% of the catch basins, exceeding the 90% goal of the SWMP. This year the City changed specification from drain markers applied by glue to stainless steel embossed catch basin markers as shown. Due to limited resources, the City was not able to replace the reported missing or damaged placards this year.



- Storm drain cleaning and street sweeping activities directly removed pollutants that otherwise would have been discharged into the local water bodies. During 2010-2011, the City continued to focus on establishing cleaning priorities to better focus resources on catch basins within ½ mile of Dry Creek or the Tuolumne River. The City updated its Geographic Information Systems (GIS) database. All catch basins and manholes in the GIS database have been surveyed with locations updated in the City’s database. All of the high and medium priority catch basins were cleaned, removing approximately 23 tons of debris. The City cleaned 37% of the low priority catch basins. City staff cleaned 92% of the storm drain pump stations, removing approximately 62 tons of debris. Street sweepers picked up 2,860 tons of debris from 55,757 curb miles, and finally, street crews removed (and deposited at composting facilities) approximately, 34,613 tons of green waste and leaves.
- Budget restrictions continue to limit implementation of Integrated Pest Management Program (IPM) at the City’s detention and retention basins, however some progress was made this year. The City added language to the basin maintenance contracts requiring the use IPM methods, and natural controls (such as mosquito fish, no-mow grass) are being used at some detention basins.
- During 2010-2011, the Modesto Fire Department followed BMPs developed last year to protect stormwater during training and routine maintenance activities.
- While there is overlap with the training opportunities and participants identified in the other Program Elements, 197 participants received training on various aspects of stormwater management activities as it relates to municipal operations.

Industrial and Commercial Businesses

The Industrial and Commercial Businesses Program Element focused on effectively eliminating unauthorized non-stormwater runoff and reducing pollutants in stormwater runoff from industrial and commercial businesses.

- In 2010-2011 the City tracked 14 industrial facilities, 487 commercial facilities, and 1,291 temporary or intermittent sources in the stormwater database.
- For 2010-2011, the City completed 86% of the first round inspections of high priority businesses. In 2010-2011, 93% of the 207 businesses inspected received a satisfactory result (i.e., no violations were noted during the inspections).
- Overall, the City found excellent compliance with BMPs at the commercial and industrial facilities inspected this year, with the percentage of facilities implementing appropriate BMPs 92% in the tracked categories.
- During this reporting period the City brought 84 enforcement actions against industrial and commercial businesses and 7 facilities were referred to the RWQCB.
- While there is overlap with the training opportunities and participants with other Program Elements, training was provided to 166 individuals from targeted audiences of the City staff on industrial and commercial stormwater issues.

Construction

The Construction Program Element focuses on ensuring construction activities are performed in such a way as to minimize the pollutants generated and their potential to enter the storm drain system during all construction phases.

- City maintained its Construction Projects database, tracking 20 Capital Improvement Projects (CIPs) and 49 private projects that were active during the reporting year.
- City staff continued to review construction stormwater pollution prevention plans (SWPPPs) and found that 95% of the SWPPPs submitted, whether for private or public projects, were approved.
- City staff attended the CIP preconstruction meetings to review stormwater requirements with the project proponents.
- The City conducted 298 construction site inspections at 29 high priority sites. Low priority projects were inspected on a complaint basis, with 7 sites inspected and seven follow up inspections conducted.
- Based on the inspections, the City brought 15 enforcement actions against 9 construction projects. Three non-filer sites were referred to the RWQCB.
- Training was provided by both the stormwater program and external organizations to 41 City employees on construction stormwater issues.

Planning and Land Development

This Program Element ensures that the water quality impacts from new development are limited through implementation of site planning, design practices, and post-construction controls. The general strategy for development is to avoid, minimize, and mitigate the potential adverse impacts to stormwater.

- In 2009-2010, the City initiated meetings with both internal and external stakeholders to review the proposed revision to the City's Guidance Manual for New Development Stormwater Quality Control Measures (Guidance Manual). These meetings established the framework for the City to select a standard to require Low Impact Development (LID) strategies and revise the Guidance Manual to incorporate the LID strategies as required in coming years.
- The Environmental Inspector II assigned to the Land Development Engineering Division reviewed 35 project plans, 13 of which were high priority development, and 10 were CIP projects for plan review and sign-off.
- The City received 144 out of 203 mailed self-certified maintenance agreements for facilities that were maintaining at least one post-construction BMP. Of the sites inspected, 22 out of 37 were in compliance with the maintenance agreement, and the remaining 15 sites were deficient.
- City engineers, planners, and building inspectors participated in the QSP/QSD training session on the Construction Stormwater General Permit 2009-0009-DWQ.

Water Quality-Based Programs

The Water Quality-Based Program Element addresses specific pollutants that have been identified as impacting or potentially impacting local water quality.

- Most efforts got underway in 2008-2009, and it remains too early to assess the effectiveness of the programs.
- Aluminum was the only POI's that was identified as reoccurring during in this monitoring year. The City submitted a Report of Water Quality Exceedances (RWQE) for aluminum, as well as fecal coliform and dissolved oxygen. The samples collected for the previous year indicated that these POI's may be associated with discharges from the 7th Street outfall and the Crater & Seine outfalls. Pending the results of additional analyses, the City will determine if aluminum and fecal coliform should be added as a Pollutant of Concern (POC) which would warrant a work plan to address sources.
- Another focus of the water quality-based program is a special study to assess the City's rockwells, which serve approximately 30% of the City. Based upon preliminary work in 2008-2009 on the six rockwell sites selected for assessment, the City identified locations for installation of 13 monitoring wells that were installed in 2009-2010. The wells have currently been developed and are schedule for the first round of monitoring, sometime in late August, 2011. Installation of continuous monitoring sensors will be installed after the initial samples are collected.
- The City completed phase two of the Treatment Feasibility Study, by evaluating the diversion of dry weather flow to the sanitary sewer from the priority outfalls.

The study ranked each outfall. Those with a cumulative score of 30 or more were identified as possible diversion to sanitary sewer which included four outfalls, two to Dry Creek and two to the Tuolumne River. The study determined that diversion of dry weather flow is not warranted due to minimal removal of pollutant loading, small dry weather volumes, and cost prohibitive to implement diversion alternatives for the minimal benefit received in improving water quality in Dry Creek or the Tuolumne River.

Monitoring Programs

The Monitoring Program Element includes several monitoring studies conducted to characterize both urban runoff and receiving waters water quality and toxicity, and to assess the effectiveness of treatment controls.

- The City conducted the required two wet season and one dry season receiving water and urban runoff monitoring events consistent with the monitoring program.

During the course of the wet and dry season monitoring the City identified that three parameters exceeded WQOs in the receiving water and notified the RWQCB of these exceedances as required in the SWMP. For a subset of these events, the City determined that urban runoff may have contributed to the concentration in the receiving water and the City developed RWQEs for total coliform, dissolved oxygen, and aluminum. The potential sources for the coliform exceedances are possible unreported sanitary sewer overflows from waterfowl within the Tuolumne and Dry Creek watershed, which is also a contributing factor to the depressed dissolved oxygen. Aluminum is indicative of the clay soil throughout the City which can become soluble in localized acidic condition from decaying organic matter. The City has also identified the drainage from the 7th Street and Crater and Seine outfalls as a potential location of the exceedances requiring additional investigation.

- The City completed the BMP effectiveness study of the Rancho Encantado Park Detention Basin at Cielito Dr. and Salazar Ct Modesto and a Jensen Stormwater Vault on Christiansen Dr. Modesto. The laboratory analyses of Rancho Encantado Park Detention Basin show a 21% reduction in metals, 27% reduction in oil and grease, and a 12% reduction in nutrient between the influent and effluent. Analyses from the Jensen Stormwater Vault were inconclusive.

In summary, for 2010-2011, the City met most of its performance standards of its stormwater permit and corresponding SWMP. Almost all of the tasks identified in the 2010–2011 work plan scheduled for this year were completed. The City has set in place the tracking systems needed to conduct a long-term effectiveness assessment evaluation by the end of the permit term. As implementation of the program continues and additional data are gathered, the City will progressively add higher level outcome assessments to the future Annual Progress Reports.

1. Stormwater Program Management and Report Introduction

1.1 Overview

The Stormwater Management Plan (SWMP) has been developed for and is implemented within the jurisdictional limits of the City of Modesto. The SWMP represents the five-year strategy for controlling the discharge of pollutants from the municipal storm drain system to the maximum extent practicable (MEP). The overall goal of the program is to reduce the degradation, by urban runoff, of the beneficial uses of natural resources of the metropolitan area of Modesto. These natural resources include the Tuolumne River, Dry Creek, and a regional groundwater aquifer.

As a result of the third-term municipal stormwater permit² (2008-2013 Permit), the SWMP was revised. The SWMP for this permit term proposes a wide range of continuing and enhanced Best Management Practices (BMPs) and Control Measures, which will be implemented over the period covered by the permit. These Control Measures will assist the City in improving the overall effectiveness of the stormwater program and focus on the specific activities. Where possible, Control Measures were developed to address specific pollutants of concern or sources to enhance pollution reduction and provide increased environmental benefit.

This Annual Progress Report represents the second progress report under the third-term stormwater permit that was issued by the Central Valley Regional Water Quality Control Board (hereafter RWQCB) on June 13, 2008. Following reissuance of the permit, the City submitted an administrative draft SWMP on December 1, 2008, as required, which was revised based on RWQCB comments and resubmitted on August 17, 2009. The SWMP was adopted by the RWQCB in December 2009³.

1.2 Internal Program Coordination

The City's Public Works Department, Stormwater Management Program has primary responsibility for the development and implementation of the SWMP. Although administered and principally staffed by the Stormwater Management Program, the implementation of the SWMP requires the assistance of and close coordination with several other City departments and divisions including the following:

- Fire Department
- Police Department
- Community and Economic Development
- Public Works Operations and Maintenance
- Public Works Engineering and Transportation
- Parks, Recreation, and Neighborhoods
- City Attorney

² Order R5-2008-0092

³ Resolution R5-2009-0119

The City Divisions and Departments that have some responsibilities for the implementation of the Stormwater Program have been identified and are shown in the table below. An organization chart is included in **Appendix A-1**.

City Departments Associated with Stormwater Program Implementation

| City Department | Program Elements | | | | | | |
|------------------------------------|---|------------------------------------|----------------------|------------------------------------|--------------|-----------------------------|------------------------------|
| | Illicit Discharge & Illegal Connections | Public Education & Public Outreach | Municipal Operations | Industrial & Commercial Businesses | Construction | Planning & Land Development | Water Quality-Based Programs |
| Fire Department | X | | X | | | | |
| Police Department | X | | | | | | |
| City Attorney | | | | X | X | X | |
| Community and Economic Development | | X | | X | X | X | |
| Public Works | X | X | X | X | X | X | X |
| Parks, Recreation, & Neighborhoods | X | X | X | | X | X | X |

The designated stormwater program manager/staff which oversees the implementation of the SWMP and the day-to-day operations is listed in the table below.

Primary Stormwater Program Contact

| | |
|---------------------|---|
| Name | Thomas Sinclair |
| Title | Regulatory Environmental Compliance Administrator |
| Department/Division | Public Works/Water Quality Control |
| Address | 1221 Sutter Ave., Modesto CA 95351 |
| Phone Number | (209) 577-6381 |
| E-mail Address | tsinclair@modestogov.com |

1.3 Fiscal Analysis

The Fiscal Analysis includes the following:

- The City's expenditures for the previous fiscal year;
- The City's budget for the current fiscal year; and
- A description of the source of funds.

The fiscal analysis for the City's stormwater program is provided in the table below. All funds supporting the City's stormwater program are derived from an enterprise fund.

| Program Element | Expenditures During for Fiscal Year 2010-11 | Estimated Budget for Fiscal Year 2011-12 |
|---|--|---|
| Program Management | \$303,294 | \$348,246 |
| Illicit Discharge/Illegal Connections | \$129,421 | \$117,794 |
| Public Outreach and Education | \$28,653 | \$50,360 |
| Municipal Program | \$5,456 | \$13,460 |
| Municipal Operations | | |
| Corporation Yard | (U) | (U) |
| Treatment BMP Maintenance | Included in SD Maint. (U) | Included in SD Maint. (U) |
| Landscape and Pest Management | \$0 | \$0 |
| Storm Drain System Maintenance (including catch basin cleaning) | \$957,698 | \$734,679 |
| Street Cleaning & Leaf Pick-Up | \$498,933 | \$554,703 |
| Solid Waste Collection | \$1,114,095 | \$1,120,512 |
| Industrial and Commercial Businesses | \$42,634 | \$42,634 |
| Construction | \$22,521 | \$22,749 |
| Planning and Land Development | \$57,071 | \$60,338 |
| Capital Improvement Projects* | \$0 | \$0 |
| Water Quality Based Programs | | |
| Pesticide Plan | \$741 | \$1,630 |
| Monitoring Program | | |
| Baseline Program | \$34,081 | \$35,000 |
| Special Studies | \$21,496 | \$170,000 |
| Training | \$4,757 | \$5,900 |
| TOTAL | \$3,220,852 | \$3,278,005 |

***Current there are no Storm Drain Funds for Capital Projects**

¹ U = Information is unavailable

² Currently there are no Storm Drain Funds available for Capital Improvement Projects.

1.4 Legal Authority

The 2008-2013 Permit requires that the City implement a stormwater management program to reduce the pollutants in stormwater discharges to the MEP. Central to this program is the establishment and/or verification that the City has adequate legal authority to regulate the discharge of pollutants to the municipal storm drain system.

To address stormwater quality issues, the City has broad legal authority from stormwater, wastewater, solid and hazardous materials regulations, and various public nuisance ordinances. The City's current Stormwater Management and Discharge Controls Ordinance (Stormwater Ordinance), as codified in Title 5, Chapter 10 of the Municipal Code, was originally adopted on November 19, 1996, and has since undergone several revisions updating the ordinance, most recently in October 2004. The legal authority of the Stormwater Ordinance was initially developed to comply with 40 Code of Federal Regulations (CFR) 122.26(d)(2)(i)(A-F). City legal counsel issued a statement (included in the August 2009 SWMP revision) indicating the City has adequate legal authority to comply with the requirements of Order R5-2008-0092.

1.5 Annual Progress Report Organization

The Annual Progress Report is organized in sections corresponding to the SWMP to provide a comprehensive review of the implementation of the program elements and monitoring programs. (See the table below.) Supporting information for each element, if needed, is provided in the indicated appendix.

Summary of Annual Progress Report Organization

| Report Section | Section Description | Appendix |
|----------------|---|----------|
| - | Executive Summary | - |
| Section 1 | Program Management and Report Introduction | A |
| Section 2 | Illicit Discharge and Illegal Connections | B |
| Section 3 | Public Education, Outreach, and Participation | C |
| Section 4 | Municipal Operations | D |
| Section 5 | Industrial and Commercial Businesses | E |
| Section 6 | Construction | F |
| Section 7 | Planning and Land Development | G |
| Section 8 | Water Quality-Based Programs | H |
| Section 9 | Monitoring Programs | I |

2. Illicit Discharge and Illegal Connections

2.1 Overview

An illicit discharge is any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term “illicit discharge” includes all non-stormwater discharges except discharges pursuant to a National Pollutant Discharge Elimination System (NPDES) permit, discharges that are identified within the Discharge Prohibitions section of the Permit, and discharges authorized by the Regional Water Board. Illegal connections are a subset of illicit discharges that are defined as an illegal and/or improper connection to a storm drain system or receiving water.

Since illicit discharges and illegal connections can be a significant source of pollutants to the storm drain system, the City has developed a comprehensive program for detecting, responding to, investigating, and eliminating these types of connections/discharges in an efficient and effective manner (Section 2 of the SWMP). Additional information is included within each of the Program Control Measures.

2.2 Control Measures

The City has developed several Control Measures and accompanying performance standards to ensure that the permit requirements related to illicit discharges are effectively developed and implemented. For each Control Measure there are accompanying performance standards that, once accomplished, constitute compliance with the Permit requirements. The Illicit Discharges Control Measures consist of the following:

| ID | Control Measure |
|-----|--|
| ID1 | Illicit Discharges and Illegal Connections Detection |
| ID2 | Illicit Discharges Investigation and Clean Up |
| ID3 | Illegal Connections Identification and Elimination |
| ID4 | Enforcement |
| ID5 | Training |
| ID6 | Effectiveness Assessment Strategy |

In addition to the Control Measures listed above, a number of the activities conducted for other program elements, such as the Public Outreach and Education (Section 3), Municipal Operations (Section 4), Construction (Section 6), and Planning and Land Development (Section 7), also support and provide guidance for the Illicit Discharges Program Element.

This section of the Annual Report provides information on the specific tasks that have been initiated and/or completed during the reporting period for the Illicit Discharges Program Performance Standards and implementation schedules.

2.3 ID1 – Illicit Discharges and Illegal Connections Detection

The Illicit Discharges program uses a public hotline, dry weather field screening, and field crew inspections as the primary means for detecting illicit discharges and illegal connections.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

2.3.1 Maintain and Advertise 24-Hour Hotline

The City established and maintains a 24-hour hotline to encourage the public to report water pollution problems. The phone number is: 209-577-6200. During business hours the line is answered by City personnel, and after hours the calls are transferred to an answering service, 1-800-WE ANSWER, that contacts the stormwater program – call duty personnel. Caller information, including origin of call, reason for call, and where they learned of the hotline number, is tracked using the 1-800-WE ANSWER service. A summary of the number of hotline calls received is presented in Section 3.3.1 of the Annual Report.

- a) Did the City maintain the 24-hour hotline throughout the year?
 b) Yes No

2.3.2 Document and Track Complaints

The City uses a standardized form, the Pollution Investigation Report, to document and track complaints, including information regarding the origin of the complaint, so that the information is consistently entered into the City's Illicit Discharge Database. City staff is instructed to call the hotline to ensure that information is consistently entered and tracked for follow-up and documentation in the Illicit Discharge Database. The table below identifies how many calls were received from the public, City Departments, and outside agencies regarding water pollution complaints, including illicit discharges or illegal connections. The numbers for 2008-2010 are provided for easy reference.

- a) Did the City document and track water pollution complaints, including those received from the hotline, using standardized reporting form?
 Yes No
- b) Did the City ensure that all City staff consistently document water pollution complaints?
 Yes No

Summary of Water Pollution Complaints Received by the Hotline and listed by Source

| | Total Number of Water Pollution Complaints Received by Hotline | | |
|------------------|--|-------------------------------|------------------|
| | Public | City Departments ¹ | Outside Agencies |
| 2008/2009 | 212 | 195 | 3 |
| 2009/2010 | 188 | 172 | 3 |
| 2010/2011 | 141 | 117 | 2 |

¹This does not include complaints received from the Fire Department

2.3.3 Review and Revise Report Form

The City is required to review and revise the Pollution Investigation Report to ensure it remains useful. These reviews are required in Permit Years 2 and 4. The Pollution Investigation Report was initially developed in 1998 and updated in 2010. Recent changes include adding a field for permitted discharges and tracking whether or not a pollutant was a permitted discharge.

Yes No Not required this year

2.3.4 Coordinate with Other City Departments and Agencies

The City Storm Water Program is required to coordinate with other City Departments and Agencies, particularly the Fire Department, to ensure reports from the public are properly received, routed, tracked and investigated. During this reporting period the City coordinated with internal City Departments and external agencies, which are listed in items c and d below.

a) Did the City continue to coordinate with other departments and agencies throughout the year?

Yes No

b) How did the City Stormwater Program coordinate with other City departments and agencies?

1. Coordinated response jurisdiction for abandoned materials in alleys and public right of ways with Solid Waste Division, Streets Division and Fire Department.
2. Provided ongoing routine illicit discharge and cross connection training for Building Inspection Division, Capital Improvement Services, Electrical Division, Neighborhood Preservation, Stormwater Collections, Street Maintenance, Traffic Operations, and Wastewater Collections.

- c) Developing a protocol for City field staff to immediately notify the Stormwater Program of observed/reported illicit discharges and connections?

Yes No

While no new protocols were developed during this reporting period, there was stronger emphasis on training to better identify illicit discharges/illegal connections and the methodology for reporting them.

- d) Developing a brochure for City departments and agencies that identifies Stormwater Program notification requirements for illicit discharges?

Yes (An example of this brochure can be found in Appendix D-20)
No

- e) Working with emergency operators to prompt callers for information regarding spills or illicit discharges?

Information regarding spills or illicit discharges has been better refined with the change in response providers to 1-800-WE ANSWER. The new language for operators is included in **Appendix B-4**

Yes No

- f) Including illicit discharge notification training with other field activity training sessions?

Yes No

- g) The City coordinated with the following City departments:

- o **Streets**
- o **Fire Department**
- o **Police Department**
- o **Solid Waste**
- o **Water**
- o **Collections**
- o **Community & Economic Development Department (CEDD)**
- o **Building Inspection**
- o **Construction Inspection**
- o **Neighborhood Preservation Unit (NPU)**

- h) The City coordinated with the following agencies:

- o **Stanislaus County Department of Health and Environmental Resources (DER)**
- o **Regional Water Quality Control Board**
- o **Department of Fish and Game**

9 illicit discharge cases were referred to DER as County Jurisdiction or County Owned property, 1 illicit discharge/illicit connection case was referred to DFG (discharge entered receiving water) and 5 SSO's were reported to the State Water Board.

2.3.5 Audit Public and Inter-Departmental Reporting Procedures

Every two years, the Stormwater Program staff is required to audit/review the reporting procedures of other City departments to ensure Stormwater Program notification requirements are included. The Stormwater Program staff audited the records of the Fire Department to ensure the comparability of databases. Other City Departments do not have written procedures regarding referrals. Stormwater Program staff periodically checks with the department contacts to ensure staff understands the referral process. (All City staff and departments report illicit discharges and connections to the City hotline.)

a) Did the City audit public and inter-departmental reporting procedures?

Yes No Not required this year

This was required in Permit Year 2 (2010) and completed this year.

2.3.6 Conduct Characterization Monitoring of Dry Weather Flows

The City is required to conduct dry weather characterization monitoring each year, which includes characterizing of the outfalls greater than 24 inches, and characterizing rockwells and/or detention/retention basins by Permit Year 5. The City has completed characterization of seven outfalls, the remaining outfalls greater than 24-inches will be characterized prior to the end of the permit cycle. Rockwell characterization was delayed pending installation of the monitoring wells.

a) Did the City conduct dry weather characterization monitoring? (Required each Permit Year)

Yes No

b) Did the City characterize outfalls greater than 24 inches?

Yes No

c) Did the City characterize dry weather flow to rockwells and or detention/retention basins? (20 rockwells and/or detention/retention basins required by June 30, 2013)

Yes No Not required this year

If yes, how many of the following were characterized?

Rockwells: 0

Detention/Retention Basins: 0

2.3.7 Field Crew Inspections and Documentation of Evidence of Illicit Discharges and Illegal Connections

The City field staff is required to continue field observations as part of maintenance and document evidence of non-stormwater discharges or illegal dumping. In addition, the City field staff is required to report all observed incidents to the Stormwater Program. The City's field staff identifies signs of previous, current, or potential non-stormwater discharges, illegal dumping into the storm drain system and illegal connections as a part of its normal maintenance activities. Upon discovery staff members call their reports in to the hotline to ensure reporting and follow-up consistency. Once discovered, the illicit discharges or illegal connections are corrected or eliminated as noted in Section 2.4. Due to budget and staffing constraints in the 2010-2011 permit year, the City was unable to equip and carry out field screenings of non-stormwater discharges. The number of illicit discharges and illegal connections identified and reported by field staff is listed below. The numbers for 2008/2010 are provided for easy reference. A printout of the Illicit Discharge Reports from the database is included in **Appendix B-1**.

- a) Did the City field staff continue field observations as part of maintenance operations and document evidence of non-stormwater discharges or illegal dumping? (Required each Permit Year)
 - Yes, illicit discharges identified
 - Yes, but no illicit discharges identified
 - No
- b) Did the City field staff continue to identify illegal connections? (Required each Permit Year)
 - Yes, illegal connections identified
 - Yes, but no illegal connections identified
 - No
- c) Did the City field staff report all observed incidents to the Stormwater Program? (Required each Permit Year)
 - Yes No
- d) Did the City field staff conduct field screening with test kits of non-stormwater discharges? (Required to begin in 2010-2011)
 - Yes No Not required this year

Summary of Potential Illicit Discharges and Illegal Connections Reported by Field Staff

| | Source of Report | Total Number of Illicit Discharges Identified and Reported | Total Number of Illegal Connections Identified and Reported ¹ |
|-----------|--------------------|--|--|
| 2008-2009 | Stormwater Program | 195 | 3 |
| | Fire Department | 46 | - |
| | Other Departments | 0 | - |
| | Total | 241 | 3 |
| 2009-2010 | Stormwater Program | 188 | 1 |
| | Fire Department | 7 | 0 |
| | Other Departments | 173 | 2 |
| | Total | 368 | 3 |
| 2010-2011 | Stormwater Program | 34 | 1 |
| | Fire Department | 2 | 0 |
| | Other Departments | 85 | 0 |
| | Total | 121 | 1 |

¹ Does not include illegal connections detected during plan review.

2.4 ID2 – Illicit Discharges Investigation and Clean-Up

Once an illicit discharge is discovered, the City responds accordingly. In responding, the City investigates and, if necessary, conducts clean-up efforts. Enforcement action is also pursued if a responsible party is identified. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

2.4.1 Respond to Reported Illicit Discharges

City staff is required to respond to notifications/complaints of illicit discharges within one business day. When a notification or complaint is received, the City responds and provides an on-site assessment. The investigation process includes determining whether the discharge is occurring on private or public property, whether the discharge is an authorized non-stormwater discharge, and whether the discharge is hazardous. If the illicit discharge is hazardous, the City crews follow appropriate protocols in notifying State and local agencies and protecting themselves from exposure.

Reports of hazardous material discharges are directed to the local Fire Department for abatement and mitigation. See **Appendix B-2** for a copy of Modesto Fire Department Incident by Incident Type with Detail Log.

The total number of illicit discharges reported and verified, as well as the number of illicit discharges investigated within one business day, is included in the table below. Please note that 30 illicit discharge calls were categorized as No Pollutant Found and another 15 illicit discharge calls that were categorized as Permitted Discharges therefore are considered not verified.

- a) Did the City staff respond to notifications/complaints of illicit discharges within one business day? (Required each Permit Year)

Yes No

Summary of Illicit Discharge Complaints, Verification of Complaints, and Response Time

| | Total Number of Illicit Discharge Complaints/ Notifications Reported¹ | Total Number of Illicit Discharges Verified | Total Number of Complaints/Notifications Investigated within One (1) Business Day¹ |
|------------------|---|--|--|
| 2008-2009 | 410 | 391 | 410 |
| 2009-2010 | 363 | 327 | 363 |
| 2010-2011 | 261 | 216 | 261 |

¹Total does not include complaints reported by the fire department

During 2010-2011 the City began to transition from the Environmental Services Section database to Tidemark (a web-based program used within the City). This transition is necessary because the ESS database has reached its capacity for data handling. Once the transition period is over, the City will attempt to quantify illicit discharges for amount released and amount recovered when possible. (It is estimated that entries will be made in both the ESS and Tidemark databases for the 2011-12 permit year so that both databases can be monitored to ensure integrity of data).

During 2010-2011 the City added a list of permitted discharges to the PIR. These permitted discharges are not included in the Summary of Materials Released as they are not considered a verified illicit discharge.¹ The City is investigating a methodology for quantifying discharges.

During 2010-2011 the City removed categories from the type of materials listing below if there were no verified illicit discharges in that category A table summarizing the types of materials involved in the reported incidents is provided below and incident reports are included in **Appendix B-1**.

Summary of Materials Released

| Type of Materials | Total Number of Illicit Discharges Verified ¹ (2010-2011) | Estimate of Total Quantity Discharged (units) | Estimate Quantity Recovered/Cleaned-up (units) | Estimate of Quantity Not Recoverable (units) |
|---|--|---|--|--|
| Concrete materials (washout cement, saw cut slurry, etc.) | 5 | Not Tracked | Not Tracked | Not Tracked |
| Dirt (silt, mud, muddy water, rocks) | 20 | Not Tracked | Not Tracked | Not Tracked |
| Paint | 15 | Not Tracked | Not Tracked | Not Tracked |
| Petroleum products | 34 | Not Tracked | Not Tracked | Not Tracked |
| Pool water | 26 | Not Tracked | Not Tracked | Not Tracked |
| Sewage | 67 | 85018 gallons | 13877 gallons | 71141 gallons |
| Non-Permitted Water (oily water, soapy water, parking lot water etc.) | 23 | Not Tracked | Not Tracked | Not Tracked |
| Debris | 12 | Not Tracked | Not Tracked | Not Tracked |
| Chemicals | 2 | Not Tracked | Not Tracked | Not Tracked |
| Building and Road Construction Material | 6 | Not Tracked | Not Tracked | Not Tracked |
| Debris / Other | 8 | Not Tracked | Not Tracked | Not Tracked |
| TOTAL | 218 | | | |

¹A verified illicit discharge is one that is investigated and found to exist. As such, verified illicit discharges do not include reported discharges that are investigated but not found or found to be permitted discharges.

2.4.2 Document Investigations of Illicit Discharges

City staff uses the Pollution Investigation Report (PIR) to ensure consistent and accurate information is obtained from each investigation and all evidentiary requirements are met for potential enforcement action. The form is available on the shared drive that all ECS inspectors are able to access.

- a) Did the City staff document each investigation using the standardized reporting form? (Required each Permit Year)

Yes No

2.4.3 Coordinate Illicit Discharge Clean-Up Activities

City staff is required to coordinate activities to abate, contain, and clean up all illicit discharges, including hazardous substances, and follow up to ensure that the illicit discharge has been cleaned up.

- a) Did the City staff coordinate illicit discharge clean-up activities? (Required each Permit Year)

Yes No

Abatement, containment and cleanup is coordinated between DER, the FD, the Collection Division, Streets, Solid Waste and others that are needed to assist with an illicit discharge.

2.4.4 Maintain Agreement for Cleanup

The City maintains an agreement with Stanislaus County Department of Environmental Resources Hazardous Division for cleanup and removal of hazardous materials. This agreement provides the means to restore the affected area and prevent further environmental degradation in the surrounding area of the incident.

- a) Were agreement(s) maintained with Stanislaus County Department of Environmental Resources Hazardous Division for cleanup and removal of hazardous materials? (Required each Permit Year)

Yes No

2.4.5 Record and Map Illicit Discharges Using the Illicit Discharge Database and GIS System

The City's Illicit Discharge Database is used to track the notification, response, and cleanup of illicit discharges reported to the City. The database is linked to the City's GIS to identify spatial or temporal trends and target areas for outreach. A database report listing all of the illicit discharges that were identified during the reporting year is presented in **Appendix B-1**. A copy of the Illicit Discharges Map is provided in **Appendix B-3**.

- a) Did City staff record illicit discharges in the Illicit Discharge Database? (Required each Permit Year)

Yes No

- b) Did the City map the illicit discharges in the GIS system? (Required each Permit Year)

Yes No

2.4.6 Audit Illicit Discharge Database

During 2010-2011 the City audited the Illicit Discharge Database and has found that it has reached its capacity for adding new fields and very near its capacity for recording and sorting data. The current database is in need of a way to track the quantity released and recovered during illicit discharges, adding these fields at this time could cause the database to fail. The City is transitioning from the current database to a newer database that can accommodate any new data fields that may be required for reporting purposes. Full utilization of the new database is expected by the end of the 2011/2012 permit year.

a) Did the City audit the Illicit Discharge Database? (Required Permit Year 3 by June 30, 2011)

Yes No Not required this year

2.5 ID3–Illegal Connections Identification and Elimination

In parallel with the City’s efforts to detect and eliminate illicit discharges (see Section 2.3. ID1), the City detects, investigates, and eliminates illegal connections to the storm drain system. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

2.5.1 Conduct Plan Reviews

As part of the Planning and Land Development Program, the City conducts reviews of construction project plans, in part to assess compliance with the Stormwater Program requirements and identify potential illegal connections. The number of illegal connections identified through Planning and Land Development plan reviews is listed below.

a) Did the City conduct plan reviews under Planning and Land Development Program to identify illegal connections? (Required each Permit Year)

Yes No

Number of Illegal Connections Identified by Planning/Land Development Reviews

| | Total Number of Plans Reviewed | Total Number of Potential Illegal Connections Identified | Total Number of Plans Requiring Revision to Eliminate Potential Illicit Connections |
|------------------|--------------------------------|--|---|
| 2008-2009 | 23 | 1 | 1 |
| 2009-2010 | 25 | 0 | 0 |
| 2010-2011 | 28 | 0 | 0 |

2.5.2 Inspect Construction Projects

City staff is required to inspect construction projects to identify illegal connections. The number of illegal connections identified through construction project inspections is listed below.

a) Did City staff inspect projects under Construction Program? (Required each Permit Year)

Yes No

Number of Illegal Connections Identified through Construction Project Inspections

| | Source | Total Number of Illegal Connections Identified |
|-----------|----------------------------------|--|
| 2008-2009 | Construction Project Inspections | 0 |
| 2009-2010 | Construction Project Inspections | 0 |
| 2010-2011 | Construction Project Inspections | 0 |

2.5.3 Investigate Illegal Connections

City staff is required to investigate reported illegal connections within 21 days of the discovery of an illicit or illegal connection and determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection. During this reporting period, one illegal connection was reported and investigated. The investigation showed that the illegal connection existed. Storm water from the roof run off was entering the storm drain system. After review by the Environmental Compliance Regulatory Administrator, the connection was allowed and became permitted.

a) Did City staff investigate reported illegal connections within 21 days? (Required each Permit Year)

- Yes, within 21 days
- No, longer than 21 days
- No illegal connections identified

b) Did City staff determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection? (Required each Permit Year)

- Yes
- No
- No illegal connections identified

Summary of Confirmed Illegal Connections with Discharges and Responsible Parties¹

| Source of Connection (e.g. residential, commercial, etc) | Nature of Discharge | Estimated Quantity (Volume or Rate and Duration) | Responsible Party |
|---|-------------------------------|---|--------------------------|
| Industrial | Roof runoff from storm events | Not tracked | Stanislaus Food Products |

¹ A confirmed illegal connection is one that is investigated and found to exist. As such, confirmed illegal connections do not include potential connections identified during plan reviews or those connections reported but not found or found to be allowed connections. Quantities are not tracked because there is currently no methodology to measure quantities.

2.5.4 Document Each Investigation Using Standardized Reporting Form

City staff is required to document each investigation using the standardized reporting form to ensure that accurate information is obtained and all evidentiary requirements are met for potential enforcement action.

- a) Did City staff document each investigation using the standardized reporting form? (Required each Permit Year)

Yes No

2.5.5 Eliminate Each Illegal Connection within 180 Days

After confirming an illegal connection, City staff is required to eliminate it within 180 days, using enforcement authority as needed. Mechanisms for elimination include permitting or plugging the illegal connection. The one illegal connection was eliminated through permitting 183 days after confirmation.

- a) Did City Stormwater Program staff eliminate confirmed illegal connections within 180 days? (Required each Permit Year)

Yes, within 180 days No, longer than 180 days

Summary of Illegal Connections Reported and Eliminated

| | Source | Total Number of Illegal Connections Reported/ Detected | Type of Illegal Connection | Total Number of Illegal Connections Permitted | Total Number of Illegal Connections Eliminated | Mechanism by which Illegal Connection was Eliminated |
|------------------|-------------------------|--|--|---|--|---|
| 2008-2009 | Field Staff | 1 | Cross-connection | 0 | 1 | Not tracked |
| | Hotline | 2 | Parking lot drain, Roof connection | 0 | 2 | Not tracked |
| | Plan Review | 1 | Gutter connection | 0 | 1 | Plan revised to eliminate |
| | Construction Inspection | 0 | - | - | - | - |
| | Other | 0 | - | - | - | - |
| 2009-2010 | Field Staff | 2 | Pipe in Slough (Dairy Farm) and Pipe into Rockwell (Residential) | 0 | 2 | Referred to RWQCB (Dairy) and Referred to Collections (Residential) |
| | Hotline | 1 | Gutter Connection | 0 | 1 | Owner notified to remove pipe |
| | Plan Review | 0 | 0 | 0 | 0 | 0 |
| | Construction Inspection | 0 | 0 | 0 | 0 | 0 |
| | Other | 0 | 0 | 0 | 0 | 0 |
| 2010-2011 | Field Staff | 1 | Roof drains connected to catch basin | 1 | 0 | Permitted |
| | Hotline | 0 | 0 | 0 | 0 | 0 |
| | Plan Review | 0 | 0 | 0 | 0 | 0 |
| | Construction Inspection | 0 | 0 | 0 | 0 | 0 |
| | Other | 0 | 0 | 0 | 0 | 0 |

2.5.6 Provide Follow-up Investigation for Potential or Suspected Illegal Connections Identified during Dry Weather Characterization Monitoring

The City annually conducts monitoring to characterize dry weather flows. The purpose of this monitoring program is to identify dry weather flows and potential illicit discharges. Details of the dry weather characterization are discussed in **Section 9** of this Annual Report.

- a) Did the City conduct follow-up investigations for potential or suspected illegal connections discovered during dry weather monitoring? (Required each Permit Year)

Yes No None identified

2.5.7 Record and Map Illegal Connections Using the Illicit Discharge Database and GIS System

As a part of the Illicit Discharge Database, the City records the illicit discharge locations and maps them on an annual basis to identify problem areas/responsible parties. The information is used to evaluate patterns and trends of illicit discharges and illegal connections with the objective of identifying priority areas. A copy of the map is included in **Appendix B-3** for a copy of the Illicit Discharges map, which includes illegal connections.

- a) Did the City staff record illegal connections in the Illicit Discharge Database and map them in the GIS system? (Required each Permit Year)

Yes No

2.6 ID4 – Enforcement

The Enforcement Control Measure establishes policies and procedures and outlines the progressive levels of enforcement applied to responsible parties not complying with City ordinances. By adopting and implementing a progressive enforcement policy, the City will ensure that the program is effective at reducing illicit discharges and illegal connections.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

2.6.1 Implement Enforcement Response Plan (ERP)

In 2004-2005, the City completed the Enforcement Response Plan to address enforcement issues related to illicit discharges and illegal connections.

- a) Did the City implement the ERP? (Required each Permit Year)

Yes No

2.6.2 Amend ERP to Include Administrative Hearing in Title 5, Chapter 10

The City is required to amend the ERP to include an Administrative Hearing in Title 5, Chapter 10. The City Attorneys have reviewed the draft ERP and Environmental Compliance will be taking it to the city council in 2011-2012. The City is in the process of amending the City of Modesto Municipal Code to address new development standards. Amendments shall be addressed at that time, if applicable. The existing ERP will be used until the new plan is adopted by the City Council.

- a) Did the City amend the ERP to include Administrative Hearing in Title 5, Chapter 10? (Required Permit Year 1 by June 30, 2010)

Yes No Not required this year

2.6.3 Track Enforcement Actions in Illicit Discharge Database

The number and types of enforcement actions taken during the reporting period are summarized below. Several database queries were run in order to identify the number of repeat offenders and/or problem areas. The results of those queries are also summarized below and are compared with data from last year for easy reference.

a) Did the City track enforcement actions in the Illicit Discharge Database?
(Required each Permit Year)

Yes No

Number and Type of Enforcement Actions in 2010-2011

| Type of Enforcement Action | Number |
|--|------------|
| Verbal Warning | 64 |
| Administrative Enforcement | |
| Written warning | 66 |
| Notice of Non-compliance/Violation | 37 |
| Administrative Citation | 6 |
| Notice and Order | 0 |
| Criminal Enforcement | |
| Infraction | 0 |
| Misdemeanor | 0 |
| Referral to Regional Board | 0 |
| Total Enforcement Actions and Referrals | 173 |

Summary of Repeat Offenders and Problem Areas

| Permit Year | Number of Responsible Parties Involved in Three or More Incidents | Number of Sites Impacted Three or More Times (list by Address) |
|------------------|---|--|
| 2008-2009 | 0 | 0 |
| 2009-2010 | 2 | 1 (Foster Farms Dairy, 415 Kansas Avenue) |
| 2010-2011 | 0 | 0 |

Foster Farms Dairy was reported to the RWQCB for review

2.6.4 Audit ERP

Once during the permit term (2010-2011) the City is required to audit the ERP. The City attorneys have reviewed the draft ERP and Environmental Compliance will be taking an amendment to the Modesto Municipal Code to the City Council in 2011-2012 for approval.

a) Did the City audit the ERP? (Required Permit Year 3 by June 30, 2011)

Yes No Not required this year

2.6.5 Revise Municipal Code to allow Environmental Compliance Inspectors to issue Citations and Stop Work Orders

The City is required to revise the Municipal Code to allow Environmental Compliance inspectors to issue criminal citations. During a previous permit year (2004) the Municipal Code was revised to allow inspectors to issue stop work orders. The City attorneys have reviewed the draft ERP and Environmental compliance will be taking it to the City Council for approval in 2011-2012. The City is in the process of amending the City of Modesto Municipal Code to address new development standards. Amendments shall be addressed at that time if applicable.

- a) Did the City revise the Municipal Code to allow Environmental Compliance inspectors to issue criminal citations and stop work orders? (Required Permit Year 1 by June 30, 2010)

Yes No Not required this year

2.7 ID5 – Training

Training is important for the implementation of the Illicit Discharges Program Element. An effective training program is one of the best pollution prevention BMPs that can be used because it prompts behavioral changes that are fundamentally necessary to protect water quality. Training for Illicit Discharges Program Element is coordinated with the Municipal Operations training. The training formats used may include field demonstrations, classroom, or tailgate sessions.

Areas of Focus for the Illicit Discharge Detection and Elimination Program Training

| Target Audience | Topics for Audience |
|--|---|
| Public Works field crews Parks, Recreation, and Neighborhoods field crews | Identification during field work Documentation of evidence First responder training |
| Public Works building and construction inspectors | Identification during inspections |
| Planning and Land Development plan reviewers | Identification during plan review |
| Police and Fire Department personnel | Identification during routine activities Notification processes |
| Stanislaus County Department of Environmental Resources | Identification during routine activities BMP implementation during clean-up |

2.7.1 Conduct Training

The City is required to conduct training for key staff involved in the detection of illicit discharges and illegal connections. Key staff and training topics are identified above. A summary of the training sessions conducted for key staff is provided below. Internal training modules and external training are listed. For the internal modules, pre and post training surveys are conducted to gauge the effectiveness of the training. A summary of the training survey results are noted.

- a) Did the City conduct training for key staff involved in the Illicit Discharge and Illegal Connections Program? (Required every two years; tentatively scheduled for 2009-2010, 2011- 2012)

Yes No

Summary of Training Sessions Conducted for Key Staff

| Date of Training | Title of Training Module | Number of City Attendees | Target Audience | City Departments or Divisions |
|--------------------------|---|--------------------------|--------------------------|--|
| <i>Internal Training</i> | | | | |
| 09/02/09 and 9/17/09 | Municipal Stormwater Pollution Prevention | 43 | Field Crews | Water Department |
| 10/6/09 | Stormwater Regulations for Wastewater and Stormwater Collections | 33 | Field Crews | Wastewater and Stormwater Collections |
| May 2010 | Municipal Stormwater Pollution Prevention | 110 | Field Crews | Police Department |
| June 2010 | Municipal Stormwater Pollution Prevention | 98 | Field Crews | Fire Department |
| 10/12/10 | Stormwater Training for Municipal Operations | 9 | Field Crews | Building Department and Neighborhood Preservation Unit |
| 12/02/10 | Stormwater Training for Municipal Operations | 8 | Field Crews | Capital Improvement Project Inspectors |
| 01/12/11 | Stormwater Training for Municipal Operations | 49 | Field Crews | Streets, Electrical, Traffic, Graffiti Removal |
| <i>External Training</i> | | | | |
| 3/1/10 – 3/3/10 | P3S Long Beach | 2 | Various | Environmental Compliance and Stormwater Collections |
| 3/24/10 | Got SWPPP Workshop | 8 | Various | Environmental Compliance and Stormwater Collections |
| 4/12/10 | Construction General Permit Training | 1 | Construction | CEDD |
| 4/19/10 | CWEA Annual Conference | 1 | Various | CEDD |
| 6/16//10 – 6/17/10 | Stormwater, Construction Got SWPPP Workshop | 1 | Construction | Environmental Compliance |
| 10/12/10 | Emergency Response Training | 8 | Various | Environmental Compliance and Fire Department |
| 11/17/10 | Stormwater Compliance on a Construction Site: What Everyone Should Know | 9 | Public Works Field Crews | Environmental Compliance |
| 02/28/11-03/02/11 | P2/CWEA Training | 2 | Various | Environmental Compliance |
| 03/15/11 | Track-Out: Construction's Most Costly BMP Violation | 8 | Public Works Field Crews | Environmental Compliance |
| 04/05/11 | An Introduction to Monitoring Your Stormwater Run-Off | 6 | Public Works Field Crews | Environmental Compliance |

Summary of Internal Training Survey Results

| Training Module Title and Date | Total Number of Surveys Completed | Average Pre-Training Survey Score | Average Post-Training Survey Score | % Difference between pre- and post- training Average |
|--|--|--|---|---|
| 9/2/09 and 9/17/09 "Municipal Stormwater Pollution Prevention" | 43 | Not tested | 91.6% | Not tracked |
| 10/6/09 "Stormwater Regulations for Wastewater and Stormwater Collections" | 33 | 69% | 95% | 26% |
| May 2010 "Municipal Stormwater Pollution Prevention" | 110 | 90.9% | 98.4% | 7.5% |
| June 2010 "Municipal Stormwater Pollution Prevention" | 98 | 72.2% | 92.4% | 20.2% |
| 10/12/10 "Stormwater Training for Municipal Operations" | 9 | 83% | 100% | 17% |
| 12/02/10 "Stormwater Training for Municipal Operations" | 8 | 47.5% | 82.5% | 35% |
| 01/12/11 "Stormwater Training for Municipal Operations" | 49 | 55.5% | 84.7% | 29.2% |

2.7.2 Review/Revise Existing Training Strategy

The City is required to review its training strategy annually and update it as needed. Key considerations during the review and revision process include target audiences, expertise necessary, key message, existing modules, external opportunities for training, and the frequency at which the training should be provided. During this reporting year, the City reviewed the frequency of training and how training was done. Based on the increase in scores from pre-training tests to the post-training tests the current training strategy is considered to be effective.

- a) Did the City review the training strategy? (Required for 2008-2009, 2010-2011)
 Yes No
- b) Did the City revise the training strategy if necessary? (Required for 2008-2009, 2010-2011)
 Yes No (Revision not necessary)

2.8 ID6 – Illicit Discharge and Illegal Connection Program Effectiveness Assessment Strategy

The Effectiveness Assessment Strategy control measure is used to determine whether the Program Elements are achieving intended outcomes and ultimately, whether continued implementation will result in maintaining or improving water quality. There are six outcome levels as defined by the CASQA Program Effectiveness Assessment Guidance. The table below summarizes the assessments planned for the 2008-2013 permit term. Not all assessments are scheduled each year and assessments at levels 3 and 4 will required several years of data gathering to provide meaningful assessment.

Summary of Assessment Levels Planned for the 2008-2013 Permit Term

| Control | Level 1 | Level 2 | Level 3 | Level 4 |
|---|-------------------|--------------------|-----------------|----------------|
| | Implement Program | Increase Awareness | Behavior Change | Load Reduction |
| ID1 – Illicit Discharges and Illegal Connections Detection | ✓ | | ✓ | ✓ |
| ID2 – Illicit Discharge Investigation and Clean-up | ✓ | | ✓ | ✓ |
| ID3 – Illegal Connection Identification and Elimination | ✓ | | ✓ | |
| ID4 – Enforcement | ✓ | | ✓ | |
| ID5 – Training | ✓ | ✓ | | |

ID1 – The Pollution Investigation Report was updated during the 2010/2011 season to include a field to track permitted discharges identified during pollution investigations.

ID2 – During 2010-2011 the City began to transition from the Environmental Services Section database to Tidemark. This transition is necessary because the ESS database has reached its capacity for data handling. Once the transition period is over, the City will attempt to quantify illicit discharges for amount released and amount recovered when possible.

During 2010-2011 the City added a list of permitted discharges to the PIR. These permitted discharges are not included in the Summary of Materials Released as they are not considered a verified illicit discharge.

During 2010-2011 the City removed categories from the type of materials listing below if there were no verified illicit discharges in that category.

ID3 – An illicit connection was discovered between Stanislaus Food Products office building roof drains and City Stormwater catch basin. Once it was determined that this connection only conveyed roof run-off from storm events the connection was eliminated through permitting.

ID4 – The City Attorneys have reviewed the draft ERP and Environmental compliance will be taking it to the city council in 2011-2012.

The City is in the process of amending the City of Modesto Municipal Code to address new development standards. Amendments shall be addressed at that time if applicable.

ID5 – Several departments within Public Works received training. The training program continues to be effective as demonstrated in the difference between pre-training and post-training test scores.

2.9 Illicit Discharges Program Modifications

The City evaluates the results of the Program Effectiveness Assessments as well as the experience that staff has had in implementing the program. The City also determines if any program modifications are necessary in order to comply with Clean Water Act requirements to reduce the discharge of pollutants to the maximum extent practicable. During the 2009-2010 Permit Year, the City identified the following program modifications:

- ID1
 - Due to budget and staffing constraints in the 2010-2011 permit year, the City was unable to equip and carry out field screenings of non-stormwater discharges.
- ID2
 - No modifications were necessary for this area. Current procedures are adequate for this section.
- ID3
 - No modifications were necessary for this area. Current procedures are adequate for this section.

- ID4
 - The City Attorneys have reviewed the draft ERP and Environmental compliance will be taking it to the City Council for approval in 2011-2012.
 - The City is in the process of amending the City of Modesto Municipal Code to address new development standards. Amendments shall be addressed at that time if applicable.
- ID5
 - Trained several City departments in Public Works.

3. Public Outreach and Education

3.1 Overview

The Public Outreach and Education Program Element will inform the community about how everyday activities can impact stormwater discharges and potentially result in adverse impacts to the local water bodies. The Program Element is designed to maximize the use of limited resources and to develop partnerships among stakeholders in the Modesto Urbanized Area. Local stewardship and partnerships among governmental agencies, schools, universities and private interests are vital components of this Program.

Since everyday activities can be a significant source of pollutants to the storm drain system, the City has developed a comprehensive program to inform the public about the potential impacts that these activities may have on urban stormwater runoff and identify ways that the public can reduce pollutants in stormwater runoff (Section 3 of the SWMP). Additional information is included within each of the Program Control Measures.

3.2 Control Measures

The City has developed several Control Measures to ensure that the Public Outreach and Education Program requirements are effectively developed and implemented. For each Control Measure there are accompanying performance standards which, once accomplished, constitute compliance with the Permit requirements.

The Public Outreach and Education Control Measures consist of the following:

| ID | Control Measure |
|-----|---|
| PO1 | 24-hour Hotline Number |
| PO2 | Illicit Discharges and Illegal Connections Outreach |
| PO3 | Industrial and Commercial Business Outreach |
| PO4 | Construction Outreach |
| PO5 | Elementary School Outreach |
| PO6 | General Public Outreach, Education, and Participation |
| PO7 | Effectiveness Assessment Strategy |

In addition to the Control Measures listed above, activities conducted pursuant to the Illicit Discharges Program (Section 2), Municipal Operations (Section 4), and other stormwater program elements also support and provide guidance for the Public Outreach and Education Program.

This section of the Annual Report provides information on the specific tasks that have been initiated and/or completed during the reporting period pursuant to the Public Outreach and Education Program Performance Standards and implementation schedules.

3.3 PO1 – 24-hour Hotline Number

The purpose of the 24-hour hotline Control Measure is to facilitate public reporting of clogged basins, illicit discharges, illegal connections, and missing/damaged curb markers, and providing general stormwater information. This Control Measure also ensures that through the hotline, complaint information is forwarded to the appropriate contacts for follow-up and/or investigation.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

3.3.1 Maintain Hotline

The City is required to maintain the hotline and track the types of phone calls received. The City maintains a 24-hour hotline number. Once a complaint is received, City staff responds using the processes described within Section 2 of the SWMP. Additional summary information regarding the hotline is provided in Section 2.3.2 of the Illicit Discharges section of the Annual Report. Each hotline call is documented on a standardized form, and the follow-up actions are noted in the Pollution Investigation Report.

A summary of the types of phone calls received on the 24-hour hotline number during this reporting period is provided below. The numbers for 2008-2009, 2009-2010 are provided for easy reference.

a) Did the City maintain the hotline number?

Yes No

The City tracked the types and numbers of calls to the hotline included the following general categories
Summary of Hotline Calls Received

| Type of Problem/Request Called into Hotline | 2008-2009 | 2009-2010 | 2010-2011 |
|---|-----------|-----------|-----------|
| Clogged catch basins | 153 | 783 | 150 |
| Illegal discharges/illegal connections | 410 | 363 | 258 |
| Missing/damaged curb marker | N/A | N/A | NA |
| General stormwater information | 18 | 45 | 104 |
| Total | 581 | 1191 | 512 |

3.3.2 Investigate Changing Hotline Number Prompts to Include Stormwater Questions

Investigate changing prompt for 24-hour hotline operator to include questions regarding industrial/commercial discharges. During this reporting period the City reviewed the hotline prompts and found that it will include a question regarding calls received from industrial/commercial businesses. More work will need to be done to ascertain a tracking methodology for reporting the data received on the 24-hour hotline number.

a) Did the City investigate changing hotline number prompts to include questions regarding industrial / commercial discharges?

Yes No Not required this year

3.3.3 Update Hotline Number Information in public information and phone books

If the hotline number changes, the City is required to update the public information and government pages in the phone book that advertize the number. The City promotes the 24-hour hotline by including it within public/business education materials, listing it on the website and including it within the government pages of the telephone book. During this reporting period the hotline number remained the same and no changes were required.

- a) Did the City update the hotline number information, as necessary?

Yes No

3.3.4 Review City Website Organization and Promote Hotline

The City is required to review the website to assess whether information on the stormwater program can be made more readily accessible and promote the hotline number. The City updated the website to include specific Environmental Compliance information that includes Stormwater BMP brochures. All brochures promote the use of the 24-hour hotline to report illicit discharges. These brochures are accessible at:

<http://www.ci.modesto.ca.us/pwd/utilities/wastewater/compliance.asp>.

- a) Did the City review the website organization to make stormwater information more prominent?

Yes No Not required this year

3.4 PO2 – Illicit Discharges and Illegal Connections Outreach

The Illicit Discharges and Illegal Connections Outreach Control Measure provides outreach materials to businesses, property owners, the general public, and elected officials about the hazards associated with illicit discharges and illegal connections. This measure also includes information about how improper disposal of wastes may ultimately lead to water quality degradation. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

3.4.1 Distribute Door Hangers

City staff is required to distribute door hangers in areas susceptible to illicit dischargers or where catch basin curb markers were recently installed. Door hangers were not distributed due to lack of staff during this reporting period.

- a) Did City staff distribute door hangers in areas susceptible to illicit dischargers or where catch basin curb markers were recently installed?

Yes No

3.4.2 Promote Used Oil Recycling Program

The City is required to promote the used oil recycling program under the illicit discharge outreach element and the general public outreach, education and participation element. The efforts under both elements are reported here. The City operates the Used Oil Recycling Program, which promotes “Only Rain Down the Drain” and “Recycle Used Oil Filters” advertising campaigns and provides opportunities for proper disposal of used oil and other wastes. Beginning this permit term the City began to assess the amount of used oil collected at certified collection centers for recycling to better understand the public participation in this program. A summary of the quantity of oil collected is provided below.

a) Did the City promote the used oil recycling program?

Yes No

Summary of Used Oil Collected for Recycling

| Drop Off Location | 2008-2009 (gallons) | 2009-2010 (gallons) | 2010-2011 (gallons) |
|---|------------------------|------------------------|------------------------|
| All retail locations within City Stanislaus County | 268,454 | 85,570 | 92,751 |
| County HHW facilities (used by City residents) | 9,264 | 7,390 | 6,880 |
| Residential Collection (Pick up by either Gilton Waste or Bertolotti Waste) | 1,247 | 1,806 | 1,756 |
| Total gallons collected | 278,965 | 94,766 | 101,387 |

3.5 PO3 – Industrial and Commercial Business Outreach

Since commercial and industrial businesses can be sources of stormwater pollutants, this Control Measure ensures that business owners and operators are informed about stormwater quality and impacts on water resources. Efforts are primarily targeted at specific business types. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

3.5.1 Include BMP Fact Sheets with New Business Licenses

The City is required to include appropriate BMP fact sheet(s) with new business licenses and provide them at the Community and Economic Development Department front counter. Beginning this permit term the City tracked the number of brochures distributed with new business licenses and a summary is provided below. In addition to distributing the business-specific brochures tracked below, the City also distributed 1,954 general stormwater brochures to as many new businesses.

a) Did the City include appropriate BMP fact sheet(s) with new business licenses and provide them at the Community and Economic Development Department front counter?

Yes No

Summary of Brochures Distributed and Total Number of Businesses Provided with Brochures¹

| Type of Business | Number of Brochures Distributed with New Business License |
|---|---|
| Industrial facilities | 1 |
| Automotive body shops | 3 |
| Automobile dealers | 14 |
| Automotive repair shops | 22 |
| Dry cleaners | 0 |
| Equipment rentals | 0 |
| Kennels | 1 |
| Nurseries | 1 |
| Mobile washers and cleaners | 19 |
| Total Number of Fact sheets Distributed | 61 |

¹ Brochures are either mailed by the Business Licensing Division or handed out at the time the Business License is issued

3.5.2 Distribute Brochures during Inspections

The City is required to distribute business-specific brochures during business inspections. 118 brochures were distributed during routine Stormwater inspections (note: 203 stormwater inspections were performed. Priority was changed on 85 of those inspections where it was found that a) business closed b) there was no threat to storm drain system).

Did the City distribute brochures during business inspections?

- a) Yes No

3.5.3 Update BMP Fact Sheets for Revised Industrial Permit

The City is required to update the BMP fact sheet(s) to address the revised Industrial General Permit conditions, when it is adopted.

a) Did the City update BMP fact sheet(s) to address revised Industrial Permit conditions?

- Yes No Not required this year

3.5.4 Develop BMP Fact Sheets for Mobile Washers and Cleaners

The City is required to develop BMP fact sheet(s) specifically for mobile washers and cleaners.

a) Did the City develop BMP fact sheet(s) for mobile washers and cleaners?

- Yes No Not required this year

3.5.5 Distribute BMP Fact Sheets for Mobile Washers and Cleaners

The City is required to distribute BMP fact sheet(s) to mobile washers and cleaners. The number of brochures distributed with new business licenses is identified in section 3.5.1. The City has placed all BMP brochures onto the City website so that they are available to the community at large.

- a) Did the City distribute BMP fact sheet(s) for mobile washers and cleaners?
 Yes No Not required this year

3.5.6 Develop BMP Fact Sheets for Equipment Rentals, Kennels, and Nurseries

The City is required to develop BMP fact sheet(s) specifically for equipment rentals, kennels, and nurseries. The City completed this at the beginning of the permit cycle.

- a) Did the City develop BMP fact sheets for: equipment rentals, kennels, and nurseries)
- | | | | |
|-------------------|------------------------------|-----------------------------|--|
| Equipment Rentals | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not required this year <input checked="" type="checkbox"/> |
| Kennels | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not required this year <input checked="" type="checkbox"/> |
| Nurseries | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not required this year <input checked="" type="checkbox"/> |

3.5.7 Distribute BMP Fact Sheets for Equipment Rentals, Kennels, and Nurseries

The City is required to distribute BMP fact sheet(s) for equipment rentals, kennels, and nurseries. All new businesses receive the BMP fact sheet from the Business Licensing Division identified in section 3.5.1. The City has placed all brochures onto the City website so that they are available to the community at large.

- a) Did the City develop and distribute BMP fact sheet for equipment rentals, kennels, and nurseries?
 Yes No Not required this year

3.5.8 Conduct Workshop for Mobile Washers and Cleaners

The City is required to conduct workshops for mobile washers and cleaners. The workshop is planned to occur in 2011-2012.

- a) Did the City conduct workshop for mobile washers and cleaners?
 Yes No Not required this year

3.5.9 Conduct General Industry Workshops

The City is required to hold general industry workshops to educate businesses on the Industrial General Permit. The City anticipates holding this workshop following the adoption of the Industrial General Permit.

- a) Did the City hold general industry workshop(s) for revised Industrial General Permit?
 Yes No Not required this year

3.6 PO4 – Construction Outreach

The Construction Outreach Control Measure provides outreach and guidance to construction contractors and developers regarding stormwater quality issues. This Control Measure educates and informs construction contractors and developers about stormwater quality issues and impacts on water resources. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

3.6.1 Distribute BMP Brochures

The City is required to distribute construction BMP brochures to construction contractors and developers during construction site inspections and building permit approval. The City’s construction brochures describe BMPs that can be implemented for home repair and remodeling, general construction and site supervision, heavy equipment and earthmoving activities, roadwork and paving, fresh concrete and mortar application.

- a) Did the City distribute BMP brochures to construction contractors and developers during construction site inspections and building permit approval?

Yes No

Summary of Brochures and Wallet Cards Distributed during Inspections and with Building Permits

| Type of Brochures | Number of Brochures Distributed During Inspections | Number of Brochures Distributed with Building Permit Approvals |
|--|--|--|
| Home Repair and Remodeling | 15 | 3,707 |
| Construction General and Site Supervision | 76 | 87 |
| Heavy Equipment and Earthmoving Activities | 2 | 4 |
| Roadwork and Paving | 2 | 3 |
| Fresh Concrete and Mortar Application | 21 | 10 |
| Total | 116 | 3,811 |

3.6.2 Update BMP Brochures

The City updated the construction BMP Brochures following the adoption of the Construction General Permit.

The City is required to update construction BMP brochures to address the revised Construction General Permit conditions.

- a) Did the City update construction BMP brochures for revised Construction General Permit conditions?

Yes No Not required this year

3.6.3 Conduct Construction General Permit Workshops

The City is required to hold Construction General workshop(s) that cover the revised Construction General Permit. Workshops were held during the 2009-2010 year when the permit was adopted. Education and awareness of the new CGP has been ongoing during the 2010-2011 year.

- a) Did the City hold Construction General Permit workshop(s) for revised Construction General Permit?

Yes No Not required this year

3.6.4 Conduct Tailgate Sessions

The City is required to conduct periodic tailgate sessions with construction contractors. The City staff documented 38 tailgate sessions that included 18 construction contractors, however the City Construction Stormwater Inspector will typically hold a tailgate at each inspection.

- a) Did the City conduct periodic tailgate sessions with construction contractors?

Yes No

Summary of Tailgate Sessions

| Date of Session | Location of Session | Phase of Construction (land development, utilities, vertical, final stabilization) | Number of Participants |
|-----------------|---------------------------------------|--|---------------------------|
| 7/29/2010 | Andrea Estates | Land Development Subdivision | 3 |
| 7/29/2010 | Airport Apron Rehab | Capital Improvement | 2 |
| 07/29/2010 | Arco AM/PM | Retail Gas Outlet, New Development | 5 |
| 07/30/2010 | Prescott Senior Elementary School | Land Development | 2 |
| 07/30/2010 | MJC Building Improvements | Land Development | 3 |
| 8/23/2010 | Graham Estates | Land Development Subdivision | 3 |
| 8/27/2010 | Modesto Tallow | Demolition | 4 |
| 08/26/2010 | In Shape City | Parking Lot and Building | 3 |
| 08/26/2010 | Krishnamoorthi Medical Office Bldg | Land Development | 2 |
| 8/27/2010 | Arco AM/PM | Retail Gas Outlet, New Development | 2 |
| 9/28/2010 | Andrea Estates | Land Development Subdivision | 2 |
| 09/28/2010 | Sportsmen Estates | Land Development Subdivision | 2 |
| 09/28/2010 | Hope Village | Land Development Subdivision | 2 |
| 09/28/2010 | The Bridges Business Park | Land Development | 3 |
| 09/28/2010 | Arco AM/PM | Retail Gas Outlet, New Development | 2 |
| 09/28/2010 | Graham Estates | Land Development Subdivision | 2 |

| | | | |
|------------|-----------------------------|--|---|
| 09/29/2010 | Water System Improvements | Capital Improvement | 1 |
| 10/29/2010 | The Bridges Business Park | Land Development | 2 |
| 10/29/2010 | Modesto Tallow | Land Development | 2 |
| 10/29/2010 | Graham Estates | Land Development Subdivision | 1 |
| 11/19/2010 | Graham Estates | Land Development Subdivision | 1 |
| 11/19/2010 | Northpointe Shopping Center | Land Development | 3 |
| 11/19/2010 | Arco AM/PM | Retail Gas Outlet, New Development | 2 |
| 01/11/11 | Hope Village | Land Development Subdivision (reported as non-filer) | 2 |
| 01/11/11 | Northpointe Shopping Center | Land Development | 1 |
| 02/03/11 | Cambrooke Estates | Land Development Subdivision | 2 |
| 02/04/11 | Hope Village | Land Development Subdivision | 1 |
| 02/04/11 | Graham Estates | Land Development Subdivision | 1 |
| 02/07/11 | The Bridges Business Park | Land Development | 1 |
| 02/07/11 | Northpointe Shopping Center | Land Development | 2 |
| 02/09/11 | Virginia Corridor | Capital Improvement | 3 |
| 03/01/11 | Northpointe Shopping Center | Land Development | 2 |
| 03/02/11 | Virginia Corridor | Capital Improvement | 1 |
| 04/11/11 | Andrea Estates | Land Development Subdivision | 2 |
| 04/11/11 | Graham Estates | Land Development Subdivision | 3 |
| 04/27/11 | Golden Corral | Land Development | 4 |
| 05/15/11 | Andrea Estates | Land Development Subdivision | 2 |
| 05/24/11 | Graham Estates | Land Development Subdivision | 2 |

3.7 PO5 – Elementary School Outreach

The Elementary School Outreach Control Measure targets school-age children using presentations addressing stormwater quality issues. This Control Measure provides public school districts within the City with outreach materials and resources to educate school-age children about stormwater pollution. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

3.7.1 Educate 50% of all 4th Graders every two years

The City is required to educate at least 50% of all 4th grade children every two years. Elementary School Outreach has progressed and evolved around a pollution prevention video, *Go with the Flow*. Modesto elementary schools receive the video and corresponding educational packet at their resource centers. Each student receives an “*Only Rain Down the Drain*” activity booklet and sticker. Each teacher receives a packet of information on water, wastewater, stormwater, and water conservation information from the Department of Water Resources. Staff has compiled an email list of the fourth through sixth grade teachers and principals to assist in the ongoing efforts to inform school staff about the latest in pollution-prevention goals.

The City has two separate opportunities to reach out to school programs:

1. Only Rain Down the Drain classroom presentation includes a five-question pre-test to measure students’ present knowledge of storm drain terms, and a post-test to measure the overall success of the presentation.

2. A water conservation/storm drain presentation classroom and assembly presentations regarding water conservation, storm drains, and pollution prevention are given to fourth through sixth graders.

Summaries of the presentations provided during 2010-2011 and the results of the pre- and post presentation surveys are provided below. Modesto has 23 elementary schools with an enrollment of 1,591 4th graders, average of 69 students per school. It is difficult to get accurate records for each school, so an average was used. The City estimates that 54.7% of 4th graders were reached during the two-year cycle (2009-2010 & 2010-2011). Not all elementary schools participated in the outreach effort. Pre-tests are given and an overall percentage is used to evaluate the students’ knowledge prior to the presentation.

a) Did the City educate at least 50% of all 4th grade children every two years?

Yes No

Summary of 4th Grade Presentation Outreach Effort

| | 2009-2010 | 2010-2011 | Total | % of Total |
|--|-----------|-----------|-------|------------|
| Number of Schools | 13 | 6 | 19 | 82.6 |
| Total Number of 4 th Grade Students Reached | 525 | 346 | 871 | 54.7 |

Summary of Elementary School Presentations Provided for 2 year cycle

| Name of School | Number of Presentations | Total Number of Students (all grades) at presentations | Number of 4 th Grade Students at presentations | Total Number of 4 th Graders in School |
|--------------------|-------------------------|--|---|---|
| Agnes Baptist | 1 | 239 | 40 | 69 |
| CF Brown | 2 | 82 | 57 | 69 |
| Eisenhut | 6 | 184 | 62 | 69 |
| Fremont Elementary | 1 | 41 | 41 | 69 |

| Name of School | Number of Presentations | Total Number of Students (all grades) at presentations | Number of 4 th Grade Students at presentations | Total Number of 4 th Graders in School |
|---|-------------------------|--|---|---|
| Fremont Open Plan | 4 | 159 | 114 | 69 |
| Lakewood | 3 | 181 | 55 | 69 |
| Mary Lou Dieterich | 7 | 212 | 60 | 69 |
| Orville Wright | 3 | 145 | 57 | 69 |
| Shackelford | 2 | 55 | 0 | 69 |
| Tuolumne | 1 | 31 | 0 | 69 |
| Somerset Middle School | 2 | 67 | 0 | 0 |
| Empire | 7 | 238 | 30 | 69 |
| Garrison Elementary | 1 | 300 | 69 | 69 |
| Mary Ann Sanders | 3 | 120 | 120 | 60 |
| James Marshall | 3 | 208 | 92 | 68 |
| Beard Elementary | 1 | 32 | 32 | 65 |
| Martone | 1 | 34 | 34 | 69 |
| Hanshaw Middle School | 1 | 30 | 0 | 0 |
| Great Valley Academy (70 non test takers) | 2 | 72 | 8 | 26 |
| Total | 51 | 2,430 | 871 | 1,116 |

Summary of Presentation Survey Performance

| Presentation Date | Total Number of Surveys | Average Pre-Presentation Survey Score ¹ | Average Post-Presentation Survey Score | % Difference Between Pre- and Post-Presentation Scores |
|-------------------|-------------------------|--|--|--|
| 9/14/09 | 239 | 58% | 100% | 42% |
| 11/6/09 | 45 | 78% | 100% | 22% |
| 11/10/09 | 55 | 51% | 100% | 49% |
| 11/13/09 | 41 | 51% | 100% | 49% |
| 11/19/09 | 82 | 53% | 100% | 47% |
| 2/1/10 | 54 | 51% | 100% | 49% |
| 2/5/10 | 30 | 62% | 100% | 38% |
| 2/11/10 | 58 | 61% | 100% | 39% |
| 2/19/10 | 184 | 61% | 100% | 39% |
| 2/23/10 | 58 | 62% | 100% | 38% |
| 3/26/10 | 60 | 67% | 100% | 33% |
| 5/6/10 | 181 | 70% | 100% | 30% |
| 5/14/10 | 63 | 69% | 100% | 31% |

| Presentation Date | Total Number of Surveys | Average Pre-Presentation Survey Score ¹ | Average Post-Presentation Survey Score | % Difference Between Pre- and Post-Presentation Scores |
|-------------------|-------------------------|--|--|--|
| 5/19/10 | 145 | 58% | 100% | 42% |
| 6/3/10 | 82 | 53% | 100% | 47% |
| 6/10/10 | 31 | 58% | 100% | 42% |
| 12/13/10 | 34 | 56% | 100% | 44% |
| 12/13/10 | 33 | 56% | 100% | 44% |
| 2/18/11 | 60 | 65% | 100% | 35% |
| 2/18/11 | 30 | 65% | 100% | 35% |
| 2/18/11 | 30 | 65% | 100% | 35% |
| 2/24/11 | 30 | 51% | 100% | 49% |
| 2/25/11 | 12 | 52% | 100% | 48% |
| 2/25/11 | 12 | 52% | 100% | 48% |
| 3/15/11 | 30 | 47% | 100% | 53% |
| 5/5/11 | 30 | 59% | 100% | 41% |
| 5/12/11 | 34 | 59% | 100% | 41% |
| 5/12/11 | 34 | 59% | 100% | 41% |
| 5/12/11 | 34 | 59% | 100% | 41% |
| 5/18/11 | 32 | 59% | 100% | 41% |
| 5/20/11 | 34 | 60% | 100% | 40% |
| 6/21/11 | 5 | 50% | 100% | 50% |
| 6/21/11 | 67 | TEST NOT TAKEN | NA | NA |

¹ Average of all surveys during 2007-2008 and 2008-2009.

3.7.2 Make “Go with the Flow” Video Available

The City is required to make “Go with the Flow” video and associated educational packet available for school assemblies and individual teachers. The Stormwater Program partnered with the Cities of Sacramento and Stockton Stormwater Programs to develop an 8-minute video titled “Go with the Flow” that depicts teenagers discussing topics such as the water cycle, stormwater, and pollution prevention activities. An activity booklet with corresponding questions from the video was developed and was supplied to the elementary schools. The *Go With the Flow* video has been well received by administrators, teachers, and students.

- a) Did the City make “Go with the Flow” video and associated educational packet available for school assemblies and individual teachers?

Yes No

3.7.3 Evaluate Environmental Education Account

The City is required to assess opportunities to support Environmental Education Account (EEA) established under Assembly Bill 1721 (2005) as an alternative to the School Outreach Program. Per the website EEA website, <http://www.calepa.ca.gov/education/eei/> (which was accessed on April 14, 2009, when the evaluation was completed), the EEA program is in the 4th of seven phases of development. Currently they are developing a model curriculum. Subsequent phases will disseminate the model and provide professional development (phase 5); assess the model (phase 6); and support the ongoing operation of the program implementation (phase 7).

It appears that it will be several years before the model curriculum is turned into an in-place education program. Other MS4 stormwater programs were questioned on the implementation of the EEA as an alternate to running their own elementary school education, and of those surveyed none were using this as an alternative. The City also asked the chairpersons of the CASQA Legislation and Public Information and Participation Subcommittees, who reported that they were aware of any stormwater program participating in the EEA program.

The City determined that is preferable to continue its own school education program which allows the City staff to personalize the program to our needs and programs. And more importantly is providing the correct information on the Modesto program to each individual student (and their parents) now, as opposed to sometime in the future.

- a) Did the City assess opportunities to support Environmental Education Account establishment under Assembly Bill 1721 (2005) as an alternative to the School Outreach Program? The performance standard was completed in 2008-2009. No further effort is required.

Yes No Not required this year

3.8 PO6 – General Public Outreach, Education, and Participation

The General Public Outreach, Education, and Participation Control Measure outlines the City's efforts to educate the public on stormwater quality issues and encourage public participation in stormwater pollution prevention activities. Such outreach communicates the importance of stormwater quality protection and pollution prevention to the City's residents.

This Control Measure provides the implementation framework for making 1,000,000 impressions each year on the general public, students, and business owners and operators regarding stormwater quality. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

3.8.1 Make a Minimum of 1,000,000 Impressions per Year

The City is required to make 1,000,000 impressions on the public every year. The City uses a variety of strategies to make these impressions, such as updating advertising and promotional brochures and materials, coordinating with the Illicit Discharges and Illegal Connections Program to target areas of frequent illicit discharges by distributing multi-lingual brochures/flyers, expanding the locations where residential-related brochures are available, staffing public events (attend and distribute pollution prevention brochures and materials at various community events) and using various means to distribute educational brochures promoting the Used Oil Recycling Program, and continuing to update the website to include outreach material.

This year it is estimated that 55,490,095 impressions were made. The number of impressions is high due to the use of bus stop benches and MAX City Buses that promote "Only Rain Down the Drain," 24 hour hotline and other environmental advertisements that are displayed on the side of the buses; these methods accounted for a combined total of 53,894,330 impressions based on average daily traffic counts.

- a) Did the City reach the goal of making 1,000,000 impressions during the reporting year?

Yes No

- b) Identify the methods used to make impression on the public:

Updating advertising and promotional brochures and materials?

Yes No

Coordinating with the Illicit Discharges and Illegal Connections Program to target areas of frequent illicit discharges by distributing multi-lingual brochures / flyers?

Yes No

Expanding the locations where residential-related brochures are available?

Yes No

Staffing public events (attend and distribute pollution prevention brochures and materials at various community events) and using various means to distribute educational brochures promoting the Used Oil Recycling Program?

Yes No

Review website to ensure information is readily available and to continue to update website to include outreach material?

Yes No

Number of Impressions Made

| Name of Educational Material | Number of Impressions | | | |
|---|-----------------------|---------|-----------|---------|
| | 2009-2010 | | 2010-2011 | |
| | English | Spanish | English | Spanish |
| Growing a Healthy Garden to Manage Pests Naturally | 359 | 5 | 327 | 1 |
| Controlling Ants in Your House | 118 | 29 | 93 | 16 |
| Controlling Aphids in Your Garden | 87 | 43 | 93 | 9 |
| Keeping Fleas Off Your Pets and Out of Your Yard | 90 | 33 | 76 | 4 |
| Tips for a Healthy Beautiful Lawn | 69 | 11 | 47 | 0 |
| Keeping Mosquitoes Away From Your Yard | 125 | 59 | 69 | 20 |
| Tips for Wonderful Roses | 43 | 9 | 37 | 0 |
| Controlling Snails and Slugs in Your Garden | 112 | 0 | 51 | 0 |
| Living with Spiders, The Helpful Hunters | 78 | 65 | 80 | 5 |
| How To Control Weeds | 52 | 33 | 28 | 0 |
| Controlling Yellow jackets Around Your Home | 104 | 74 | 45 | 2 |
| Controlling Cockroaches | 44 | 37 | 58 | 9 |
| Use and Disposal of Pesticides | 0 | 0 | 0 | 0 |
| Pesticides and Water Quality | 0 | 0 | 0 | 0 |
| Finding a Pest Control Company | 0 | 0 | 0 | 0 |
| Pest Management Guide (Fan Style) | 469 | -- | 190 | -- |
| Booklet "The Healthy Home and Garden" | 378 | -- | 264 | - |
| Stormwater BMPs for Home Repair and Remodeling | 221 | -- | 3,707 | - |
| Stormwater BMPs for Fresh Concrete and Mortar Application | 60 | -- | 10 | - |
| Pest Management Guides | 250 | -- | 200 | -- |
| Pest or Pals Booklet | 92 | -- | -- | -- |
| Pollution-Prevention Begins on Your Street (two sided with English and Spanish) | 1519 | 1519 | 440 | 440 |
| Auto Care/Used Oil Recycling | 3319 | | 260 | - |
| Parks and Recreation Dept Activities Guide "Recycling" | 13,000 | | 10,000 | |
| <i>Video</i> | | | | |
| Go with the Flow Video | 120 | | 200 | |
| <i>Utility Inserts</i> | | | | |
| "Pollution Prevention Begins On Your Street", "I Want You to Recycle Used Oil Filters", "Waste Tire Recycling (2 inserts)", "Only Rain Down the Drain" ads for City Pride C/W utility insert | 1,575,000 | -- | 1,575,000 | |
| <i>Promotional Materials</i> | | | | |
| Promotional Materials (folders, magnets, pencils, key chains, rulers, bags, backpacks, spoke sliders, highlighters, hand sanitizer, book covers, FOG can lids, wrist bands, tattoos, crayons) | 3,485 | 516 | 4,490 | 100 |

| Name of Educational Material | Number of Impressions | | | |
|--|-----------------------|--------------|-------------------|------------|
| | 2009-2010 | | 2010-2011 | |
| | English | Spanish | English | Spanish |
| <i>Advertisements</i> | | | | |
| MAX City Bus ads "Report Illegal Storm Drain Dumping; Take the Unwanted Products to the HHW Facility at 1716 Morgan Road 525-4123" "Can You Live With the Things You Put Down the Drain? Remember We All Live Down Stream. Report Illegal Storm Drain Dumping 577-6200" The River Begins At Your Front Door" "Dispose of Grease Properly, Do Not Pour It Down the Drain. If You See a Wastewater Spill, Notify Immediately 577-6200" | 2,700,000 | -- | 21,168,000 | |
| MAX City Bus Stop bench ads "Only Rain Down the Drain" "Report Polluters, call 577-6200". | 65,452,660 | | 32,726,330 | |
| TOTAL | 69,751,854 | 2,433 | 55,490,095 | 540 |

3.8.2 Distribute Outreach Materials Targeted at Residential Community Activities

The City is required to distribute outreach materials targeting the following residential community activities:

- automobile repair and maintenance,
- automobile washing,
- disposal of household hazardous waste (e.g., paints, cleaning products),
- home and garden care activities and product use (i.e., pesticides, herbicides, and fertilizers).

The City has developed a wide range of outreach materials targeting these community activities (see list above) and distributes these materials through the available media noted in section 3.8.1. The table below summarizes the impressions made on these target audiences.

a) Did the City distribute outreach materials to target residential community activities?

Yes No

Summary of Impressions by Target Audience

| Target Audience | Impressions in 2010-2011 |
|---|--------------------------|
| Automobile repair and maintenance | 260 |
| Automobile washing | 440 |
| Disposal of household hazardous waste | 440 |
| Home and garden care activities and product use | 1658 |

3.8.3 Develop Outreach Material for Targeted Residential Community Activities

The City is required to develop outreach materials targeting the following residential community activities through the Modesto Bee:

- Swimming pool cleaning and draining,
- Fall season leaves pick-up,
- Home improvement and construction activities, and
- Household chemical disposal.

While the SWMP indicated the use of the Modesto Bee as the means to reach the targeted audiences, the City instead utilized other methods to reach the same audiences. These other means of public outreach included:

- Bus Stop Benches;
- Utility Inserts;
- Updated Website; and
- Bus Advertisements.

a) Did the City develop outreach material for swimming pool cleaning and draining?

Yes No Not required this year

b) Did the City develop outreach material for fall season leaves pick-up?

Yes No Not required this year

c) Did the City develop outreach material for home improvement and construction activities?

Yes No Not required this year

d) Did the City develop outreach material for household chemical disposal?

Yes No Not required this year

3.8.4 Conduct Public Opinion Surveys

The City is required to conduct additional surveys to assess the effectiveness of the public outreach efforts. This survey process recognizes that the education program is continually refining messages to be communicated, evaluating the audiences to be reached, and identifying the most effective and cost efficient methods with which to communicate.

To better understand the level of awareness in the community, the City conducted a baseline public opinion survey that was completed in May 2005. The survey results established a baseline for assessing public perceptions and behaviors related to stormwater quality management. A follow-up survey was completed in February 2007. During the current permit term two additional surveys are scheduled to be completed. The first of these surveys was completed in 2009-2010. The second will be developed in 2012 and the survey is scheduled to be completed during the 2012-2013 year.

- a) Did the City conduct public opinion surveys to assess increase in public knowledge of storm drain system?

Yes No Not required this year

3.8.5 Translate Outreach Material into Spanish and other Languages

The City is required to translate outreach material into Spanish and other languages for targeted outreach efforts. During the previous permit term the City developed or translated 17 types of outreach materials in languages other than English. Most commonly materials have been developed or translated into Spanish. One brochure has been translated into Spanish, Cambodian, Assyrian, and Vietnamese. During 2010-2011 no new materials were translated into other languages.

- a) Did the City translate outreach material into the Spanish language as well as other languages for targeted outreach efforts?

Yes No

The City plans on translating two key BMP (landscaping and swimming pool maintenance) brochures into Spanish in the 2011-12 permit year.

Summary of Outreach Materials and Available Languages

| Newly Translated in 2010-2011 | Name of Outreach Material | Target Audience/ Activity | Languages |
|-------------------------------|--|--|---|
| Brochures | | | |
| | Door Hanger – No Dumping / No Tire | Residential community | English, Spanish |
| | Household Hazardous Waste | Residential community | English, Spanish |
| | Pollution Prevention Begins on Your Street | Residential community Homeowners Do-it-yourselfers | English, Spanish |
| | Rockwell Drains | Residential community | English, Spanish Vietnamese, Assyrian Cambodian |
| Other | | | |
| | Promotional Materials for Used Oil & Filter Recycling Program and Stormwater Pollution Prevention (magnets, key chains, pencils) | Residential community Do-it-yourselfers | English, Spanish |
| Flyers | | | |
| | Door Hanger – No Dumping / No Tire | Residential community | English, Spanish |
| | Pollution Prevention Begins on Your Street | Residential community | English, Spanish |
| Fact Sheets | | | |
| | Controlling Ants in Your House (IPM) | Residential community | English, Spanish |
| | Controlling Aphids in Your Garden (IPM) | Home gardeners | English, Spanish |

| Newly Translated in 2010-2011 | Name of Outreach Material | Target Audience/ Activity | Languages |
|-------------------------------|--|---|------------------|
| | Controlling Snails And Slugs In Your Garden (IPM) | Home gardeners | English, Spanish |
| | Controlling Yellow Jackets Around Your Home | Residential community | English, Spanish |
| | Finding A Pest Control Company | Residential community | English, Spanish |
| | Growing a Healthy Garden to Manage Pests Naturally (IPM) | Residential community Home gardeners | English, Spanish |
| | How To Control Weeds (IPM) | Residential community | English, Spanish |
| | Keeping Fleas Off Your Pets and Out of Your Yard (IPM) | Animal owners Homeowners | English, Spanish |
| | Keeping Mosquitoes Away From You and Your Yard (IPM) | Residential community | English, Spanish |
| | Living With Spiders: The Helpful Hunters (IPM) | Residential community Home gardeners | English, Spanish |

3.8.6 Support Grass-root Neighborhood and Citizen Clean-up Days and Events

The City is required to support grass-roots neighborhood and citizen clean-up days and events. The City tracks the number of volunteers as well as the amount of litter removed at clean-up events. These grass roots efforts involved 3,400 volunteers that collected and removed more than 70 tons of litter and debris from Modesto neighborhoods, parks, and trails. The City, along with other organizations, contributed advertisement of the events, on-line sign up for volunteers, City employees to assist events volunteers, and waste disposal (garbage bags, trash haulers) for the events.

- a) Did the City support grass-roots neighborhood and citizen clean-up days and events?

Yes No

Grass-roots Clean-up Days and Accomplishments

| Clean-up Date | Name of Event | Number of Volunteers | Amount of Litter and Debris Removed |
|---------------|--|----------------------|-------------------------------------|
| 9/11/2010 | Takin it to the Streets Community Service Day (Sponsored by the City of Modesto) | 1000 | 23 tons |
| 9/11/2010 | Tuolumne River Clean Up (Sponsored by the Tuolumne River Trust) | 300 | 1.5 tons |
| 10/16/2010 | Boyett B-Green Recycle E Waste (Sponsored in partnership with City of Modesto) | Unknown | Unknown |
| 12/11/2010 | Airport Neighborhood Winter Workday (Sponsored by the Tuolumne River Trust) | 75 | 400 lbs |
| 4/2/2011 | Takin it to the Streets Spring Clean up (Sponsored by the City of Modesto) | 1000 | 23 tons |
| 5/21/2011 | Green on the Stream (Sponsored by the Tuolumne River Trust) | 30 | 400 lbs |
| 6/25/11 | Takin it to the Streets National Trails Day (Sponsored by the City of Modesto) | 1000 | 23 tons |

3.8.7 Promote Used Oil Collection

The City is required to promote oil collection. The efforts on this measure are described in section 3.4.2.

- a) Did the City promote used oil collection through brochures, fact sheets, utility inserts, and other outreach materials?

Yes No

3.8.8 Notify Public of SWMP Changes

The City is required to provide notice to the public on the draft SWMP and proposed SWMP changes during the permit term.

- a) Did the City provide notice to the public on the draft SWMP and proposed SWMP changes during the permit term?

Yes No Not Required

3.8.9 Make Presentations to City Council

The City is required to make presentations to the City Council on the draft SWMP and periodic updates during the permit term on the stormwater program progress. These presentations provide an opportunity for the Stormwater Program to inform city leaders, elected representatives, and the public about the stormwater program including its achievements and funding needs. Updates to the SWMP program were made to the City Council February 22, 2011, regarding funding of programs, including Rockwell Monitoring and Reporting.

- a) Did the City make presentations to the City Council on the draft SWMP and periodic updates during the permit term on the stormwater program progress?

Yes No Not required this year

3.9 PO7 – Public Outreach and Education Program Effectiveness Assessment Strategy

The Effectiveness Assessment Strategy control measure is used to determine whether Program Elements are achieving intended outcomes and ultimately, whether continued implementation will result in maintaining or improving water quality (CASQA, 2007). Outcome levels are used to categorize and describe the desired results of goals of the control measures and Program Elements. There are six outcome levels as defined by the CASQA Program Effectiveness Assessment Guidance.

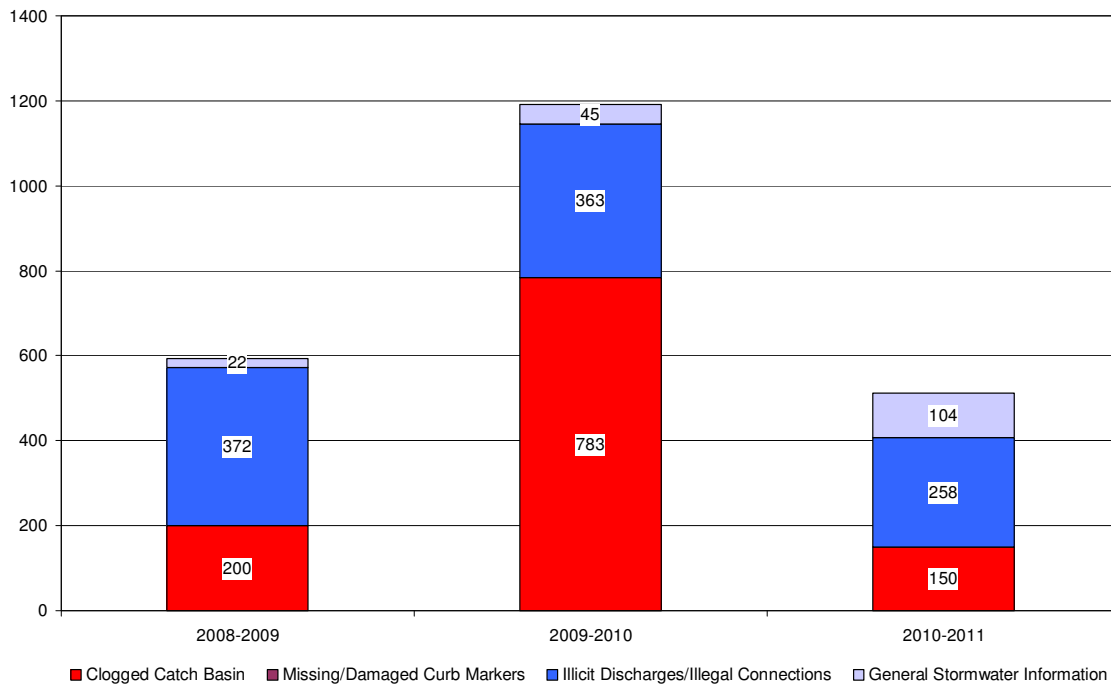
This part of the Annual Progress Report assesses the effectiveness of the Public Outreach and Public Education Program and related control measures to determine their effectiveness and identify necessary modifications. Although the effectiveness assessment may change from year to year as new information is learned, the assessment will initially focus on Outcome Levels 1-4. Table 3-11 of the SWMP identifies the effectiveness assessment questions required for the Public Outreach and Public Education Program.

Summary of Assessment Levels Planned for the 2008-2013 Permit Term

| Control | Level 1 | Level 2 | Level 3 | Level 4 |
|---|-------------------|--------------------|-----------------|----------------|
| | Implement Program | Increase Awareness | Behavior Change | Load Reduction |
| PO1 – 24-hour Hotline Number | ✓ | | ✓ | |
| PO2 – Illicit Discharges and Illegal Connections Outreach | ✓ | | ✓ | ✓ |
| PO3 – Industrial and Commercial Businesses Outreach | ✓ | ✓ | | |
| PO4 – Construction Outreach | ✓ | ✓ | | |
| PO5 – Elementary School Outreach | ✓ | ✓ | | |
| PO6 – General Public Outreach, Education, and Participation | ✓ | ✓ | ✓ | ✓ |

PO1 – The City maintained the 24-hour hotline in 2010-2011. The hotline continues to serve as the focal point for both public and internal reporting of illicit discharges; the City logged 581 calls to the hotline in 2010-2011. During this reporting period the calls for illicit discharge/illicit connections were reduced by 29% from the previous year. A contributing factor may be the impressions made increased during the last 2 years with use of City bus benches combined with City bus advertisements. The City also conducted a survey last year that would have also contributed to community awareness. Calls for general Stormwater information increased by 57%. This increase demonstrates an overall increase in public awareness of the hotline.

P01-Number and Type of Hotline Calls



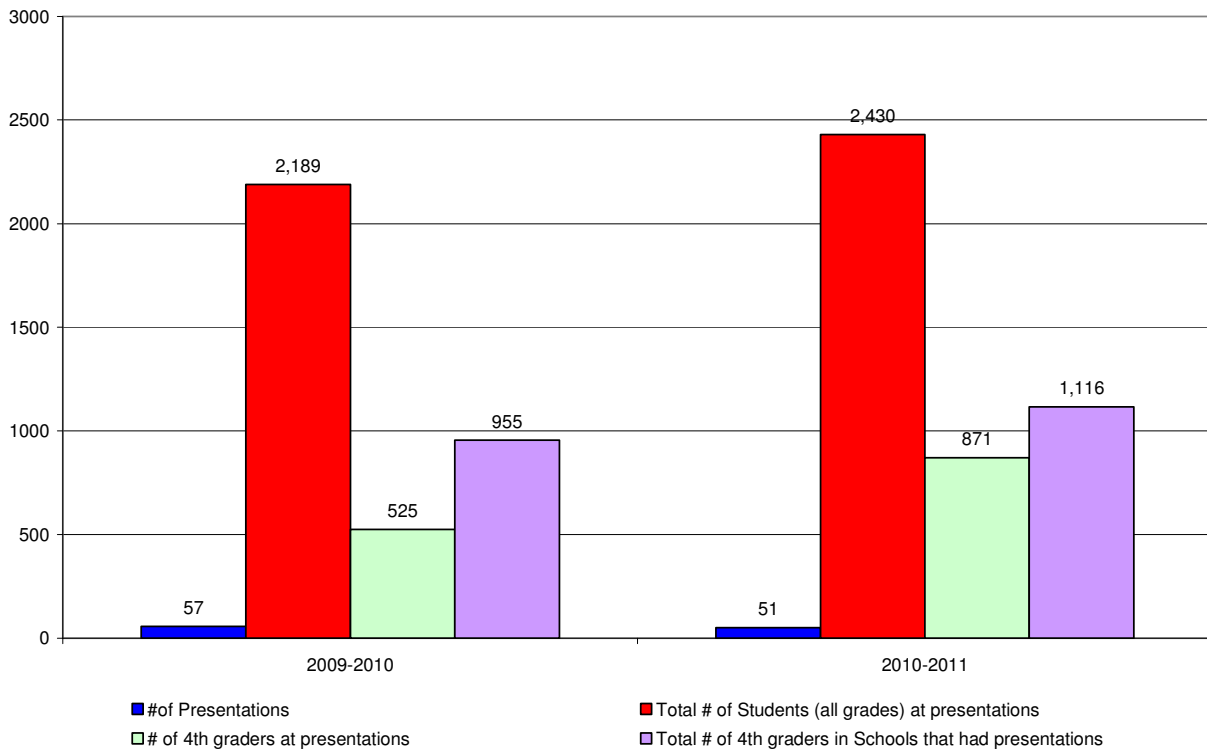
PO2 – The City continued promoting the used oil recycling program through various media as a means to prevent illicit discharges. Advertisements, City utility bill inserts and participation in community events are used to promote the Used Oil program in the City.

PO3 – The City provides new businesses with information on stormwater issues with the issuance of business licenses. Over 1,954 brochures on general Stormwater issues were distributed, 61 were business specific and 44 brochures were distributed during routine Stormwater inspections.

PO4 – In addition to the business outreach, the City also conducted outreach to construction owners and operators, over 4,000 brochures were distributed during inspections and with building permit approvals. 38 tailgate sessions were held at 18 different projects, providing over 36 construction contractors with information.

PO5 – In 2009-2010 and 2010-2011 City staff made 51 presentations to a total of 2,430 Modesto elementary school children. The stormwater program targets presentations to 4th graders and of the total, 871 4th graders participated which represents 54.7% of the estimated 4th grade population. The stormwater program goal of reaching 50% of the fourth graders (as a running 2-year average) was achieved. The *Go With the Flow*, and video and educational package, is available in Modesto elementary schools for use by teachers and during assemblies. As schools are challenged to meet their own curriculum, it has been difficult for schools to fit this extra curriculum into their programs.

P05-Elementary School Outreach



PO6 – City outreach efforts are estimated to have made more than 55 million impressions (an impression is the number of people seeing or exposed to a message, e.g., people seeing a billboard or hearing a radio spot). The overwhelming majority of these impressions were achieved through advertising on bus stop benches and City buses throughout the City. The City continues to provide outreach materials in the language of the community, mostly in Spanish, but no new materials were translated this year. Targeted outreach materials for residential community activities including swimming pool cleaning and fall leaf pick-up were developed and provided through various media. Grass-roots (community-led) clean up days are supported by the stormwater program as a means to involve the community and remove litter and debris before it gets into waterways. Seven efforts were supported in 2010-2011, and while the amount of litter removed at all the events was not tracked, the City estimates that more than 70 tons of material was collected and properly disposed of.

3.10 Public Outreach and Education Program Modifications

The City evaluates the results of the Program Effectiveness Assessments as well as the experience that staff has had in implementing the program. The City also determines if any program modifications are necessary in order to comply with Clean Water Act requirements to reduce the discharge of pollutants to the maximum extent practicable. The program modifications that will be made to the Public Outreach and Public Education Program during the next year include the following:

- PO1
 - Tracking all types of calls that come into the Stormwater Hotline has proved challenging. The City is still working to improve the methodology of reporting calls that come into the Hotline number.
- PO3
 - The City has a list of Mobile Washers and Cleaners and is prepared to offer training once the Industrial General Permit is adopted.
- PO5
 - The City is still challenged to meet the overall goal of reaching over 50% of all 4th graders over the 2 year periods. Although the overall goal was met during this period, it is still difficult to achieve this goal.

4. Municipal Operations Program Element

4.1 Overview

As part of its normal operations, the City conducts a number of activities (e.g., storm drain cleaning, street sweeping, etc.) that can generate or mobilize pollutants. The purpose of the Municipal Operations Program Element is to ensure that these operations and maintenance (O&M) activities are performed in a way that minimizes the pollutants generated as well as the potential for pollutants to enter the storm drain system. The City has developed a comprehensive municipal operations program that is presented in Section 4 of the SWMP. Additional information is included within each of the Program Control Measures.

4.2 Control Measures

The City has developed several Control Measures to ensure that the permit requirements related to municipal operations are effectively developed and implemented. For each Control Measure, there are accompanying performance standards which, once accomplished, constitute compliance with the 2008-2013 Permit requirements. The Municipal Operations Control Measures are listed in the table below.

Municipal Operations Control Measures

| ID | Control Measure |
|------|--|
| MO1 | Sanitary Sewer Overflow and Backup Response Plan |
| MO2 | Pollution Prevention at City-owned Facilities |
| MO3 | Landscape and Pest Management |
| MO4 | Storm Drain System Maintenance |
| MO5 | Street Cleaning and Maintenance |
| MO6 | Parking Infrastructure Maintenance |
| MO7 | Emergency Procedures |
| MO8 | Fire Department Activities |
| MO9 | Training |
| MO10 | Effectiveness Assessment Strategy |

In addition to the Control Measures listed above, a number of the activities conducted for the other Program Element requirements such as Public Outreach and Education (Section 3), Construction (Section 6), and Planning and Land Development (Section 7), also support for the Municipal Operations Program Element.

This section of the Annual Progress Report provides information on the specific tasks that have been initiated and/or completed during the reporting period for the Municipal Operations Program.

4.3 MO1 – Sanitary Sewer Overflow and Backup Response Plan

The Sanitary Sewer Overflow (SSO) and Backup Response Plan minimizes potential impacts from sanitary sewer overflows and spills to the storm drain system. Proper notifications to appropriate sewer and public health agencies and documentation are addressed. Response to an overflow or spill includes procedures for containing and cleaning up spills and leaks that enter the storm drain system. In addition, repair and remediation activities for the sanitary sewer are outlined in the SSO and Backup Response Plan. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

4.3.1 Revise the Sanitary Sewer Overflow (SSO) and Backup Response Plan

The City is required to update this Plan as needed.

In June 2006, the City developed and implemented a Sanitary Sewer Overflow and Backup Response Plan, which outlines and updates procedures to report and mitigate SSO incidents (**Appendix D-1**).

Although not required by the SWMP, the Sewer Overflow and Backup Response Plan was updated in May 2010. The main changes to the plan placed more decision making and response responsibility on the supervisor. Updates to contact information and other editorial changes were also made. The revised plan was implemented during the 2010-2011 permit year.

A summary of the SSOs that affected storm drains, rockwells, detention basins or receiving waters are listed in the table below.

- a) Did the City review, and revise if necessary, the Sanitary Sewer Overflow and Backup Response Plan?

Yes No Not required this year

Summary of SSOs that affected Storm Drains, Rockwells/Detention Basins, or Receiving Waters

| Year | Total Number of SSOs to Storm Drainage System | Total Number of SSOs that | | |
|-----------|---|---|--|-------------------------|
| | | Fully Recovered from the Street/Gutter/Storm Drain System | Entered Rock Well or Detention/Retention Basin | Entered Receiving Water |
| 2007-2008 | 82 | - | 53 | 29 |
| 2008-2009 | 100 | 12 | 50 | 38 |
| 2009-2010 | 94 | 67 | 19 | 7 |
| 2010-2011 | 66 | 57 | 6 | 3 |

4.3.2 Implement Sewer and Storm Drain Maintenance Procedures

The City is required to implement sewer and storm drain maintenance procedures to minimize potential overflows and infiltration of sewage into the storm drain system.

The City implements the Storm Drain and Rockwell Cleaning Standard Operating Procedure and SSO Cleanup Procedure (**Appendices D-2 and D-3**).

a) Did the City implement Sewer and Storm Drain Maintenance Procedures?

Yes No

4.3.3 Equip City-owned Vehicles with Spill Containment and Prevention Materials

The City is required to outfit City-owned vehicles with spill containment and prevention materials.

The City equips its primary response vehicles with sandbags to address stormwater related issues. The City also maintains sandbags at the City corporation yard and at the Sutter Water Quality Control Plant. These stockpiles can be accessed by City staff responding to incidents.

A summary of the number of City-owned vehicles equipped with sandbags is provided below. The City was unable to track the number of times this equipment was utilized in the 2010-2011 reporting year due to an outdated database. Purchase of a new database is being explored for future budget years.

a) Did the City equip City-owned vehicles with preventative materials to minimize/eliminate non-stormwater discharges to the storm drain?

Yes No

Summary of the number of City Vehicles Equipped with Sandbags Materials and Use of the Sandbags

| Year | Number of City-Owned Field Vehicles (Trucks) | Number of City-owned Vehicles Equipped with Sand/Gravel Bags | Number of Non-stormwater Discharge Events Addressed with this Equipment |
|-----------|--|--|---|
| 2008-2009 | 155 | 38 | Not tracked |
| 2009-2010 | 111 | 40 | Not tracked |
| 2010-2011 | 184 | 41 | Not tracked |

4.4 MO2 – Pollution Prevention at City-Owned Facilities

The Pollution Prevention at City-owned Facilities control measure ensures that the City implements BMPs to minimize/eliminate pollutants from City-owned facilities (e.g., corporation yard, bus yard, Modesto City Airport). To further the framework provided by this control measure, stormwater Facility Pollution Prevention Plans (FPPPs) or Stormwater Pollution Prevention Plans (SWPPPs) are developed and maintained for the City's vehicle maintenance facilities.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

4.4.1 Develop SWPPP for New Transit Facility

The City is required to develop a SWPPP for the new transit facility and implement it when the project is completed.

A new transit maintenance facility is currently under construction. It had been on hold due to funding issues. Construction is expected to be complete by February 2012.

a) Did the City develop SWPPP for new transit maintenance facility?

Yes No Not required this year

4.4.2 Review/Revise SWPPPs/FPPPs for City-owned Facilities

The City is required to review, and revise if necessary, SWPPPs or FPPPs for the bus yard and Modesto City Airport.

Two City-owned facilities are permitted under the California General Permit for Discharges of Stormwater Associated with Industrial Activities.

- 1) City Bus Yard WDID 5S50I001992
- 2) Modesto City Airport WDID 5S50I001456

According to the conditions of the Industrial General Permit these two facilities are inspected biennially for BMP implementation and SWPPP compliance.

During this reporting year the following items were identified in the annual site inspection:

- 1) City Bus Yard
 - EPA benchmark levels were exceeded for zinc
- 2) Modesto City Airport
 - De-icing barrels need secondary containment
 - Jet-A fuel secondary containment pallet open to rainfall – possible overflow into storm drain system
 - Trash dumpster open to rainfall
 - Drain inlet near refueling area needs to be protected against possible discharges of petroleum
 - Old aircraft engine, old truck, and leaking forklift being stored next to trench drain

- Non-storm water discharge (staining of asphalt) observed near Hangers 1S and 2S into trench drain

The SWPPPs for these two facilities were revised during the 2009-2010 reporting year changes included:

- The airport relocated the sampling point to the southeast side of the airport to get a more representative sample that is not influenced by runoff from a nearby residential area.
 - The bus yard SWPPP was updated.
- a) Did the City review, and revise if necessary, SWPPPs or FPPPs for the bus yard and Modesto City Airport?

Yes No Not required this year

Summary of Issues Identified During Annual Inspections of City-Owned IGP Facilities

| Facility | Number of Deficiencies Noted 2010-2011 | Number of Deficiencies Corrected 2010-2011 |
|--|--|--|
| City Bus Yard WDID 5S50I001992 | 0 | N/A |
| Modesto City Airport WDID 5S50I001456 | 6 | 6 |

4.4.3 Require Wash Areas be Connected to Sanitary Sewer or Other Treatment Control BMP

The City is required to ensure that city facilities with vehicle and equipment wash areas are properly connected to the sanitary sewer. The City is required to review Capital Improvement Project (CIP) lists to identify those projects that have vehicle or equipment wash areas.

All City-owned and/or -operated vehicle/equipment wash areas are self-contained, equipped with a sand/oil separator, and properly connected to the sanitary sewer.

The City coordinates with the Public Works Department to determine the level of pretreatment required for connecting vehicle and/or equipment wash areas to the sanitary sewer system. The wash areas are required to be either self-contained (through the implementation of BMPs) or connected to a sand/oil separator or alternative pre-treatment device and plumbed to the sanitary sewer.

- a) Did the City require vehicle and/or equipment wash areas to be connected to sanitary sewer or other treatment control BMP?

Yes No No projects with wash areas

Summary of CIPs Reviewed with Vehicle or Equipment Wash Areas

| Year | Total Number of CIPs Reviewed | Total Number of CIPs with Vehicle or Equipment Wash Areas | Number of Wash Areas Self Contained | Number of Wash Areas Connected to Sanitary Sewer |
|-----------|-------------------------------|---|-------------------------------------|--|
| 2007-2008 | 15 | 0 | - | - |
| 2008-2009 | 10 | 0 | - | - |
| 2009-2010 | 11 | 1 | - | - |
| 2010-2011 | 10 | 0 | - | - |

Total Number of Existing City-Owned Facilities with Wash Areas

| Year | Total Number of Existing Facilities with Vehicle or Equipment Wash Areas | Total Number of Existing Facilities Vehicle or Equipment Wash Areas Connected to Sanitary Sewer or Self-contained |
|-----------|--|---|
| 2008-2009 | 3 | 3 |
| 2009-2010 | 3 | 3 |
| 2010-2011 | 3 | 3 |

4.5 MO3 – Landscape and Pest Management

The Landscape and Pest Management control measure ensures the City implements BMPs to minimize/eliminate pollutant discharges from the City's usage and storage of fertilizers, herbicides, and pesticides. BMPs appropriate to this control measure promote the use of IPM, and retaining and planting of native plant species requiring less water and chemical augmentation to remain healthy.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

4.5.1 Implement Standardized Application Protocol

The City is required to implement the standardized application protocol for routine and non-routine use of pesticides, herbicides, and fertilizers.

In support of this control measure and the Pesticide Plan (WQ2), to measure use of landscape maintenance products, the City tracks the:

- acreage of City Parks subject to IPM protocols;
- usage of pesticides, fertilizers and herbicides by individual City departments; and
- usage of pesticides by City contractors.

Summaries of the usage of pesticides and fertilizers by City departments and city-hired contractors are included in **Appendix D-4**.

The City tracks pesticides and fertilizers applied by City Departments and City hired contractors. To better determine pesticide use, beginning in 2008-2009, the City began tracking the active ingredients in the pesticides used in addition to the products names; The total amount of active ingredients applied in 2010-2011 are summarized below.

Summary of Pesticide¹ Active Ingredients Applied by City Departments and City-Hired Contractors

| Year | Amount of Active Ingredients Applied (gallons) | Amount of Active Ingredients Applied (lbs) |
|-----------|--|--|
| 2008-2009 | 1062 | 233 |
| 2009-2010 | 178 | 513 |
| 2010-2011 | 689 | 174 |

¹Pesticides include herbicide, insecticides, fungicides, and rodenticides

a) Did the City implement the standardized application protocol for routine and non-routine use of pesticides, herbicides, and fertilizers?

Yes No

Summary of City Parks Subject to Integrated Pest Management

| | 2008-2009 (acres) | 2009-2010 (acres) | 2010-2011 (acres) |
|---|-------------------|-------------------|-------------------|
| Total Area of City Parks | 500 | 500 | 500 |
| Total Area of City Parks Subject to IPM | 500 | 500 | 500 |

4.5.2 Review Municipal Code for Standardized Application Protocols

The City is required to review, and revise if necessary, the Municipal Code to require use of standardized application protocols for pesticide, herbicide, and fertilizer application contracts.

The City has contract language regarding the use of standard application protocols for pesticide, herbicide, and fertilizer application. Contract language requiring stormwater and receiving water protection, as well as IPM, was added as an amendment in June 2010 (**Appendix D-5**).

The contract language provides the mechanism and enforcement authority for the City to require the inclusion in contracts and compliance by contractors with the City's standard pesticide/fertilizer application protocols and a change to the City's municipal code was determined not to be needed.

a) Did the City review, and revise if necessary, the Municipal Code to require use of standardized application protocols for pesticide, herbicide, and fertilizer application contracts?

Yes No Not required this year

4.5.3 Review/Revise Landscaping Management Plan and Park Master Plan

The City is required to review and revise, if necessary, its Landscaping Management Plan to promote the planting of native species, and minimize the use of water, pesticides, fertilizers, and herbicides (**Appendix D-6**).

The City’s General Plan, which serves as the overall park planning document, was revised in October 2008. The Landscape Management Plan, which is a component in the park planning documents, was deemed to not need revision after the adoption of the 2008-2013 permit.

- a) Did the City review, and revise if necessary, the Landscaping Management Plan and Park Master Plan?

Yes No Not required this year

4.5.4 Audit City-Hired Landscape Maintenance Contractors

The City is required to audit City-hired landscape maintenance contractors to ensure they are complying with contract requirements regarding pesticide use.

The City requires contractors to abide by standardized pesticide application protocols. City departments and contractors are provided training through a best management practices fact sheet (**Appendices D-7 and D-8**).

The City conducted audits of City-hired landscape maintenance contractors to ensure they are complying with contract requirements regarding pesticide use:

- City of Modesto Urban Forestry and Parks Departments (April 3, 2009) – This department follows County and State guidelines for all applications, storage, and disposal of pesticides.
- Valley Crest Golf Course Maintenance (April 28, 2009) – This contractor abides by IPM concepts and adheres to national and local regulations with regard to material handling, storage, and application.
- Grover Landscaping (June 15, 2010) – This contractor follows all State and County guidelines for herbicide application and all storage and disposal of materials is done at their own facilities, not City facilities.

- a) Did the City audit City-hired landscape maintenance contractors to ensure they are complying with contract requirements regarding pesticide use?

Yes No Not required this year

4.6 MO4 – Storm Drain System Maintenance

The Storm Drain System Maintenance Control Measure provides for the long-term performance and integrity of the City’s storm drain system. The Control Measure addresses the prioritization of catch basins for cleaning and maintenance, catch basin placarding, special event requirements to prevent accumulation of trash and debris from catch basins, as well as record keeping tracking relevant program effectiveness data.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

4.6.1 Develop Procedure for Reporting Incorrect Storm Drain System Information

The City is required to develop a procedure for reporting incorrect storm drain system information.

The City maintains a database to geographically locate and store information about catch basin including the type of storm drain marker, and inspection dates.

An Access Database tracks catch basin locations and inspection dates. A separate database tracks storm drain marker information. When a catch basin is inspected and/or cleaned and it is noted that the storm drain marker needs to be replaced, the information is placed in the storm drain marker database and the marker is scheduled to be replaced. In addition, the City's Geographic Information Systems (GIS) has recently been updated. All catch basins and manholes in the GIS Database have been geographically located with surveying tools and locations have been updated in the database.

- a) Did the City develop procedure for reporting incorrect storm drain system information?

Yes No Not required this year

4.6.2 Use Integrated Pest Management Methods for Detention Basins

The City is required to use IPM methods for detention basins.

During 2010-2011, weeds in the basins were mostly controlled by spraying with herbicides. Currently, due to budget and staffing constraints the City does not anticipate the ability to change to practices. However, progress is being made to implement more IPM for basins.

- Language has been added to the contracts requiring contractors to use IPM methods in detention basins. At this time, diseases and insects are not dealt with, and weeds are manually removed or sprayed with herbicides approved for aquatic use. Trees and shrubs are pruned by hand and "no-mow grass" is planted in several City basins.
- The East Side Mosquito Abatement District controls mosquitoes in detention basins through the addition of mosquito fish and mosquito pellets which alter the pH of the water, making it uninhabitable to mosquitoes and their larvae. These practices replace the use of mosquito oil.

- a) Did the City use IPM methods for detention basins?

Yes No

4.6.3 Update Catch Basin Prioritization

The City is required to update catch basin prioritization as cleaning and inspections progress during the year. The City reviewed its prioritization based on the cleaning and inspections and is in the process of evaluating and implementing the following changes to the prioritization to better meet the program goals with available resources.

Beginning in 2009-2010, the City further refined its catch basin prioritization method. Catch basins previously identified as high priority were split into two categories, high and medium priority. High priority catch basins were defined as those catch basins that drain to receiving waters and are located within one-half mile of the receiving water. Medium priority catch basins were defined as those that drain to receiving waters but are located more than one-half mile of the receiving water.

During 2009-2010, it was established by the updated City GIS Database that the City had a total of 10,320 catch basins, of which 817 were classified as high priority (being within ½ mile of receiving waters). The table below summarizes the number of high, medium, and low priority catch basins.

a) Did the City update catch basin prioritization as cleaning and inspections progress?

Yes No

Summary of the Number of Catch Basins and Priority

| Year | Total Number of Catch Basins | Total Number of <u>High</u> Priority Catch Basins (w/n ½ mile of receiving waters) | Total Number of <u>Medium</u> Priority Catch Basins (> ½ mile to receiving waters) | Total Number of <u>Low</u> Priority Catch Basins (rockwell or retention basin areas) |
|-----------|------------------------------|--|--|--|
| 2007-2008 | 10,799 | 1,946 | NA | 8,853 |
| 2008-2009 | 10,799 | 1,946 | NA | 8,853 |
| 2009-2010 | 10,320 ¹ | 817 | 1,295 | 8,208 |
| 2010-2011 | 10,320 | 817 | 1,295 | 8,208 |

¹ The number of catch basins was lowered due to better information from field surveys conducted in 2009-2010.

4.5 MO3 – Landscape and Pest Management

The Landscape and Pest Management control measure ensures the City implements BMPs to minimize/eliminate pollutant discharges from the City's usage and storage of fertilizers, herbicides, and pesticides. BMPs appropriate to this control measure promote the use of IPM, and retaining and planting of native plant species requiring less water and chemical augmentation to remain healthy.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

4.5.1 Implement Standardized Application Protocol

The City is required to implement the standardized application protocol for routine and non-routine use of pesticides, herbicides, and fertilizers.

In support of this control measure and the Pesticide Plan (WQ2), to measure use of landscape maintenance products, the City tracks the:

- acreage of City Parks subject to IPM protocols;
- usage of pesticides, fertilizers and herbicides by individual City departments; and
- usage of pesticides by City contractors.

Summaries of the usage of pesticides and fertilizers by City departments and city-hired contractors are included in **Appendix D-4**.

The City tracks pesticides and fertilizers applied by City Departments and City hired contractors. To better determine pesticide use, beginning in 2008-2009, the City began tracking the active ingredients in the pesticides used in addition to the products names; The total amount of active ingredients applied in 2010-2011 are summarized below.

Summary of Pesticide¹ Active Ingredients Applied by City Departments and City-Hired Contractors

| Year | Amount of Active Ingredients Applied (gallons) | Amount of Active Ingredients Applied (lbs) |
|-----------|--|--|
| 2008-2009 | 1062 | 233 |
| 2009-2010 | 178 | 513 |
| 2010-2011 | 689 | 174 |

¹Pesticides include herbicide, insecticides, fungicides, and rodenticides

- a) Did the City implement the standardized application protocol for routine and non-routine use of pesticides, herbicides, and fertilizers?

Yes No

Summary of City Parks Subject to Integrated Pest Management

| | 2008-2009 (acres) | 2009-2010 (acres) | 2010-2011 (acres) |
|---|-------------------|-------------------|-------------------|
| Total Area of City Parks | 500 | 500 | 500 |
| Total Area of City Parks Subject to IPM | 500 | 500 | 500 |

4.5.2 Review Municipal Code for Standardized Application Protocols

The City is required to review, and revise if necessary, the Municipal Code to require use of standardized application protocols for pesticide, herbicide, and fertilizer application contracts.

The City has contract language regarding the use of standard application protocols for pesticide, herbicide, and fertilizer application. Contract language requiring stormwater and receiving water protection, as well as IPM, was added as an amendment in June 2010 (**Appendix D-5**).

The contract language provides the mechanism and enforcement authority for the City to require the inclusion in contracts and compliance by contractors with the City's standard pesticide/fertilizer application protocols and a change to the City's municipal code was determined not to be needed.

- a) Did the City review, and revise if necessary, the Municipal Code to require use of standardized application protocols for pesticide, herbicide, and fertilizer application contracts?

Yes No Not required this year

4.5.3 Review/Revise Landscaping Management Plan and Park Master Plan

The City is required to review and revise, if necessary, its Landscaping Management Plan to promote the planting of native species, and minimize the use of water, pesticides, fertilizers, and herbicides (**Appendix D-6**).

The City's General Plan, which serves as the overall park planning document, was revised in October 2008. The Landscape Management Plan, which is a component in the park planning documents, was deemed to not need revision after the adoption of the 2008-2013 permit.

- a) Did the City review, and revise if necessary, the Landscaping Management Plan and Park Master Plan?

Yes No Not required this year

4.5.4 Audit City-Hired Landscape Maintenance Contractors

The City is required to audit City-hired landscape maintenance contractors to ensure they are complying with contract requirements regarding pesticide use.

The City requires contractors to abide by standardized pesticide application protocols. City departments and contractors are provided training through a best management practices fact sheet (**Appendices D-7 and D-8**).

The City conducted audits of City-hired landscape maintenance contractors to ensure they are complying with contract requirements regarding pesticide use:

- City of Modesto Urban Forestry and Parks Departments (April 3, 2009) – This department follows County and State guidelines for all applications, storage, and disposal of pesticides.
- Valley Crest Golf Course Maintenance (April 28, 2009) – This contractor abides by IPM concepts and adheres to national and local regulations with regard to material handling, storage, and application.
- Grover Landscaping (June 15, 2010) – This contractor follows all State and County guidelines for herbicide application and all storage and disposal of materials is done at their own facilities, not City facilities.

- a) Did the City audit City-hired landscape maintenance contractors to ensure they are complying with contract requirements regarding pesticide use?

Yes No Not required this year

4.6 MO4 – Storm Drain System Maintenance

The Storm Drain System Maintenance Control Measure provides for the long-term performance and integrity of the City's storm drain system. The Control Measure addresses the prioritization of catch basins for cleaning and maintenance, catch basin placarding, special event requirements to prevent accumulation of trash and debris from catch basins, as well as record keeping tracking relevant program effectiveness data.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

4.6.1 Develop Procedure for Reporting Incorrect Storm Drain System Information

The City is required to develop a procedure for reporting incorrect storm drain system information.

The City maintains a database to geographically locate and store information about catch basin including the type of storm drain marker, and inspection dates.

An Access Database tracks catch basin locations and inspection dates. A separate database tracks storm drain marker information. When a catch basin is inspected and/or cleaned and it is noted that the storm drain marker needs to be replaced, the information is placed in the storm drain marker database and the marker is scheduled to be replaced. In addition, the City's Geographic Information Systems (GIS) has recently been updated. All catch basins and manholes in the GIS Database have been geographically located with surveying tools and locations have been updated in the database.

- a) Did the City develop procedure for reporting incorrect storm drain system information?

Yes No Not required this year

4.6.2 Use Integrated Pest Management Methods for Detention Basins

The City is required to use IPM methods for detention basins.

During 2010-2011, weeds in the basins were mostly controlled by spraying with herbicides. Currently, due to budget and staffing constraints the City does not anticipate the ability to change to practices. However, progress is being made to implement more IPM for basins.

- Language has been added to the contracts requiring contractors to use IPM methods in detention basins. At this time, diseases and insects are not dealt with, and weeds are manually removed or sprayed with herbicides approved for aquatic use. Trees and shrubs are pruned by hand and "no-mow grass" is planted in several City basins.
- The East Side Mosquito Abatement District controls mosquitoes in detention basins through the addition of mosquito fish and mosquito pellets which alter the pH of the water, making it uninhabitable to mosquitoes and their larvae. These practices replace the use of mosquito oil.

- a) Did the City use IPM methods for detention basins?

Yes No

4.6.3 Update Catch Basin Prioritization

The City is required to update catch basin prioritization as cleaning and inspections progress during the year. The City reviewed its prioritization based on the cleaning and inspections and is in the process of evaluating and implementing the following changes to the prioritization to better meet the program goals with available resources.

Beginning in 2009-2010, the City further refined its catch basin prioritization method. Catch basins previously identified as high priority were split into two categories, high and medium priority. High priority catch basins were defined as those catch basins that drain to receiving waters and are located within one-half mile of the receiving water. Medium

priority catch basins were defined as those that drain to receiving waters but are located more than one-half mile of the receiving water.

During 2009-2010, it was established by the updated City GIS Database that the City had a total of 10,320 catch basins, of which 817 were classified as high priority (being within ½ mile of receiving waters). The table below summarizes the number of high, medium, and low priority catch basins.

a) Did the City update catch basin prioritization as cleaning and inspections progress?

Yes No

Summary of the Number of Catch Basins and Priority

| Year | Total Number of Catch Basins | Total Number of <u>High</u> Priority Catch Basins (w/n ½ mile of receiving waters) | Total Number of <u>Medium</u> Priority Catch Basins (> ½ mile to receiving waters) | Total Number of <u>Low</u> Priority Catch Basins (rockwell or retention basin areas) |
|-----------|------------------------------|--|--|--|
| 2007-2008 | 10,799 | 1,946 | NA | 8,853 |
| 2008-2009 | 10,799 | 1,946 | NA | 8,853 |
| 2009-2010 | 10,320 ¹ | 817 | 1,295 | 8,208 |
| 2010-2011 | 10,320 | 817 | 1,295 | 8,208 |

¹ The number of catch basins was lowered due to better information from field surveys conducted in 2009-2010.

4.6.4 Clean Catch Basins According to Priority Schedule

Under the new prioritization the City is required to clean catch basins according to the following schedule:

- High priority – annually between August and November 1st
- Medium priority – annually between August and November 15th
- Low priority – other times during the year, but at a minimum of every two to five years

a) Did the City clean catch basins according to the prioritization schedule?

Yes No

Summary of High Priority Catch Basin Inspections and Cleaning

| Year | Total Number of <u>High</u> Priority Catch Basins | Total Number of <u>High</u> Priority Catch Basins Inspected and Cleaned between August and November 1 st | Total Amount of Material/Debris Removed (tons) |
|-----------|---|---|--|
| 2008-2009 | 1,946 | 1,946 | Not tracked |
| 2009-2010 | 817 | 817 | 19.84 tons |
| 2010-2011 | 817 | 817 | 8.99 tons |

Summary of Medium Priority Catch Basin Inspections and Cleaning

| Year | Total Number of <u>Medium</u> Priority Catch Basins | Total Number of <u>Medium</u> Priority Catch Basins Inspected and Cleaned between August and November 15 th | Total Amount of Material/Debris Removed (tons) |
|-----------|---|--|--|
| 2009-2010 | 1295 | 1295 | 31.5 tons |
| 2010-2011 | 1295 | 1295 | 14.25 tons |

Summary of Low Priority Catch Basin Inspections and Cleaning

| Year | Total Number of <u>Low</u> Priority Catch Basins | Total Number of <u>Low</u> Priority Catch Basins Inspected | Total Number of <u>Low</u> Priority Catch Basins Cleaned |
|-----------|--|--|--|
| 2008-2009 | 8,853 | 3,127 | 3,127 |
| 2009-2010 | 8,208 | 2,904 | 2,904 |
| 2010-2011 | 8,208 | 3,019 | 3,019 |

Summary of High and Medium Priority Cross-Pipe Cleaning

| High/Medium Priority (Positive Drainage) Storm Drain Cross-pipe Cleaning | 2008-2009 | 2009-2010 | 2010-2011 |
|--|-----------|-------------------|-------------------|
| Total length of laterals (linear feet) | 94,000 | 68,000 (estimate) | 90,258 (estimate) |
| Total length cleaned (linear feet) | 94,000 | 68,000 (estimate) | 90,258 |

4.6.5 Audit Catch Basin Cleaning Frequency

The City is required to audit the catch basin cleaning frequency during 2009-2010.

- a) Did the City audit catch basin cleaning frequency?

Yes No Not required this year

4.6.6 Maintain Catch Basin Curb Markers

The City is required to maintain catch basin curb markers in at least 90% of the drainage area.

The table below provides a summary of the catch basin inlets with the 24-hour hotline number.

- a) Did the City maintain catch basin curb markers in at least 90% of the drainage area?

Yes No

Summary of Catch Basin Markers

| Year | Total Number of Catch Basins | Number of Catch Basins with Markers | % of Catch Basins with Markers |
|-----------|------------------------------|-------------------------------------|--------------------------------|
| 2008-2009 | 10,799 | 10,799 | 100% |
| 2009-2010 | 10,320 ¹ | 9,800 | 95% |
| 2010-2011 | 10,320 | 9,305 | 90.3% |

¹ The number of catch basins was lowered due to better information from field surveys conducted in 2009-2010.

4.6.7 Notify Stormwater Program of Missing or Damaged Curb Markers

City field crews are required to notify the Stormwater Program of illegible catch basin stenciling or missing/damaged curb markers.

The City has a protocol for notifying the Stormwater Program when illegible catch basin markers are identified. Collection crews in the process of performing catch basin and rock well cleaning have notification forms that identify missing or damaged storm drain markers. These forms are forwarded to the Stormwater Program administrative staff for tracking and replacement scheduling.

During this reporting period 113 notifications were received from field crews regarding illegible catch basin markers.

- a) Did the City field crews notify the Stormwater Program of illegible or missing/damaged curb markers?

Yes No

4.6.8 Replace Illegible or Missing/Damaged Curb Markers

The City is required to replace illegible or missing/damaged curb markers within 180 days.

The City was unable to replace illegible or missing/damaged curb markers within 180 days due to understaffing and budget.

In addition, the City decided to replace the current curb markers with new metal ones due to their lack of durability (**Appendix D-9**). This replacement and purchase order was approved near the end of the reporting year, and installation of the new metal curb markers began on June 29, 2011.

A summary of the replaced markers along with an overall summary of the catch basin markers is provided below.

- a) Did the City replace illegible catch basin stencils or missing/damaged curb markers within 180 days?

Yes No

Summary of Catch Basin Marker Replacements

| Reported number of illegible catch basin stenciling or missing/damaged curb markers ¹ | Number of illegible catch basin stenciling or missing/damaged curb markers replaced within 180 days |
|--|---|
| 495 | 0 |

¹ Includes reports from field crews and public.

Catch Basin Marker Summary Statistics

| | 2008-2009 | 2009-2010 | 2010-2011 |
|---|---------------|---------------------|---------------|
| Total number of catch basins before reporting period | 10,799 | 10,320 ¹ | 10,320 |
| Total number of catch basins marked prior to reporting period | 10,799 | 10,320 | 9,800 |
| Total number of new catch basins installed during reporting period | 0 | 0 | 0 |
| Total number of catch basins placarded for first time during reporting period | 0 | 0 | 0 |
| Total number of catch basins markers replaced during reporting period | 496 | 0 | 9 |
| Includes: | | | |
| New English placards installed on catch basins with Spanish placards | 49 | 0 | 0 |
| New Spanish placards installed on catch basins with English placards | 165 | 0 | 0 |
| Replacements (English) | 177 | 0 | 9 |
| Replacement (Spanish) | 105 | 0 | 0 |
| Total number of catch basins at the end of reporting period | 10,799 | 10,320 | 10,320 |
| Total number of catch basins marked at the end of the reporting period | 10,799 | 9,800 | 9,314 |
| Percentage of City catch basins placarded | 100% | 95% | 90.3% |

¹ The number of catch basins was lowered due to better information from field surveys conducted in 2009-2010.

4.6.9 Notify Stormwater Program of Illicit Discharges and Illegal Connections

Field crews are required to notify the Stormwater Program if they discover an illicit discharge or illegal connection.

Collection systems field crews routinely look out for illicit discharge and illegal connections during routine maintenance activities. During this reporting period 113 notifications were received from collections field crews regarding illicit discharges or illegal connections.

- a) Did the City field crews notify the Stormwater Program of any potential illicit discharge or illegal connections?

Yes No

4.6.10 Require Special Event Provisions

The City requires that special events generating trash abide with Special Use Permit provisions regarding the control of trash.

The Environmental Compliance stormwater program has worked with the City of Modesto Entertainment Commission to include storm drain protection language in all special event permits (**Appendices D-10 and D-11**). These provisions are required of all special events, and random pre- and post-event inspections are conducted by staff of the stormwater program.

The City developed provisions of the Special Event Permits that require the proper management of trash and litter at special events, which can be reasonably expected to generate substantial quantities of trash and litter. The examples of the trash provisions include:

- Provide adequate receptacles for use by customers/visitors and workers/vendors;
- Provide routine removal throughout the event of filled trash receptacles, especially in food service and toilet areas;
- Provide routine litter removal during the event;
- Remove and properly dispose of all trash and litter immediately following the event;
- All festivals and public events must provide for recycling of any aluminum, glass, and plastic products distributed at the event. Recycling shall cover, at a minimum, the use of recycling containers in food service areas;
- Provide routine removal throughout the event of filled recycling receptacles, especially in food service areas; and
- Remove and transfer all recyclables to a recycling center following the event.

- a) Did the City require special events generating trash to abide with Special Use Permit provisions?

Yes No

Summary of Special Event Permits

| Year | Total Number of Events Required to Obtain Special Use Permits | Total Number of Events Required to Comply with the Special Use Provisions for Trash/Debris |
|-----------|---|--|
| 2007-2008 | 1 | 1 |
| 2008-2009 | 93 | 93 |
| 2009-2010 | 75 | 75 |
| 2010-2011 | 85 | 85 |

4.6.11 Implement Pump Station and Retention/Detention Basin Maintenance Program

The City is required to inspect and maintain the pump stations, retention basins, and detention basins annually.

In 2003, the City developed retention/detention basin maintenance procedures, which include inspection and maintenance frequencies as well as BMPs to prevent slope erosion. In April 2007, the City updated the inspection program to address maintenance and modification of existing basins and to address possible erosion control measures to prevent existing problems with larger basins.

Pump stations and retention/detention basins are prioritized for maintenance. The City has 25 stormwater pump stations and 12 detention and 12 retention basins (**Appendix D-12**), which are all considered high priority and inspected annually although maintenance crews typically visit the pump stations more frequently. The amount of debris removed from the pump stations is recorded. Annual volume of water pumped at each station is included in **Appendix D-13**.

- a) Did the City inspect and maintain pump stations and retention/detention basins annually?

Yes No

Summary of Detention and Retention Basin Inspections

| Year | Total Number of Detention and Retention Basins | Total Number of Detention and Retention Basins Inspected (Annual Inspection) | Total Number of Retention/Detention Basins Inspected After Significant Storms | Number of Inspections that Identified Required Follow-up Action |
|-----------|--|--|---|---|
| 2008-2009 | 22 | All basins are inspected every 3 months | All basins are inspected every 3 months (a 3-month rotation) | 2 |
| 2009-2010 | 23 | All basins are inspected every 3 months | All basins are inspected every 3 months (a 3-month rotation) | 4 |
| 2010-2011 | 24 | All basins are inspected every 3 months | All basins are inspected every 3 months (a 3-month rotation) | 3 |

Summary of Pump Station Inspections

| Year | Total Number of Pump Stations | Total Number of Pump Stations Inspected | Total Number of Pump Stations Cleaned | Amount of Material/Debris Removed (tons) |
|-----------|-------------------------------|---|---------------------------------------|--|
| 2007-2008 | 23 | 16 | 16 | 9.32 |
| 2008-2009 | 23 | 21 | 21 | 58.13 |
| 2009-2010 | 23 | 15 | 13 | 55.62 |
| 2010-2011 | 25 | 25 | 23 | 62.38 |

4.6.12 Audit Pump Station and Retention/Detention Basin Cleaning Frequency

The City is required to audit pump station and retention/detention basin cleaning frequency during 2010-2011.

The pump stations are visually inspected on a monthly basis, and the basins are visually inspected quarterly. If inspections show a need for any follow-up actions, a work order sheet is filled out and the follow-up action is scheduled and completed.

Inspection and cleaning records were reviewed during the 2010-2011 permit year. No deficiencies were found.

- a) Did the City audit pump station and retention/detention basin cleaning frequency?

Yes No Not required this year

4.6.13 Implement Storm Drain System Maintenance BMPs

The City is required to implement protocols (BMPs) for storm drain system maintenance.

The City developed a Standard Operating Procedure for cleaning positive drain storm drain catch basins and rockwells (**Appendix D-2**). The SOP provides step by step instruction to field crew on equipment operation, illicit discharge awareness, cleaning methods, and debris management.

- a) Did the City implement protocols (BMPs) for storm drain system maintenance?

Yes No

4.7 MO5 – Street Cleaning and Maintenance

The Street Cleaning and Maintenance Control Measure helps to ensure that City streets are maintained and cleaned to reduce pollutants to the MEP. In conducting the Control Measure, the City prioritizes the streets or street segments based on the required level of maintenance.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

4.7.1 Continue Street Sweeping Program

The City is required to implement the street-sweeping program based on the prioritization and schedule identified below:

- Downtown Improvement District – monthly
- Residential – monthly
- Industrial – monthly
- Commercial – monthly

In 2008-2009 the City Council voted to change the street sweeping frequency due to budget limitations. During 2010-2011 the City evaluated the current street sweeping schedule and available budget. No changes were made. No increases in sweeping, spot sweeping, or complaints were noted during the permit year.

- a) Did the City continue implementation of the street sweeping program?
 Yes No

Summary of Streets Swept and Material Removed

| | Total Curb Miles Swept | Total Amount of Debris Removed by Street Sweeping (tons) |
|-----------|-------------------------------|---|
| 2007-2008 | 69,669 | 9,225 |
| 2008-2009 | 57,468 | 3,014 |
| 2009-2010 | 48,950 | 3,710 |
| 2010-2011 | 55,757 | 2,860 |

4.7.2 Audit Streets and Street Segments to Assess Maintenance Frequency

The City is required to audit streets and street segments to evaluate if the maintenance is adequate.

The City reviews curbed streets and/or street segments to identify problem areas and evaluate if the level of maintenance within its jurisdiction is adequate. Streets are evaluated during sweeping operations and during stormwater inspection activities; however, the data was not recorded. An estimate is provided below.

- a) Did the City audit streets and street segments to evaluate if the maintenance is adequate?
 Yes No Not required this year

Summary of Street Sweeping Evaluation 2010-2011

| Area | Number of streets or segments observed/inspected | Number of Spot Sweepings Required | Number of Complaints Received (flooding, excess debris in gutters) |
|-------------------------------|--|-----------------------------------|--|
| Residential | all | none | 219 (estimate) |
| Downtown Improvement District | all | none | 146 (estimate) |
| Industrial | all | none | |
| Commercial | all | none | |

4.7.3 Implement BMPs for Street Sweeping Activities

The City is required to implement BMPs for street sweeping activities including green waste pickup, storage, and disposal (**Appendix D-14**).

BMPs for street maintenance include the sweeping frequencies noted previously and the following:

- Street sweeping waste is properly collected and disposed of with no waste being discharged to the storm drain system;
- Water used for street sweeping is not discharged to the storm drain system;

BMPs for green waste pickup, storage, and disposal include:

- Residents are informed that yard waste should be placed at least 1' from the foot of the curb to allow storm and nuisance water to flow; where curbs do not exist, residents are told to place trimmings 1' from point of low drainage;
- Residents informed that yard trimmings should not be placed near drains;
- City of Modesto streets are swept once/month within 48 hours of the collection of large yard trimmings; and
- Green waste is taken directly to the compost facility – no storage.

The City picked and removed 18,813 tons of green waste, and 15,800 tons of leaves.

a) Did the City implement BMPs for street sweeping activities including green waste pickup, storage, and disposal?

Yes No

4.7.4 Implement BMPs for Street Maintenance and Small Construction Projects

The City is required to implement these BMPs for street maintenance and small construction projects (**Appendices D-15, D-16, and D-17**).

The City developed BMPs for street maintenance and small construction projects that include the following information:

- Saw cutting waste are recovered and disposed of properly;
 - Concrete and other street and road maintenance materials are properly managed and not allowed to enter the storm drain system; and
 - Concrete trucks and chutes are only washed out in designated areas and discharge is prohibited from entering the storm drain system, open ditches, streets, or catch basins.
- a) Did the City implement stormwater BMPs for street maintenance and small construction projects?
- Yes No

4.7.5 Audit Street/Sidewalk Small Construction Projects BMP Compliance

The City is required to audit street/sidewalk small construction projects for compliance with stormwater BMP requirements in 2009-2010.

BMPs have been identified for street/sidewalk small construction projects (see **Appendices D-15, D-16, and D-17**). Audits of these projects for compliance with stormwater BMP requirements are completed through field observations and tailgate trainings. No major deficiencies have been noted.

- a) Did the City audit street/sidewalk small construction projects for compliance with stormwater BMP requirements?
- Yes No Not required this year

4.8 MO6 – Parking Infrastructure Maintenance

The Parking Infrastructure Maintenance Control Measure helps to keep parking lots clear of debris and prevent excessive oil buildup. The Control Measure establishes a schedule of cleaning and inspecting parking lots.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

4.8.1 Clean and Inspect Parking Infrastructure

The City is required to clean and inspect City-owned parking lots and structures according to current procedures identified in the SWMP (noted below).

The City owns and maintains six parking lots and three public parking structures (garages). The garages are swept nightly and pressure washed with a vacuum scrubber to remove oil and debris from the deck as needed (at least weekly). Parking lots are swept weekly or as needed. Each parking garage is inspected daily and each parking

lot is inspected at least weekly, and deficiencies in cleaning are addressed as required. Unless under special circumstances (e.g., materials present on parking decks that may not be discharged to the storm drains), cleaning crews utilize BMPs (e.g., adsorbent rings) to prevent any discharges possibly resulting from cleaning activities. Weekly safety meetings are held for maintenance crews.

Additionally, the Parks, Recreation and Neighborhood Department is responsible for 21 smaller public parking lots associated with parks and community recreation facilities. Due to budget cuts, as of July 1, 2009 the frequency of sweeping was reduced from monthly to three times per year. These parking lots are inspected once per week, during the park inspections.

- a) Did the City clean and inspect City-owned parking lots and structures according to current procedures?

Yes No

Summary of City-Owned/Operated Public Parking Facilities

| Parking Services Division | | Parks, Recreation and Neighborhood | |
|---------------------------|------------------------|------------------------------------|------------------------|
| Garages | Lots | Lots | |
| 11th Street | 10th and I Street | Beardbrook Park | Mark Twain Park |
| 9th Street | 9th and I Street | Beyer Park | Mellis Park |
| Tenth Street Place | 10th and J Street | Davis Park | Moose Park |
| | Modesto Center Plaza | Downey Park | Rose Park |
| | County Library | East La Loma Park | Sherwood Park |
| | McHenry Mansion Museum | Elk Park | Fairway Park |
| | | Marshall Park | Senior Citizens Center |
| | | John Thurman Field | American Legion Hall |
| | | Legion Park | McHenry Mansion |
| | | Tuolumne River Regional Park | McHenry Museum |
| | | | Mancini Park |

Summary of Parking Lot Inspections

| Year | Type | Number | Inspection Frequency | Total Number of Inspections | Total Inspections |
|-----------|---|--------|----------------------|-----------------------------|-------------------|
| 2008-2009 | Public Garages | 3 | Daily | 1,095 | 2,603 |
| | Public Lots | 6 | Weekly | 312 | |
| | Parks, Recreation and Neighborhood Lots | 23 | Weekly | 1,196 | |
| 2009-2010 | Public Garages | 3 | Daily | 1,095 | 2,499 |
| | Public Lots | 6 | Weekly | 312 | |
| | Parks, Recreation and Neighborhood Lots | 21 | Weekly | 1,092 | |

| Year | Type | Number | Inspection Frequency | Total Number of Inspections | Total Inspections |
|-----------|---|--------|----------------------|-----------------------------|-------------------|
| 2010-2011 | Public Garages | 3 | Daily | 1,095 | 2,499 |
| | Public Lots | 6 | Weekly | 312 | |
| | Parks, Recreation and Neighborhood Lots | 21 | Weekly | 1,092 | |

4.9 MO7 – Emergency Procedures

The Emergency Procedures Control Measure outlines the response process and responsibilities of the Stormwater Management Division following a natural disaster. These activities can not compromise public safety.

The City has a Natural Disaster Emergency Response Plan in place. The plan outlines how the City will coordinate with other agencies as necessary to repair essential public services and infrastructure in a manner to minimize environmental damage, but does not compromise public health and safety in the event of emergency situations. The process of re-establishing public services is expected to reduce environmentally damaging runoff by the repair of municipal sewer and water lines. After utilities are repaired, environmental impacts are addressed.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

4.9.1 Coordinate Repair of Public Services in the Event of Emergency Situations

In the event of emergency situations, the City is required to coordinate with other agencies as necessary to repair essential public services and infrastructure in a manner that minimizes environmental damage but does not compromise public health and safety.

- a) Did the City coordinate with sanitary sewer and utilities agencies to repair essential public services and infrastructure in a manner that minimizes environmental damage?

Yes No No Emergencies Occurred

4.9.2 Develop BMPs to Minimize Environmental Damages

The City is required to develop BMPs for emergency situations to minimize environmental damages without compromising public health and safety.

The development of BMPs for emergency situations was not completed in 2008-2009 as planned and was rescheduled for 2009-2010. Development of these BMPs was completed in May 2011 and forwarded to the Fire Marshall having emergency preparedness responsibilities for inclusion into the updated Emergency Operations Plan (**Appendix D-18**). The Environmental Compliance Department is still waiting for a response.

- a) Did the City develop BMPs for emergency situations to minimize environmental damages without compromising public health and safety?

Yes No Not required this year

4.10 MO8 – Fire Department Activities

The Fire Department Activities control measure details the plan to minimize potential impact of non-fire fighting flows to protect the storm drain system and the environment.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

4.10.1 Identify and Implement Non-fire Fighting BMPs

The City is required to evaluate BMPs for non-fire fighting activities including:

- wash-down of driveways,
- cleaning tanks, and
- flushing pipes and hydrants.

The Fire Department has developed and implemented a series of BMPs to protect stormwater (**Appendix D-19**). These BMPs were officially adopted by the Fire Department on June 7, 2010, and include:

- wash-down of driveways,
- cleaning tanks,
- flushing pipes and hydrants, and
- training burns

All Fire Department personnel received training on stormwater protection BMPs during the month of June 2010.

a) Did the City identify non-fire fighting BMPs?

Yes No Not required this year

b) Did the City implement the new non-fire fighting BMPs?

Yes No Not required this year

4.10.2 Implement Response Plan for Non-Emergency Flows

The City is required to implement the response plan for non-emergency fire fighting flows. In 2005, the City developed a response plan for non-emergency flows, which identified BMPs to minimize the impacts of non-emergency fire fighting flows to the environment. The City is required to incorporate the response plan for non-emergency fire fighting flows into the Modesto Fire Department procedures and implement them. These procedures are listed on the Fire Department's intranet website. Non-emergency fire fighting flows are addressed by a written procedure of Best Management Practices (**Appendix D-19**), which is current and enforced.

a) Did the City incorporate the response plan for non-emergency fire fighting flows into the Modesto Fire Department procedures?

Yes No Not required this year

4.11 MO9 – Training

The Training Control Measure is important to successful implementation of the Municipal Operations Program Element. An effective training program is one of the best pollution prevention BMPs that can be implemented because it prompts behavioral changes that are fundamentally necessary to protecting and improving water quality. Training for Municipal Operations Program Element is coordinated with the Illicit Discharges training. The training formats used may include field demonstrations, classroom, or tailgate sessions.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

Areas of Focus for the Municipal Operations Program Training

| Target Audience | Topics for Audience |
|---|---|
| Public Works field crews | Sanitary Sewer Overflow and Backup Response Plan BMP implementation for street sweeping and road maintenance activities General storm water quality issues Pesticide use reduction and IPM |
| Police and Fire Department personnel | Response plan for non-fire fighting flows Notification processes for spills |
| Parks, Recreation, and Neighborhoods field crews | General storm water quality issues Pesticide use reduction and IPM |
| Stanislaus County Department of Environmental Resources | General storm water quality issues BMP implementation during emergency situations |

4.11.1 Conduct Training

The City is required to conduct training for key staff involved in municipal operations.

Key staff and training topics are identified above. A summary of the training sessions conducted for key staff is provided below. Internal training modules and external training are listed. For the internal modules, pre- and post-training surveys are conducted to gauge the effectiveness of the training. A summary of the training survey results are noted.

Pre-training surveys began in April 2010.

- a) Did the City conduct training for key staff involved in the Municipal Operations Program?

Yes No Not required this year

Summary of Training Sessions Conducted for Key Staff

| Date of Training | Title of Training Module | Number of City Attendees | Target Audience | City Departments or Divisions |
|--------------------------|---|--------------------------|-----------------------------|-------------------------------|
| <i>Internal Training</i> | | | | |
| 8/3/10 | GVCVSC – An overview of stormwater illicit discharges | 4 | Field Crews and Supervisors | Collections |
| 10/2/10 | Municipal Stormwater Training | 8 | Field Crews | CIP Inspectors |
| 10/12/10 | Municipal Stormwater Training | 9 | Field Crews | Building Safety and NPU |
| 1/12/11 | Municipal Stormwater Training | 49 | Field Crews and Supervisors | Streets/Traffic |
| 5/17/11 | FRA Training | 31 | Field Crews | Collections |
| <i>External Training</i> | | | | |
| 11/17/10 | Stormwater Compliance on a Construction Site | 9 | Field Crews | Environmental Compliance |
| 3/15/11 | Track Out – Construction's Most Costly BMP Violation | 8 | Field Crews | Environmental Compliance |
| 3/15/11 – 3/17/11 | QSP/QSD Training | 2 | QSP/QSD Candidates | Environmental Compliance |
| 4/15/11 | An Intro to Monitoring Stormwater Runoff | 6 | | Environmental Compliance |
| 5/9/11 – 5/11/11 | QSP/QSD Training | 5 | QSP/QSD Candidates | Environmental Compliance |

Summary of Internal Training Survey Results

| Training Module Title and Date | Total Number of Surveys Completed | Average Pre-Training Survey Score | Average Post-Training Survey Score | % Difference between pre- and post-training Average |
|---|-----------------------------------|-----------------------------------|------------------------------------|---|
| 8/3/10 – An Overview of Stormwater Illicit Discharges | 25 | 55% | 76% | +21% |
| 10/2/10 – Municipal Stormwater Training | 8 | 47.5% | 82.5% | +35% |
| 10/12/10 – Municipal Stormwater Training | 9 | 83% | 100% | +17% |
| 1/12/11 – Municipal Stormwater Training | 49 | 55.5% | 84.7% | +29.2% |

4.11.2 Distribute Wallet Cards at Training

The City is required to distribute wallet cards to appropriate field crew personnel during training. The City distributes Illicit Discharge cards at all municipal stormwater training

sessions. The cards list examples of illicit discharges and has the 24-hour hotline number (**Appendix D-20**).

- a) Did the City develop and distribute wallet cards to appropriate field crew personnel during training?

Yes No Not required this year

| Date of Training | Staff Positions Trained | City Departments or Divisions | Number of Wallet Cards Distributed |
|------------------|-----------------------------|-------------------------------|------------------------------------|
| 10/2/10 | Field Crews | CIP Inspectors | 8 |
| 10/12/10 | Field Crews and Supervisors | Building Safety and NPU | 9 |
| 1/12/11 | Field Crews and Supervisors | Streets/Traffic | 49 |

4.11.3 Review/Revise Training Strategy

The City is required to review its training strategy annually and update it as needed. Key considerations during the review and revision process include target audiences, expertise necessary, key message, existing modules, external opportunities for training, and the frequency at which the training should be provided.

During this reporting year the City reviewed the municipal operations training, and has incorporated a PowerPoint presentation, informational video, and pre- and post-tests to gauge the effectiveness of the training. Wallet cards are handed out at all municipal operations trainings.

- a) Did the City review the training strategy as necessary?

Yes No Not required this year

- b) Did the City revise the training strategy if necessary?

Yes No Not required this year

4.12 MO10 – Municipal Operations Effectiveness Assessment Strategy

The Effectiveness Assessment Strategy control measure is used to determine whether the Program Elements are achieving intended outcomes and ultimately, whether continued implementation will result in maintaining or improving water quality (CASQA, 2007). Outcome levels are used to categorize and describe the desired results of goals of the control measures and Program Elements. There are six outcome levels as defined by the CASQA Program Effectiveness Assessment Guidance.

This part of the Annual Progress Report assesses the effectiveness of the Municipal Operations Program and related control measures to determine their effectiveness and identify necessary modifications. Although the effectiveness assessment may change from year to year as new information is learned, the assessment will initially focus on Outcome Levels 1-4. Table 4-17 of the SWMP identified the effectiveness assessment questions required for the Municipal Operations Program.

Summary of Assessment Levels Planned for the 2008-2013 Permit Term

| Control | Level 1 | Level 2 | Level 3 | Level 4 |
|---|-------------------|--------------------|-----------------|----------------|
| | Implement Program | Increase Awareness | Behavior Change | Load Reduction |
| MO1 – Sanitary Sewer Overflow and Backup Response Plan | ✓ | | ✓ | ✓ |
| MO2 – Pollution Prevention at City-owned Facilities | ✓ | | ✓ | |
| MO3 – Landscape and Pest Management | ✓ | | ✓ | |
| MO4 – Storm Drain System Maintenance | ✓ | | ✓ | ✓ |
| MO5 – Street Cleaning and Maintenance | ✓ | | ✓ | ✓ |
| MO6 – Parking Infrastructure Maintenance | ✓ | | ✓ | |
| MO7 – Emergency Procedures | ✓ | | | |
| MO8 – Fire Department Activities | ✓ | | | |
| MO9 – Training | ✓ | ✓ | | |

MO1 – The City revised its Sanitary Sewer Overflow and Backup Response Plan a year earlier than scheduled by the SWMP. The City has equipped 22 percent of its field vehicles with sand bags to respond to observed incidents; these are limited to primary response vehicles. Response equipment is also maintained at corporation yards for easy access. As noted in Section 2, SSOs remain the largest category of incidents categorized by the City (31% of the total), but this may be due the heightened awareness SSOs received under the SSO General Permit. Approximately 16% of the estimated volume of sewage released was recovered and removed from the environment. This low number is due to several long-lasting SSOs that were not reported to the City in sufficient time.

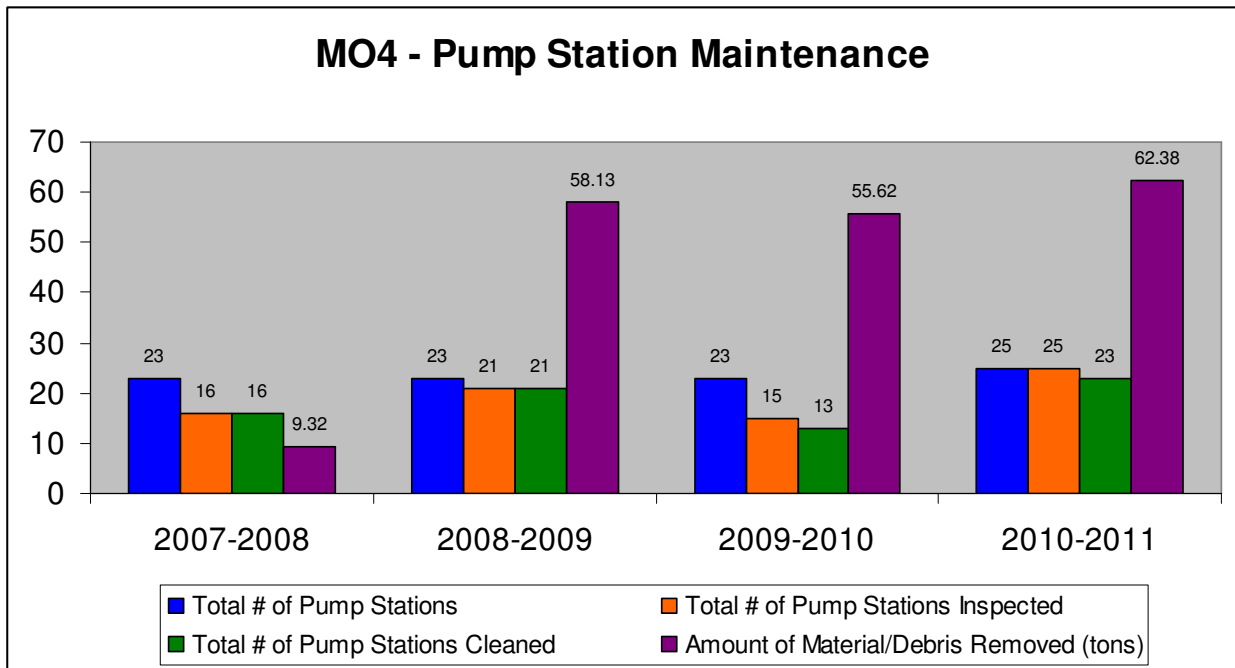
MO2 – The biennial inspections at the two City-owned industrial facilities did not show any major issues this reporting year. Six BMP deficiencies were noted at the City Airport, but all were quickly corrected by appropriate staff. No BMP implementation deficiencies were noted at the City bus yard, but the concentration of zinc in the runoff exceeded the EPA benchmark value once again.

MO3 – The City continues to track pesticide and fertilizer use by City departments and city-hired contractors. Application of active ingredients in liquid pesticides increased from 178 gallons to 689 gallons and the application of the active ingredients in solid pesticides decreased from 513 pounds to 174 pounds. The City determined that an update of the municipal code to require standardized application protocols was not

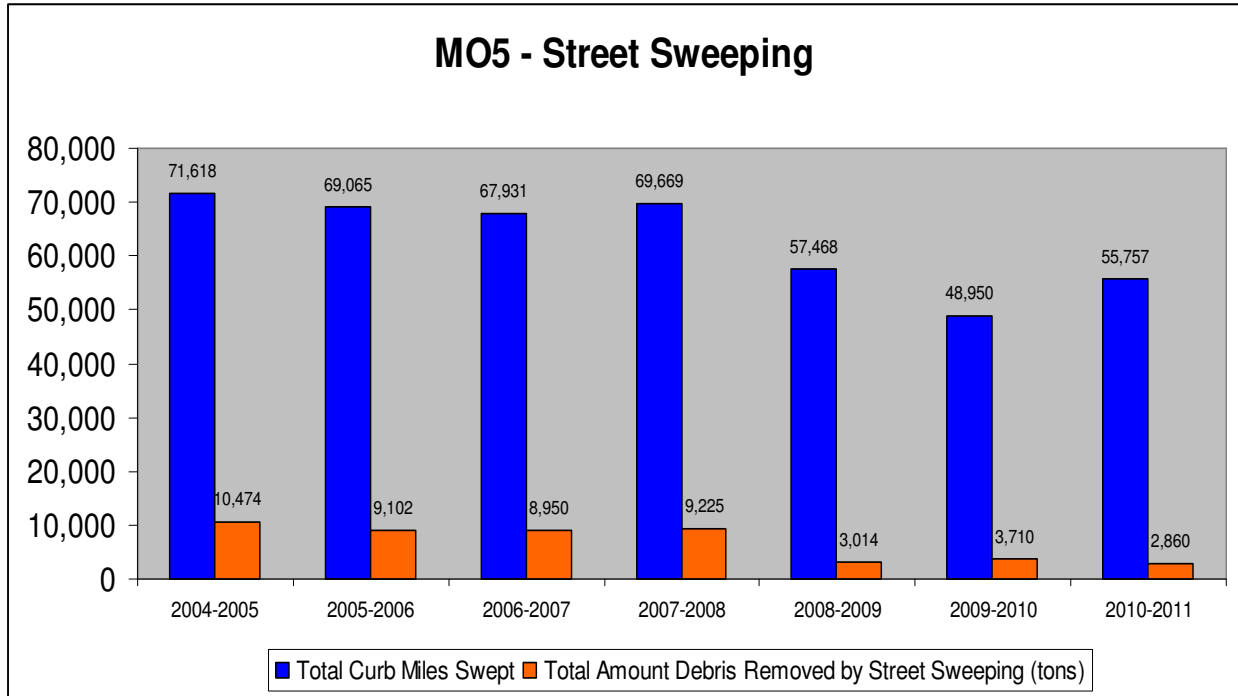
needed; this is controlled through stormwater protection language and IPM requirements in the contracts.

MO4 – The City maintained placards on 90.3% of the catch basins, meeting the goal of placarding 90% of the catch basins. Due to budget and staff shortages this year, the City was unable to re-label catch basins whose placards were reported as missing or damaged. In addition, the City decided to replace the current placards with metal ones due to increased durability. The approval and ordering of these new curb markers was not granted until late spring and installation did not begin until the very end of the reporting year. Budget restrictions continue to prevent complete implementation of IPM at the City’s detention and retention basins, however progress was made: language has been added to the contracts requiring contractors to use IPM methods in detention basins, and natural controls are being used on detention basins by the East Side Mosquito Abatement District to control mosquitoes. The City revised its catch basin prioritization to better focus resources on catch basins within ½ mile of Dry Creek and the Tuolumne River. The City also requires all special events – such as concerts, parades, street fairs, etc. - to abide by the storm drain protection language present in the Special Event Permits which are given by the City of Modesto Entertainment Commission. Environmental Compliance staff conducts random pre- and post-event inspections to ensure that all requirements are met.

¹ The number of catch basins was lowered due to better information from field surveys conducted in 2009-2010.



MO5 – The street sweeping schedule was evaluated in 2010-2011 and no changes were made. The City did not note an increase in complaints or the need for additional spot cleaning. The number of curb miles swept in 2010-2011 increased approximately 6,800 miles, but the amount of debris removed decreased by approximately 850 tons. The City also removed approximately 18,800 tons of green waste and 15,800 tons of leaves. No deficiencies were identified during field observations (audits) of the implementation of street/sidewalk small construction project BMPs.



MO6 – The City continued to inspect and clean city-owned parking lots and garages.

MO7 – No emergencies occurred in the City in 2010-2011 that required the implementation of emergency response BMPs. The City has initiated discussions and provided stormwater protection BMP language to the Fire Marshall for inclusion into the Emergency Operations Plan. No response has been received as of yet.

MO8 – The City has identified non-fire fighting stormwater BMPs and helped the Fire Department incorporate them into their Standard Operating Procedures. These were officially adopted by the Fire Department on June 7, 2010. The Fire Department is also provided municipal stormwater training on a biennial basis.

MO9 – Over the 2010-2011 reporting year 131 participants from the target audiences identified in the SWMP participated in training that addressed municipal operations issues. Training was provided by both the stormwater program and external organizations. For internal training, pre- and post-training surveys were utilized, and all participants received wallet cards listing examples of illicit discharges and providing the 24-hour hotline number. Audience awareness of municipal stormwater issues grew in each of the trainings, generally by more than 20%.

4.13 Municipal Operations Program Modifications

The City evaluates the results of the Program Effectiveness Assessments as well as the experience that staff has had in implementing the program. The City also determines if any program modifications are necessary in order to comply with Clean Water Act requirements to reduce the discharge of pollutants to the maximum extent practicable.

The program modifications that will be made to the Municipal Operations Program during the next year include the following:

- MO1
 - The City is exploring upgrading its tracking database to better track performance in several of the program elements. Upgrades are dependent on funding.

5. Industrial and Commercial Businesses

5.1 Overview

The Industrial and Commercial Businesses Program Element focuses on effectively eliminating unauthorized non-stormwater runoff and reduce pollutants in stormwater runoff from industrial and commercial businesses.

5.2 Control Measures

The City has developed several Control Measures to ensure that the industrial and commercial businesses program requirements are effectively developed and implemented. For each Control Measure there are accompanying performance standards which, once accomplished, constitute compliance with the 2008-2013 Permit requirements.

The Industrial and Commercial Businesses Control Measures consist of the following:

| ID | Control Measure |
|-----|---|
| IC1 | Industrial and Commercial Business Database |
| IC2 | Prioritization and Inspection |
| IC3 | BMP Implementation at Business |
| IC4 | Enforcement |
| IC5 | Training |
| IC6 | Effectiveness Assessment Strategy |

In addition to the Control Measures listed above, a number of activities conducted by Public Outreach and Education (Section 3) support the Industrial and Commercial Businesses Program Element.

This section of the Annual Report provides information on the specific tasks that have been initiated and/or completed during the reporting period pursuant to the Industrial and Commercial Businesses Program Performance Standards and implementation schedules.

5.3 IC1 – Industrial and Commercial Business Database

The Industrial and Commercial Business Database Control Measure ensures that the City develops and maintains a complete database of businesses that have the potential to impact stormwater or receiving water quality. The database inventory provides the basis for prioritization of businesses within the City and serves as a repository for all outreach to, inspection of, and notices for each facility. During the 2010-2011 year, businesses were reviewed for priority. The number of significant sources was decreased as a result of auditing the database. The inventory of businesses that are included in the stormwater database for inspection is now 487. The inventory of businesses that are now considered intermittent, temporary or inactive sources has increased to 1,291.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

5.3.1 Update Database

The City is required to update its database of commercial and industrial businesses with applicable new industrial and commercial businesses with the new business licensing issuance listing, pretreatment permits, and sanitary sewer permits.

The City maintains an inventory database of commercial and industrial businesses, including those covered under the State General Industrial Stormwater Permit. The Stormwater Section is provided a new business license issuance listing on a weekly basis from the Business Licensing Section of the City. From this list, facilities are subdivided into respective SIC code categories. If the SIC code corresponds to a NPDES Permit requirement, facilities are evaluated for entry into the Stormwater Program database.

A summary of the inventory of industrial and commercial facilities and the temporary sources is provided below. A break down by type is provided for the commercial facilities and temporary sources.

A summary of the SIC Codes used to compile the list is presented in **Appendix E-1**. The inventory information is current as of June 30, 2011. A list of the facilities subject to inspection and/or evaluation by the City is included in **Appendix E-2**. The list includes the name of the business, name and address of the owner/operator, whether the business has a stormwater permit (i.e., Industrial General Permit or an individual stormwater permit), and a description of the business activity.

- a) Did the City update the database with applicable new industrial and commercial businesses with the new business licensing issuance listing, pretreatment permits, and sanitary sewer permits?

Yes No

Industrial and Commercial Inventory Summary

| | | Industrial Facilities¹ | Commercial Facilities (Significant Sources) | Temporary or Intermittent Sources |
|--|------------------|--|--|--|
| Total # of Facilities in Database | 2008-2009 | 22 | 941 | 990 |
| | 2009-2010 | 20 | 904 | 993 |
| | 2010-2011 | 14 | 487 | 1,291 |
| Total Number of Facilities with Non Exposure Certification (NEC) | 2008-2009 | 0 | 43 | NA |
| | 2009-2010 | 0 | 207 | NA |
| | 2010-2011 | 0 | 254 | NA |
| Total Number of Facilities with No Discharge to Storm Drain System or Otherwise Inactive | 2008-2009 | 0 | 574 | NA |
| | 2009-2010 | 0 | 414 | NA |
| | 2010-2011 | 0 | 383 | NA |
| Total Number of Facilities to be Inspected | 2008-2009 | 22 | 321 | 3 |
| | 2009-2010 | 18 | 460 | 0 |
| | 2010-2011 | 14 | 487 | 0 |

¹ Only includes industrial facilities with IGP coverage.

Summary of the Type of Industrial and Commercial Facilities in the Storm Water Inspection Inventory

| Category | Total Number of Facilities 2009-2010 | Total Number of Facilities 2010-2011 |
|---|---|---|
| Significant Sources | | |
| Auto Body Shops | 22 | 17 |
| Auto Dealers | 46 | 36 |
| Auto Repair Shops | 149 | 75 |
| Dry Cleaners | 23 | 16 |
| Equipment Rentals | 3 | 1 |
| Kennels | 6 | 1 |
| Nurseries | 5 | 4 |
| Restaurants | 535 | 254 |
| Retail Gasoline Outlets | 45 | 29 |
| Other (History of Illicit Discharges, etc.) | 0 | 0 |
| Total | 834 | 433 |

| | | |
|---|---------------------|---------------------|
| Temporary/Intermittent Sources ¹ | | |
| Automotive Washing and Detailing | 36 | 38 |
| Carpet Cleaning | 52 | 43 |
| Commercial Pesticide Applicators | 26 | 35 |
| Concrete Pouring Contractors | 52 | 57 |
| Concrete Cutting | 4 | 5 |
| General Building Contractors | 371 | 392 |
| Landscape Installation/Maintenance | 321 | 336 |
| Paint Contractors | 62 | 57 |
| Portable Toilet Rental and Maintenance | 11 | 11 |
| Pressure Washing | 4 | 4 |
| Street Sweepers | 2 | 2 |
| Swimming Pool Contractors | 9 | 15 |
| Trucking Companies | 43 | 34 |
| Miscellaneous Businesses (SIC 1799) | (508 ²) | (545 ²) |
| Total | 993 | 1,029 |

¹ Not inspected. The current permit requires only list to be maintained in a City database. The City business licensing is the primary source of this list. If there is an illicit discharge incident, they are subsequently added to the inspection program.

² SIC 1799 is a catchall category that includes residential and commercial business's. The number was counted (545) but not included in the overall total.

5.3.2 Audit Database for Accuracy

The City is required to audit the inventory every two years to ensure that it remains accurate.

a) Did the City audit database to ensure accuracy?

Yes No Not required this year

5.4 IC2 – Prioritization and Inspection

The Prioritization and Inspection Control Measure establishes prioritized businesses within the City for inspection and identifies the inspection requirements associated with the site visits. An effective inspection program ensures that businesses comply with the stormwater ordinances and permits.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

5.4.1 Prioritize Businesses

The City is required to prioritize industrial and commercial businesses within the City’s jurisdiction consistent with the developed prioritization process. During the previous permit term, the City developed new procedures for prioritizing industrial and commercial businesses for inspection frequency. The City’s prioritization process primarily assigns priority by business type and then assesses the risk of discharge. The City currently prioritizes the following businesses as high priority: Industrial facilities permitted by the Industrial General Permit

- Auto Body Shops
- Automobile Repair Shop
- Retail Gasoline Outlets
- Pet Kennels
- Nurseries
- Auto Dealers
- Restaurants and Caterers
- Dry Cleaners
- Equipment Rental Businesses
- Industrial Facilities permitted by the Industrial General Permit

All other facilities are considered low priority. The City upgrades low priority facilities to high priority if there is evidence of incidents of illicit discharges. Facilities with no risk of discharge are not part of the inspection program and are not prioritized. However, the City will inspect these facilities if illicit discharges are identified.

High priority facilities are inspected twice during the course of the five-year permit term. Low priority facilities are inspected on an as needed basis (based on complaint or evidence of illicit discharges).

a) Did the City prioritize industrial and commercial businesses within the City’s jurisdiction consistent with the prioritization procedures?

Yes No

Commercial and Industrial Facility Prioritization Summary

| Category | Total Number of Facilities Listed in Database | Number of Facilities Prioritized for Inspection |
|---|---|---|
| Industrial Facilities | 14 | 14 |
| Commercial Facilities (including temporary or intermittent sources) | 1,778 | 487 |

5.4.2 Re-evaluate Prioritization Criteria

The City is required to re-evaluate the inspection priority of commercial and industrial businesses. During this permit cycle, the City plans to assess the prioritization approach based on what was learned during the first inspection cycle. Factors that may be considered include: prevalence of stormwater concerns identified during inspections by business type, location of business (e.g. in a positively draining area of the city vs. draining to rockwells or a detention basin).

Did the City re-evaluate its prioritization criteria for commercial industrial inspections?

Yes No Not required this year

5.4.3 Explore Certification Requirement for Mobile Washers and Cleaners

The City is required to explore the creation of a certification requirement for mobile washers and cleaners. During the previous permit term businesses that use water in their daily operations, such a mobile washers and cleaner, were found to pose a potential threat to water quality.

- a) Did the City explore the creation of a certification requirement for mobile washers and cleaners?

Yes No Not required this year

5.4.4 Review/Revise Inspection Checklists

The City is required to review the Inspection Checklist and revise it if necessary. The City developed an inspection checklist to ensure that inspectors conduct a thorough and consistent inspection. In 2010-2011 the form was modified to include stormwater treatment device information, stormwater prioritization and storm drainage system. The form documents the following information:

1. Basic information
 - Facility name, address, and phone number
 - Facility contact
 - SIC code
 2. Visual observations
 - Evidence of non-stormwater discharge
 - Oil/dirt/debris in lot gutters, sidewalks, facility lot
 - Raw material storage
 - Evidence of mat washing (are BMPs in place for mat washing procedures?)
 - Evidence of uncontained spills
 3. Observed BMPs in place
 - Curbing, landscaping, berming
 - Housekeeping evident
 - Observed landscape erosion
 - Refuse areas covered, protected
 4. Follow-up required
 - Priority (e.g., immediate, routine)
 5. Comment section for additional information regarding business
 6. Benchmark Value Exceedance
 7. Stormwater Treatment Device / Access and Maintenance Agreement
- a) Did the City review, and revise if necessary, Inspection Checklist?

Yes No Not required this year

5.4.5 Inspect High Priority Industries and Commercial Businesses

The City is required to inspect high priority industries and commercial businesses. Based upon the City's prioritization process, high priority business, which are noted in section 5.4.1, are inspected twice during the 5 year permit cycle with at least a one-year period between inspections.

The City plans to conduct these inspections throughout the term of the permit. The facility inventory from 2008-2009 will be used as the baseline for assessing percentage completed, however as new high priority businesses open, they will be scheduled for a first round inspection within two years of being issued a license.

A summary of the inspections conducted during 2010-2011 is provided below. A list of the facilities inspected including, summary results of the inspection are provided in **Appendix E-3**.

a) Did the City inspect high priority industries and commercial businesses?

Yes No

Results of Business Scheduled for Inspections

| Category | Number of Facilities | Number of Facilities Inspected 2010/2011 | Inspection Results | | |
|-------------------------|----------------------|--|---|--|---|
| | | | Number of Inspections with Violations Noted (Fail Result) | Number of Satisfactory Inspections (Pass Result) | Common Cause of Violations ¹ |
| Auto Repair Shops | 75 | 46 | 4 | 42 | 1 |
| Auto Body Shops | 17 | 10 | 0 | 10 | |
| Auto Dealers | 36 | 12 | 1 | 11 | 1 |
| Restaurants | 254 | 83 | 6 | 77 | 1 and 2 |
| Dry Cleaners | 16 | 8 | 1 | 7 | 1 |
| Equipment Rentals | 2 | 2 | 0 | 2 | |
| Kennels | 1 | 1 | 0 | 1 | |
| Nurseries | 4 | 2 | 0 | 2 | |
| Retail Gasoline Outlets | 29 | 9 | 1 | 8 | 1 |
| Industrial Facilities | 14 | 7 | 1 | 6 | 1 and 3 |
| Totals | 448 | 180 | 14 | 166 | |

¹ Violation Codes

1. Failure to implement adequate BMPs
2. Illicit discharges/spills detected
3. Failure to have required SWPPP, NOI, or NEC documentation (for IGP facilities only)

Summary of First Round of Business Scheduled Inspections Completed to Date

| Year | Number of Facilities Scheduled for Inspection | Number of 1 st Round Inspections Completed | Number with Satisfactory Result on 1 st Round | Percent Completed |
|-----------|---|---|--|-------------------|
| 2008-2009 | 332 (baseline) | 169 | 154 | 51 |
| 2009-2010 | 389 | 116 | 112 | 86 |
| 2010-2011 | 244 | 207 | 193 | 85 |

5.4.6 Inspect Low Priority Industries and Commercial Businesses

The City is required to inspect low priority industries and commercial businesses on an as needed (complaint) basis.

Based upon the City's prioritization process, low priority businesses are inspected as needed. The City plans to conduct these inspections throughout the term of the permit. Most low priority businesses are mobile operations working in different locations throughout the City; inspections are typically conducted when a discharge complaint is received.

Industrial and commercial facilities are being reevaluated to assess and assign priority status. Facilities that do not discharge shall be reclassified as low priority as they pose little or no risk to receiving waters.

A summary of the inspections conducted during 2010-2011 is provided below. A list of the facilities inspected are provided in **Appendix E-3**.

Low Priority sites are required to be inspected as needed. Most low priority businesses are mobile operations working in different locations throughout the City; inspections are typically conducted when a discharge complaint is received. During 2010-2011 inspections, prioritization of each business was re-evaluated. Based on the inspections, 85 businesses were changed to low priority and were removed from the regular inspection schedule. They will remain in the database and will be treated as intermittent / temporary sources.

a) Did the City inspect low priority industrial and commercial facilities?

Yes No None Reported

Summary of Low Priority Business Inspections Completed to Date

| Year | Number of Inspections Completed | Number of Facilities Upgraded to High Priority |
|-----------|---------------------------------|--|
| 2008-2009 | 61 | 14 |
| 2009-2010 | 20 | 0 |
| 2010-2011 | 85 | 0 |

5.5 IC3 – BMP Implementation at Businesses

The BMP Implementation at Businesses control measure allows the City to provide guidance to industrial and commercial businesses regarding BMP implementation. Although the City may provide guidance on BMP selection, the selection of specific BMPs for implementation is the responsibility of the business.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

5.5.1 Provide BMP Fact Sheets during Site Inspections

The City is required to provide appropriate BMP fact sheets during site inspections. The Stormwater Program developed BMP fact sheets for the following business activities:

- | | |
|-----------------------|-----------------------------|
| Industrial Facilities | Automobile Body Shops |
| Automobile Dealers | Automobile Repair Shops |
| Dry Cleaners | Mobile Washers and Cleaners |
| Equipment Rentals | Kennels |
| Nurseries | |

Details on the distribution of the fact sheets during inspections are provided in section 3.5 of the annual report.

- a) Did the City provide BMP fact sheets to appropriate businesses during inspections?

Yes No

5.5.2 Develop BMP Fact Sheets for Equipment Rentals, Kennels, and Nurseries

This performance standard is tracked in section 3.5.6.

5.5.3 Verify Businesses Implement BMPs

The City staff is required to verify during inspections that businesses are implementing appropriate BMPs. The inspection checklist used by City staff when inspecting businesses requires verification of appropriate BMPs.

- a) Did City staff verify during inspections that businesses are implementing appropriate BMPs?

Yes No

Summary of Industrial and Commercial Facility Compliance with BMPs

| Type of Facility | Number of Facilities Inspected 2010-2011 | Number of Facilities Inspected Implementing Appropriate BMPs | Percentage of Inspected Facilities Implementing Appropriate BMPs |
|-------------------------|--|--|--|
| Auto Repair Shops | 46 | 42 | 91 |
| Auto Body Shops | 10 | 10 | 100 |
| Auto Dealers | 12 | 11 | 92 |
| Restaurants | 83 | 77 | 93 |
| Dry Cleaners | 8 | 7 | 88 |
| Equipment Rentals | 2 | 2 | 100 |
| Kennels | 1 | 1 | 100 |
| Nurseries | 2 | 2 | 100 |
| Retail Gasoline Outlets | 9 | 8 | 89 |
| Other Facilities | 27 | 25 | 93 |
| Industrial Facilities | 7 | 6 | 86 |
| TOTAL | 207 | 191 | |

5.5.4 Evaluate Industrial Benchmark Data

The City is required to evaluate industrial benchmark data when it is made available by the Regional Water Board. Periodically the Regional Water Board provides the City with information on industries within the City whose stormwater runoff exceeds the EPA Multi-Sector General Permit benchmarks values. In the coming permit term the City will attempt to use these data to assess improvements in runoff quality before and after facility inspections.

- a) Did City staff assess benchmark data from before and after inspections of industrial facilities?

Yes No Data not provided by RWQCB

5.6 IC4 – Enforcement

The Enforcement Control Measure describes the City's policy for handling industrial and commercial businesses found to be out of compliance with local ordinances. The Control Measure outlines the process for the progressive levels of enforcement applied to facility operators not complying with City ordinances. The Control Measure also specifies the protocol for referring apparent violations of facilities subject to the State's General Industrial Permit to the Regional Water Board.

Enforcement actions range from issuance of verbal warnings, Notices of Violation, citations (1st offense \$100; 2nd \$250; 3rd \$500), to Notice and Order Hearings for higher fines, and penalties from the City Attorney's office. For repeat offenders or contractors that have not filed appropriate applications, the referral policy includes notifying the Regional Water Board.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

5.6.1 Review/Revise Stormwater Ordinance

The City is required to review and revise, if necessary, its Stormwater Ordinance following the issuance of the 2008-2013 Permit to ensure it has the necessary authority to enforce the permit. Specified timeline is in the SWMP waiting approval from Regional Water Board.

a) Did the City review, and revise if necessary, Stormwater Ordinance?

Yes No Not required this year

5.6.2 Enforce Stormwater Response Plan

The City is required to enforce its existing ERP and revise it if needed. During this reporting year, the City conducted enforcement under the existing ERP, which was last updated in 2004-2005. The enforcement actions undertaken during 2010-2011 are summarized below. Enforcement includes the Stormwater Inspection Program and the Illicit Discharge Program that responded to commercial / industrial illicit discharges. The numbers from previous years are provided for easy reference.

a) Did the City enforce Stormwater Response Plan?

Yes No

Summary of Enforcement Actions

| | Administrative Remedies ¹ | | | | Legal Action | Total |
|-----------|--------------------------------------|------|-----------|------------------|--------------------------------------|-------|
| | Verbal Warnings | NOVs | Citations | Written Warnings | Type (Misdemeanor, Infraction, etc.) | |
| 2008-2009 | 9 | 46 | 1 | 1 | 0 | 57 |
| 2009-2010 | 25 | 79 | 6 | 4 | 0 | 114 |
| 2010-2011 | 42 | 33 | 3 | 6 | 0 | 84 |

¹ The number of administrative remedies includes all inspections and illicit discharge calls to commercial/industrial industries, as well as violations noted during routine inspections.

5.6.3 Refer Industrial General Permit Violators to Regional Water Board

The City is required to refer industrial business violations to the Regional Water Board under three circumstances:

- If a facility fails to respond to progressive enforcement actions;
- If a facility receives a notice for a significant violation under the City’s stormwater ordinance; or
- If it is determined that a site should obtain coverage under the General Industrial Permit (non-filers).

The City makes these referrals in writing within 30 days of the inspection that led to the notice of violation or the discovery of the non-filer. Referrals made during this reporting year are summarized below.

a) Did the City refer industrial businesses that appear to violate the Industrial General Permit to the Regional Water Board?

Yes No

Summary of Referrals to Regional Water Board

| Site Description (Name/Type of Industrial Business) | Reason for Referral | Date of Referral to Regional Water Board | Total Referrals |
|--|---|--|-----------------|
| Failure to Respond to Progressive Enforcement | | | |
| - | - | - | - |
| Significant Violation of Stormwater Ordinance | | | |
| Foster Farms Dairy | Reported during 2009-2010, had similar incident 4/13/2011 that is added to the list of illicit discharges | April 13, 2011 | 1 |
| Potential Industrial General Permit Non-Filer | | | |
| Forrest Silva Crushing | Non-filer | July 28, 2010 | 6 |
| E&R Auto Wrecking | Non-filer | July 28, 2010 | |
| Bonanza All Foreign Dismantling | Non-filer | July 28, 2010 | |
| Farrester's Auto Wreckers | Non-filer | July 28, 2010 | |
| D&W Auto Wrecking | Non-filer | July 28, 2010 | |
| Modesto Auto Wreckers | Non-filer | July 28, 2010 | |

5.6.4 Audit Regional Water Board Referral Procedures

The City is required to audit the procedures for referring to the Regional Water Board of violations at industrial businesses covered by the Industrial General Permit. The purpose of this audit is to ensure that proper referral and notification to the Regional Board is occurring. Referrals need to be made within 30 days of the inspection that led to the NOV, and include the following information:

- Name of facility;
- Operator of facility;
- Owner of facility;
- Industrial activity or activities subject to the Industrial General Permit conducted at the facility; and
- Records of communication between the City and the facility owner and/or operator (e.g., inspection report, NOV).

a) Did the City audit the procedures for referring to the Regional Water Board of violations at industrial businesses covered by the Industrial General Permit?

Yes No Not required this year

5.7 IC5 – Training

The Training control measure is important to successful implementation of the Industrial and Commercial Businesses Program Element. An effective training program is one of the best pollution prevention BMPs that can be implemented because it prompts behavioral changes that are fundamentally necessary to protect and improve water quality. Training for Industrial and Commercial Businesses Program Element is coordinated with the Illicit Discharges training. The training formats used may include field demonstrations, classroom, or tailgate sessions.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

Areas of Focus for the Industrial and Commercial Businesses Program Training

| Target Audience | Topics for Audience |
|---|--|
| Public Works inspector Stanislaus County restaurant inspectors | Industrial General Permit Inspection Checklist Stormwater Response Plan Industrial and Commercial Business BMPs |
| Solid Waste restaurant inspectors | General stormwater awareness Inspection Checklist Stormwater Response Plan Restaurant-related BMPs |

5.7.1 Conduct Training

The City is required to conduct training for key staff involved in the industrial and commercial business program. Key staff and training topics are identified above.

A summary of the training sessions conducted for key staff is provided below. Internal training modules and external training are listed. For the internal modules, post training surveys are conducted to gauge the effectiveness of the training. A summary of the training survey results are noted.

- a) Did the City conduct training for key staff involved in the Industrial Commercial Program?

Yes No Not required this year

Summary of Training conducted for Key Staff

| Date of Training | Title of Training Module | Number of Attendees | Audience | City Departments or Divisions |
|-------------------------|---|----------------------------|---|--|
| 8/3/2010 | Municipal Stormwater | 25 | GCVCS (Various Cities Municipal and Environmental Operations personnel) | Public Works, Water Quality Control |
| 10/12/2010 | Stormwater Training for Municipal Operations (Building and NPU) | 9 | City Municipal Staff, NPU Enforcement Staff | Public Works |
| 10/2/2010 | Stormwater Training for Municipal Operations (CIP Inspectors) | 8 | City Municipal Staff | Capital Improvement Inspectors |
| 1/7/2011 | Special Events and Stormwater Protection | 75 | Local City Businesses and Public Works Employees | Parks, Recreation and Neighborhood, Environmental Compliance |
| 1/12/2011 | Stormwater Training for Municipal Operations | 49 | Public Works Field Crews (Streets, Electrical, Traffic, Graffiti Removal) | Public Works Field Crews |

| Training Module Title and Date | Total Number of Surveys Completed | Average Pre-Training Survey Score | Average Post-Training Survey Score | % Difference between pre- and post- training Average |
|---|--|--|---|---|
| Municipal Stormwater 8/3/2010 | 25 | 55% | 76% | 21% |
| Special Events and Stormwater 1/7/2011 | 75 | Test not given | NA | NA |
| Stormwater Training for Municipal Operations 10/12/2010 | 9 | 83% | 100% | 17% |
| Stormwater Training for Municipal Operations 10/2/2010 | 8 | 47.5% | 82.5% | 35% |
| Stormwater Training for Municipal Operations 1/12/2011 | 49 | 55.5% | 84.7% | 29.2% |

5.7.2 Review/Revise Training Strategy

The City is required to review its training strategy every other year and update it as needed. The SWMP schedule indicated that this review would occur in 2008-2009, but also noted that the schedule might be adjusted to coordinate with other program elements. The City adjusted this review to better coordinate with the planned update of the new General Industrial Permit. Once the new General Industrial Permit is adopted, the City will review the industrial / commercial training programs.

Key considerations during the review and revision process include target audiences, expertise necessary, key message, existing modules, external opportunities for training, and the frequency at which the training should be provided.

a) Did the City review the training strategy as necessary?

Yes No Not required this year

b) Did the City revise the training strategy if necessary?)

Yes No Not required this year

5.8 IC5 – Industrial and Commercial Businesses Program Assessment

The Effectiveness Assessment Strategy control measure is used to determine whether the Program Elements are achieving intended outcomes and ultimately, whether continued implementation will result in maintaining or improving water quality (CASQA, 2007). Outcome levels are used to categorize and describe the desired results of goals of the control measures and Program Elements. There are six outcome levels as defined by the CASQA Program Effectiveness Assessment Guidance.

This part of the Annual Progress Report assesses the effectiveness of the Industrial / Commercial Operations Program and related control measures to determine their effectiveness and identify necessary modifications. Although the effectiveness assessment may change from year to year as new information is learned, the assessment will initially focus on Outcome Levels 1-4. Table 5-10 of the SWMP identifies the effectiveness assessment questions required for the Industrial and Commercial Businesses Program.

Summary of Assessment Levels Planned for the 2008-2013 Permit Term

| Control | Level 1 | Level 2 | Level 3 | Level 4 |
|--|-------------------|--------------------|-----------------|----------------|
| | Implement Program | Increase Awareness | Behavior Change | Load Reduction |
| IC1 – Industrial and Commercial Businesses Database | ✓ | | | |
| IC2 – Prioritization and Inspection | ✓ | | ✓ | |
| IC3 – BMP Implementation at Businesses | ✓ | | ✓ | |
| IC4 – Enforcement | ✓ | | ✓ | |
| IC5 – Training | ✓ | ✓ | | |

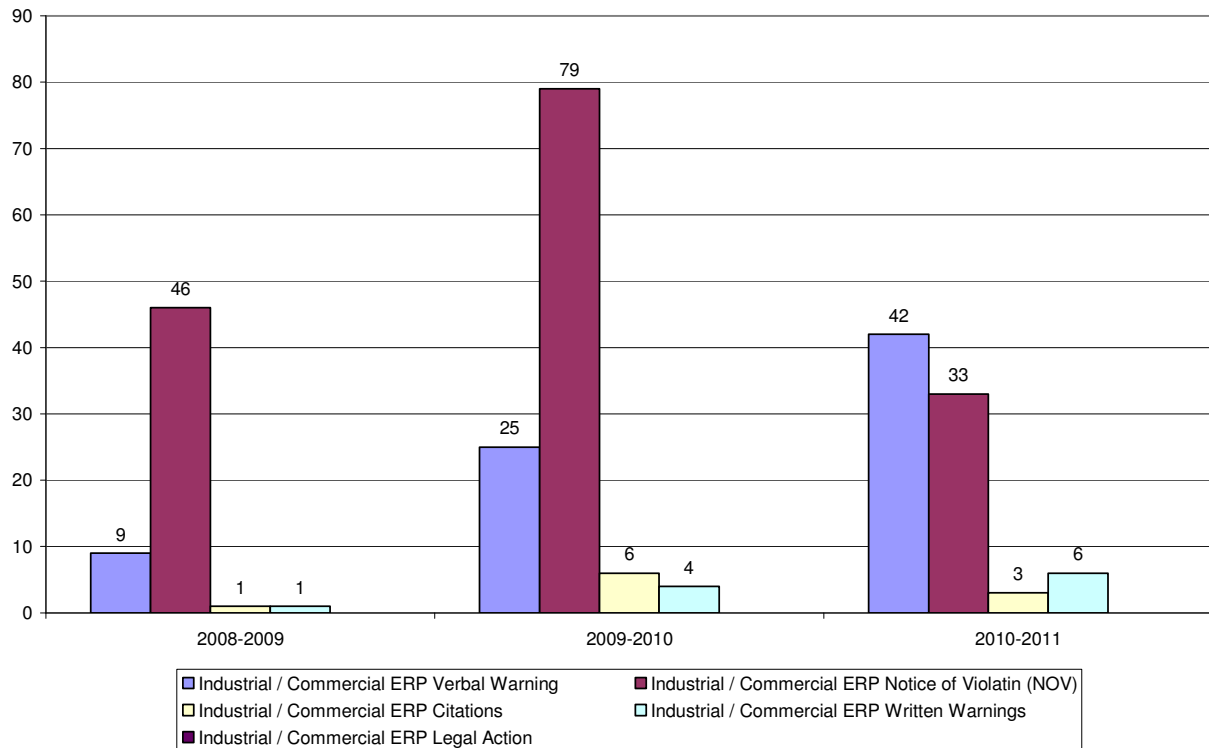
IC1 – The City maintained its inventory database of commercial and industrial businesses, including those covered under the State General Industrial Stormwater Permit. This data base is the foundation of tracking and inspecting commercial and industrial businesses. In 2010-2011 the City tracked 14 industrial facilities, 487 commercial facilities and 1,029 temporary or intermittent sources in the stormwater database.

IC2 – The City prioritizes the commercial and industrial businesses in the database. High priority facilities are specified types of businesses or businesses that have been responsible for illicit discharges. The City inspected 207 of these businesses. During the inspections, prioritization was re-evaluated and as a result 85 businesses were changed to low priority and removed from the regular stormwater inspection list and added to the temporary / intermittent list. 91 new businesses were added to the high priority list as a result of business license review. Inspection checklists were updated to track water quality monitoring benchmark exceedances at Industrial General Permit Facilities.

IC3 – The City verifies the implementation of BMPs during inspections, overall the City found good compliance with BMPs at the commercial facilities, with the percentage of facilities implementing appropriate BMPs ranging from 88% to 100% in the tracked categories. Appropriate BMP implementation at industrial facilities was 86%. The City began to include the evaluation of industrial facility benchmark data during 2008-2009.

IC4 – The City continued to implement progressive enforcement through the ERP. During this reporting period the City brought 84 enforcement actions against industrial and commercial businesses; this is about 26% fewer than last year.

IC4 Enforcement



IC 5 – Over the 2010-2011 reporting year 166 individuals from the target audiences identified in the SWMP participated in training that addressed industrial and commercial stormwater issues (including awareness of BMPs and internal reporting and documentation). Training was provided by both the stormwater program and external organizations. Pre and Post training surveys are conducted and results listed demonstrate the effectiveness of the training programs.

5.9 Industrial and Commercial Businesses Program Modifications

The City evaluates the results of the Program Effectiveness Assessment as well as the experience that staff has had in implementing the program. The City also determines if any program modifications are necessary in order to comply with Clean Water Act requirements to reduce the discharge of pollutants to the maximum extent practicable.

The program modifications that will be made to the Industrial and Commercial Businesses Program during the next year include the following:

- IC2
 - The City has added prioritization to the Stormwater Inspection checklist. The database will continue to be updated during the 2011-2012 permit year.
- IC4
 - The City is currently reviewing the ERP and expects that any changes to the ERP will be completed during the 2011-2012 permit year.

6. Construction Program Element

6.1 Overview

The Construction Program Element focuses on ensuring construction activities are performed in such a way as to minimize the pollutants generated and potential for pollutants to enter the storm drain system during all construction phases.

6.2 Control Measures

The City has developed several Control Measures to ensure that the construction program requirements are effectively developed and implemented. For each Control Measure there are accompanying performance standards, which once accomplished, constitute compliance with the Permit requirements. The Construction Control Measures consist of the following:

| ID | Control Measure |
|-----|--|
| CO1 | Construction Program Legal Authority |
| CO2 | Plan Review and Approval Process |
| CO3 | Construction Projects Database |
| CO4 | Pollution Prevention at Capital Improvement Projects |
| CO5 | Construction Site BMP Implementation and Inspection |
| CO6 | Enforcement |
| CO7 | Training |
| CO8 | Effectiveness Assessment Strategy |

In addition to the Control Measures listed above, a number of the activities conducted pursuant to the other program element requirements such as the Public Outreach and Education (Section 3), and Planning and Land Development (Section 7), support the Construction Program Element.

This section of the Annual Report provides information on the specific tasks that have been initiated and/or completed during the reporting period pursuant to the Construction Program Performance Standards and implementation schedules.

6.3 CO1 – Construction Program Legal Authority

The goal of this control measure is to ensure that the City has adequate legal authority to control pollutants from construction sites greater than or equal to one acre in size. In order to have adequate legal authority, the City previously adopted a Grading and Erosion Control Ordinance. Pursuant to this Ordinance, construction activities disturbing more than 50 cubic yards of material and clearing and grubbing more than 0.5 acres are required to obtain a Grading and Erosion Control Permit. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

6.3.1 Revise Erosion and Sediment Control Standards

The City is required to revise the Erosion and Sediment Control Standards to reflect the new Construction General Permit, when adopted, and the City's 2008-2013 Permit to:

- Update Erosion and Sediment Control Best Management Practices (BMPs);
- Consider modifying Erosion and Sediment Control Standards to include references to Section 3 of the California Stormwater Quality Association (CASQA) Construction BMP Handbook for selecting or comparing source control BMPs; and
- Introduce language into the Erosion and Sediment Control Standards that cross-references the City's Grading and Erosion Control Ordinance.

The City's Land Development & Engineering revised the Erosion and Sediment Control Standards as part of the revisions made to the Guidance Manual for New Development and Redevelopment in 2010-2011. This revised manual has not been adopted yet as it is with the Regional Water Board in the public comment period. The revised Erosion and Sediment Control Standards and Guidance Manual have not been approved by the City Council.

Did the City revise the Erosion and Sediment Control Standards?

Yes No Not required this year

6.3.2 Revise Municipal Code

The City is required to review and, if necessary, revise the municipal code to be consistent with the new Construction General Permit and the City's 2008-2013 Permit.

The review and update of the Municipal Code will be performed after the New Guidance Manual is adopted and approved.

- a) Did the City review, and revise if necessary, the Municipal Code for consistency with the new Construction General Permit and the 2008-2013 Permit?

Yes No Not required this year

6.4 CO2 – Plan Review and Approval Process

The Plan Review and Approval Process control measure provides the Stormwater Program with the mechanism to review and approve construction plans that address sediment and erosion controls.

6.4.1 Maintain Community and Economic Development Department (CEDD) Database to Track Plans Reviewed and Selected BMPs

The City is required to maintain the database to track plans reviewed and BMPs implemented at construction sites. The Environmental Compliance Section maintains a database to track plans reviewed and record selected BMP's.

- a) Did the City maintain a database to track plans reviewed and BMPs implemented at construction sites?

Yes No

6.4.2 Review and Sign-off on Grading and Erosion Plans and Stormwater Pollution Prevention Plans (SWPPPs)

The City is required to review and sign-off on grading and erosion plans and Construction SWPPPs, each permit year.

To improve the building permit process and ensure that stormwater plan review occurs with each application for a demolition, grading, or building permit, the Environmental Compliance (EC) Inspector assigned to Land Development Engineering relocated to the 3rd floor of the Building Department area at the end of June 2010. The move was to improve communication during the plan check process. Additionally in January 2011, the Stormwater Construction Inspector discovered sixty-six subdivision land parcels that had expired Construction General Permit coverage. CEDD Land Development was notified and these parcels were tagged in the Tidemark database program so that building permits would not be issued until the project had undergone storm water review, submitted a NOI, SWPPP, and obtained an active WDID #. Nine more parcels without General Construction Permit coverage were discovered and tagged in the Tidemark database in April 2011.

A summary of the grading permits, building permits issued and SWPPPs required and review is provided below. The 2007-2010 numbers are provided for easy reference.

- a) Did the City review and sign-off on grading and erosion plans and Construction SWPPPs?

Yes No

Summary of the Grading Permits Issued and Local SWPPPs Reviewed

| | Number Issued | Number of Applications Requiring Construction SWPPP and Notices of Intent ¹ | Number of Local Construction SWPPPs Reviewed | Number of Local Construction SWPPPs Meeting City Requirements on Initial Submission | Number of Local Construction SWPPPs Meeting City Requirements after Revision |
|------------------|---------------|--|--|---|--|
| Grading Permits | | | | | |
| 2008-2009 | 17 | 11 | 10 | 1 | 10 |
| 2009-2010 | 13 | 9 | 4 | 0 | 4 |
| 2010-2011 | 11 | 5 | 4 | 4 | 4 |
| Building Permits | | | | | |
| 2008-2009 | 3,242 | 11 | 10 | 1 | 10 |
| 2009-2010 | 3,733 | 9 | 18 | 5 | 18 |
| 2010-2011 | 3,795 | 5 | 17 | 16 | 17 |

¹ Multiple permits issued for single development sites. Construction SWPPP provided for single master site
 Notes: Grading and Building Permits are usually combined into one "Building Permit"
 City owned CIP Project SWPPPs and Local SWPPPs are not included in the above numbers because the City does not issue permits for those projects.

6.4.3 Audit Grading Permit Notification Process

The City is required to audit grading notification process to ensure that all grading permits are tracked by the CEDD. Completed in 2009-2010.

Did the City audit the grading notification process to ensure that all grading permits are tracked by the CEDD?

Yes No Not required this year

6.4.4 Review/Revise Plan Review Checklist

The City is required to review, and revise if necessary, the Plan Review Checklist to keep it consistent with the new Construction General Permit.

The City will review and revise the Plan Review Checklist after the New Guidance Manual is adopted and approved (during 2011-2012).

- a) Did the City review, and revise if necessary, the Plan Review Checklist after adoption of the revised Construction General Permit?

Yes No Not required this year

6.4.5 Audit Building Permit Process

The City is required to audit the building permit process to ensure stormwater standards are being reviewed and met. Completed in 2009-2010.

- a) Did the City audit the building permit process to ensure stormwater standards are being reviewed and met?

Yes No Not required this year

6.4.6 Obtain Access to Tidemark for Stormwater Program Staff

The City is required to obtain access to Tidemark for the Stormwater Program staff. Completed in 2009-2010.

- a) Did the City obtain access to Tidemark for the Stormwater Program staff?

Yes No Not required this year

6.5 CO3 – Construction Projects Database

The Construction Projects Database control measure involves tracking construction sites from the planning stage to the final landscaping stage. Maintaining a database to track all stages of the construction process is the foundation of construction-related source identification and helps ensure that pollution prevention and source control are emphasized during all phases of the construction project.

The performance standard for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

6.5.1 Maintain Construction Projects Database

The City is required to maintain the Construction Projects Database. The Construction Projects Database provides an inventory of projects tracking location, contact names, size, discharge location, selected post-construction BMPs, and construction site inspection dates and details. The table below indentifies the number of active projects listed in the Construction Projects Database.

a) Did the City maintain the Construction Projects Database?

Yes No

Construction Sites Tracked in the City’s Database:

| Construction Site Category | Total Number of Active Construction Sites | |
|----------------------------|---|-----------|
| | 2009-2010 | 2010-2011 |
| Private Projects | 53 | 49 |
| Public Projects | 28 | 20 |

6.5.2 Audit Construction Projects Database

The City is required to audit the Construction Projects Inventory database every two years starting in 2010-2011 to ensure that:

- Grading permits and permit issuance dates are recorded;
- The pertinent construction inventory database information (e.g., post-construction BMPs) are transferred to the industrial/commercial/multifamily inventory database; and
- The plan review information is included and relates to the corresponding construction site inspection database.

a) Did the City audit the Construction Projects Database?

Yes No Not required this year

6.6 CO4 – Pollution Prevention at Capital Improvement Projects

The Pollution Prevention at Capital Improvement Projects (CIPs) control measure provides protocols to incorporate pollution prevention during the design and construction phases of CIPs. The City follows the Development Standard and Construction Program requirements for all CIPs and obtains coverage under the Construction General Permit for projects that disturb greater than or equal to one acre of land.

6.6.1 Attend Pre-Construction Meetings

The City’s Land Development and Engineering Environmental Compliance Inspector is required to attend all pre-construction meetings with contractors and CIP inspectors. The City is required to assign a Stormwater Program Construction Inspector to attend these meetings as well.

A summary of the meetings held and attendance by the Land Development Environmental Compliance Inspector and the Construction Stormwater Inspector is provided below. In 2009-2010 the City re-evaluated the need for the Construction Inspector to attend the pre-construction meeting because the it typically occurs before the project SWPPP has been submitted or approved. Without a SWPPP, this meeting is not a productive use of the Construction Inspector’s time and it has been determined that the Stormwater Construction Inspector will only attend the pre-construction sessions if the Land Development Environmental Compliance Inspector can not attend. The Land Development Environmental Compliance Inspector will continue to attend the pre-construction meetings. The Construction Inspector attends tailgate sessions (reported in Section 3 for all projects to review the SWPPPs).

Did the Land Development Environmental Compliance Inspector attend all CIP pre-construction meetings with contractors and CIP inspectors?

Yes No

a) Did the City assign the Stormwater Construction Inspector to attend the CIP pre-construction meetings with contractors and CIP inspectors?

Yes No Only assigned to attend if Land Development Environmental Compliance Inspector is unavailable to attend.

Summary of CIP Pre-Construction Meetings

| | 2009-2010 | 2010-2011 |
|--|-----------|-----------|
| Total Number of CIP Pre-Construction Meetings | 13 | 12 |
| Number Attended by Land Development Environmental Compliance Inspector | 11 | 11 |
| Number Attended by Stormwater Construction Inspector | 0 | 1 |

6.6.2 Review Stormwater Requirements for CIPs with Contractor

The City is required to review with contractors all the applicable stormwater requirements for each CIP.

The City’s Land Development Environmental Compliance Inspector verbally reviews applicable stormwater requirements for each CIP with contractors and developers during the pre-construction meeting.

The City’s Stormwater Construction Inspector reviewed stormwater requirements at tailgate meetings with CIP inspectors and contractors.

- a) Did the City review applicable stormwater requirements for each CIP with the appropriate construction contractor(s) and developer(s)?

Yes No

6.6.3 For CIPs One Acre or Greater, Review CIP Plans for Applicable Requirements to Comply with the Construction General Permit

The City is required to review the CIP plans for all CIPs that are one acre or greater for compliance with the Construction General Permit.

The City’s standard specifications for CIP stipulate compliance with the Construction General Permit. The City’s Land Development Environmental Compliance Inspector reviews all applicable plans for compliance with the Construction General Permit.

- a) For CIPs one acre or greater, did the City review CIP plans for applicable stormwater requirements to comply with the Construction General Permit?

Yes No

Summary of CIPs Reviewed for Stormwater Requirement Compliance

| | 2009-2010 | 2010-2011 |
|---|-----------|-----------|
| Total Number of Active CIPs | 21 | 19 |
| Number of Active CIPs One Acre or Greater | 6 | 7 |
| For Projects One Acre or Greater | | |
| Number of CIP Construction SWPPPs Reviewed | 7 | 2 |
| Number of CIP Construction SWPPPs Meeting City and Construction General Permit Requirements on Initial Submission | 1 | 2 |
| Number of CIP Construction SWPPPs Meeting City and Construction General Permit Requirements After Review/Revision | 1 | 2 |

6.6.4 Incorporate Specifications and Notes in Design Drawings

The City is required to incorporate the Standard Specifications and Notes into design drawings and the review of proposed design drawings to ensure implementation of Development Standards and construction BMPs.

The City has developed Standard Specifications and notes for CIP design drawings that stipulate compliance with the Construction General Permit.

The standard specifications are not on the actual design drawings, but they are in the standard contract for all CIP projects. Design drawings are reviewed for all projects greater than one acre to ensure compliance with the CGP. Design drawings for projects less than one acre are also reviewed for compliance with the City’s Stormwater ordinance.

- a) Did the City incorporate the standard specifications and notes into design drawings and the review of proposed design drawings to ensure implementation of Development Standards and construction BMPs?

Yes No

6.6.5 Update Standard Contract Language to Require BMPs for Applicable Projects

The City is required to update its standard contract language after the Construction General Permit is adopted, if necessary, to ensure the appropriate Construction BMPs are required for CIPs.

Completed in 2009-2010 for small (less than one-acre) and large CIP projects.

Did the City, upon adoption of the Construction General Permit, update standard contract language, to ensure that appropriate BMPs are required for all CIPs?

Yes No Not required this year

6.6.6 Inspect CIP Construction Sites and Take Enforcement Actions

The City is required to inspect CIP construction sites to ensure compliance with SWPPPs and to take appropriate enforcement action, if necessary. A CIP construction inspector is assigned to the project and oversees all the construction related activities on site. If the CIP construction inspector reports non-compliance with stormwater requirements to the Stormwater Program, then an inspection is conducted by the Stormwater Construction Inspector and the appropriate enforcement actions are taken. At a minimum, the Stormwater Construction Inspector inspects active CIP construction sites semi-monthly during the wet season and monthly during the dry season. However, the Construction General Permit Order #2009-0009-DWQ effective July 1, 2010 no longer designates wet or dry season in reference to inspection frequency. The City suggests revising the inspection frequency to semi-monthly for all sites year around.

The update of the CIP standard contract language (see Section 6.6.5 and **Appendix F-1**) included provisions for penalizing CIP contractors for failure to comply with the provisions of the contract.

A summary of CIP construction sites (one acre or greater) inspections and enforcement action is provided below.

- All CIPs greater than one acre were inspected. Also one CIP less than one acre was inspected due to a complaint from the City CIP Inspector.
- Of the nine sites inspected, one site was given two Notices of Violation (NOV) and referral was made to the RWQCB

Did the City inspect CIP construction sites to ensure that SWPPPs are being followed and take appropriate enforcement actions, if necessary to address non-compliance?

Yes No

Summary of CIP Construction Site Inspections

| | 2009-2010 | 2010-2011 |
|--|-----------|-----------|
| Number of Active CIP Sites Greater than or Equal to One Acre | 12 | 7 |
| Number of CIP Construction Sites Inspected | 17 | 9 |
| Number of CIP Construction Sites Complying With SWPPPs | 14 | 8 |

Summary of CIP Construction Site Enforcement Actions

| Type of Enforcement Action | 2009-2010 | 2010-2011 |
|----------------------------------|-----------|-----------|
| Administrative | | |
| Verbal Warning | 4 | 0 |
| Field Notice of Violation | 0 | 2 |
| Administrative Compliance Order | 0 | 0 |
| Stop Work Order | 0 | 0 |
| Legal Actions | | |
| Citations | 0 | 0 |
| Misdemeanors | 0 | 0 |
| Total Enforcement Actions | 4 | 2 |

6.7 CO5 – Construction Site BMP Implementation and Inspection

This Control Measure focuses on inspection of construction sites and the proper implementation of construction site BMPs. The goals of this Control Measure are accomplished through the combined approach of:

- Educating contractors about sources of stormwater pollutants and the needs and requirements to implement BMPs for different construction-related activities;
- Reviewing grading, erosion control plans and building plans to ensure that stormwater controls have been adequately considered; and
- Ensuring through inspection and enforcement that contractors have a construction site SWPPP and are implementing the identified BMPs.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

6.7.1 Alert Stakeholders when the CASQA SWPPP Template is Revised

The City is required to alert stakeholders when the CASQA SWPPP template is updated after the adoption of the revised Construction General Permit.

The Construction General Permit Order #2009-0009-DWQ became effective on July 1, 2010. The City verbally informed City staff, developers, and contractors of the revised CASQA SWPPP outline and referred to the CASQA document on plan check review transmittal letters. The City plans to formally notify the construction and development community through an updated fact sheet once the New Guidance Manual is adopted and approved.

Did the City alert City staff and contractors when the CASQA SWPPP template was updated after adoption of the revised Construction General Permit?

Yes only verbally though No Not required this year

6.7.2 Track Construction Site Compliance

The City is required to use the Construction Projects Database to track compliance and enforcement at construction sites.

- a) Did the City use the Construction Projects Database to track compliance and enforcement at construction sites?

Yes No

6.7.3 Review/Revise Standard Construction Site Inspection Checklist

The City is required to review, and revise if necessary, the Standard Construction Site Inspection Checklist after the adoption of the revised Construction General Permit.

The Construction General Permit Order #2009-0009-DWQ became effective on July 1, 2010. The City reviewed the standard construction site checklist and revised it on March 24, 2011 to include the following: Permit Active/Current, SWPPP on site, Inspection records on site, NOAA Forecast on site, sampling records on site, and Risk Level 2/3 REAPs. An example of this revised Standard Construction Site Inspection Checklist is included in **Appendix F-2**.

- a) Did the City review, and revise if necessary, the Standard Construction Site Inspection Checklist after the adoption of the revised Construction General Permit?

Yes No Not required this year

6.7.4 Maintain Construction Inspection Database

The City is required to maintain the Construction Inspection Database.

The Construction Inspection Database tracks the construction site inspection activities including the violations noted and the corrective actions taken.

- a) Did the City maintain the Construction Inspection Database?

Yes No

6.7.5 Audit Construction Inspection Database

The City is required to audit the Construction Inspection Database to ensure accuracy of the records.

The inspection database is audited on an on-going basis to ensure the accuracy of the information.

- a) Did the City audit the Construction Inspection Database to ensure the accuracy of inspection records?

Yes No Not required this year

6.7.6 Inspect High Priority Sites

The City is required to inspect high priority sites according to the following schedule:

- Inactive and stabilized construction sites – once per month during the wet and dry season
- Construction sites discharging to Dry Creek or the Tuolumne River – biweekly during the wet season and monthly during the dry season
- Other construction sites – monthly during the wet season and once during the dry season

All construction sites one acre or greater are designated as high priority and they are inspected as noted above to ensure that they are in compliance with the City's Ordinances and applicable standards. Additional inspections are conducted as time allows or as a follow-up if violations were present during the previous inspection.

The City plans to revise the frequency of construction site inspections to align with the Construction General Permit Order #2009-0009-DWQ that became effective on July 1, 2010. The new permit no longer designates sites as high or low priority; instead sites are assigned Risk Levels (1, 2, or 3) in determining the inspection frequency, site requirements, etc. The new permit also no longer designates wet or dry season. Low priority sites will then be brought into the inspection frequency specified above.

A summary of high priority construction site inspections is provided below. The numbers for the previous reporting period are provided for easy reference.

At high priority projects over one acre, the City identified 13 incidences of non-compliance with BMPs during routine inspections, which included:

- Three verbal warnings
 - Nine Notices of Violations (NOVs)
 - One Citation
 - One Stop Work Order
 - Four referrals to the Regional Water Quality Control Board (RWQCB)
- a) Did the City inspect high priority construction sites that are inactive and stabilized construction sites – once per month during the wet and dry seasons
 Yes No
- b) Did the City inspect high priority Construction sites discharging to Dry Creek or the Tuolumne River – biweekly during the wet season and monthly during the dry season?
 Yes No
- c) Did the City inspect high priority other construction sites – monthly during the wet season and once during the dry season?
 Yes No

Summary of High Priority Construction Site Inspections

| Type of Activity | 2008-2009 | 2009-2010 | 2010-2011 |
|---|-----------|-----------|-----------|
| Number of High Priority Construction Sites (active and inactive/stabilized) ¹ | 55 | 44 | 29 |
| Number of High Priority Construction Sites in Compliance with City-required Construction BMPs | 55 | 44 | 29 |
| Number of Regular Inspections Conducted | 794 | 594 | 285 |
| Number of Follow-up Inspections Conducted | 15 | 11 | 13 |
| Number of High Priority Construction Sites in Compliance with BMPs During Regular Inspections | 55 | 29 | 29 |

¹ Total includes CIPs and private projects

6.7.7 Inspect Low Priority Sites

The City is required to inspect low priority sites as needed on a complaint basis.

A summary of low priority construction site inspections is provided below. The numbers for the previous reporting period are provided for easy reference.

All construction sites less than one acre in size with pollutant generating activities are designated as low priority and inspected on an as-needed basis.

- a) Did the City inspect low priority construction sites on an as-needed complaint basis?

Yes No

Summary of Low Priority Construction Site Inspections

| Type of Activity | 2008-2009 | 2009-2010 | 2010-2011 |
|--|-----------|-----------|-----------|
| Number of Active Low Priority Construction Sites ¹ | 53 | 37 | 43 |
| Number of Low Priority Construction Sites in Compliance with City-required Construction BMPs | 38 | 31 | 43 |
| Number of Initial Inspections Conducted | 38 | 14 | 5 |
| Number of Follow-up Inspections Conducted | 5 | 7 | 2 |

¹ Total includes CIPs and private projects

6.7.8 Coordinate with Building Inspectors to Report Stormwater-Related Violations

The Stormwater Program is required to coordinate with the Building Department to help ensure consistency in notification to the Stormwater Program regarding potential stormwater violations at construction sites.

Building inspectors inspect all construction projects requiring a building permit. The City Environmental Compliance Inspector conducted training of the City's Building Department and Neighborhood Preservation Unit (NPU) staff in October 2010. The City plans to conduct additional training after the New Guidance Manual is adopted and approved.

- a) Did the City coordinate with the Building Department to encourage building inspectors to report potential stormwater-related violations at construction sites to the Stormwater Program?

Yes No

6.8 CO6 – Enforcement

The Enforcement control measure and accompanying legal authority to execute it are important tools for providing a fair and equitable approach to bringing contractors and developers into compliance with Municipal Code requirements. Enforcement actions may include issuance of verbal warnings, NOVs, administrative citations, and/or stop work orders. A referral policy is in place to notify the Regional Water Quality Control Board (RWQCB) of repeat violators, first violations at high risk sites, or contractors that have not filed appropriate applications for Construction General Permit coverage.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

6.8.1 Implement Enforcement Response Plan

The City is required to continue implementing the Enforcement Response Plan (ERP).

The City continues to implement the 2004 ERP. A summary of the numbers and types of enforcement actions taken during this reporting period is provided below. This table does not include the enforcement actions taken at CIPs, which are reported in Section 6.6.6 of this Annual Progress Report. The numbers for the previous reporting period are provided for easy reference.

- a) Did the City implement the ERP?

Yes No

Summary of Enforcement Actions Taken During the Reporting Period

| Enforcement Action ¹ | 2008-2009 | 2009-2010 | 2010-2011 |
|----------------------------------|-----------|-----------|-----------|
| Administrative Remedies | | | |
| Verbal Warnings | 12 | 7 | 3 |
| Field Notice of Violation | 16 | 8 | 9 |
| Administrative Compliance Orders | 0 | 0 | 0 |
| Stop Work Orders | 2 | 1 | 2 |
| Legal Action | | | |
| Citations | 1 | 1 | 1 |
| Misdemeanors | 0 | 0 | 0 |
| Other | 0 | 0 | 0 |
| Total Enforcement Actions | 31 | 17 | 15 |

¹ Excludes CIP enforcement, see Section 6.6.6 for these numbers.

6.8.2 Modify Enforcement Response Plan to Evaluate Triggers, Referral Processes, and Establish Non-Compliance Deterrent

The City is required to modify the ERP to establish a clear and consistent enforcement policy that serves as a deterrent and recovers the City's costs in bringing the enforcement action.

The City reviews the ERP and evaluates the enforcement triggers on an on-going basis and determined that modifications were not necessary.

- a) Did the City modify the ERP to establish a clear and consistent enforcement policy that serves as a deterrent and recovers the City's costs in bringing the enforcement action?

Yes No Not required this year

- b) Did the City evaluate the enforcement triggers and referral processes of the ERP?

Yes No Not required this year

6.8.3 Refer Appropriate Construction Violations to Regional Water Quality Control Board

The City is required to refer appropriate construction site violations to the RWQCB in writing within 30 days after a third-level enforcement or significant violation in the ERP is issued or when it is determined that a site should obtain Construction General Permit coverage (non-filers).

The City refers construction sites to the RWQCB within the 30-day time period as required. Some referrals vary from this schedule due to the nature of the violation and type of response involved.

A new Construction General Permit Order #2009-0009-DWQ became effective on July 1, 2010. This new permit required that open and active construction projects needed to obtain "grandfathering" by recertifying under the old permit or obtain an erosivity waiver by July 30, 2010 or their permit coverage would expire and be terminated. In August 2010 while reviewing the State's SMARTS database program, the City Stormwater Construction Inspector determined that the following 8 construction project's permit status changed from active to expired effective July 30, 2010.

- **Andrea Estates**
- **Krishnamoorthi Medical Office Building**
- **The Bridges Business Park phase I & II**
- **Cambrooke Estates**
- **Graham Estates**
- **Hope Village**
- **Rose Villas**
- **Crows Landing Marketplace**

On August 25, 2010, the Construction Inspector notified all of these projects by sending or hand-delivering letters of non-compliance informing them of their expired permit status and that they were required to obtain permit coverage before construction activity could resume or continue. An example of this letter of non-compliance is included in **Appendix F-3**. The State extended the permit coverage expiration deadline to August 31, 2010. On September 2, 2010, all project's permit status that had been listed as expired was revised to terminated. The State extended the permit coverage recertification deadline for terminated projects to October 18, 2010.

With the City's notification of non-compliance and assistance, the Andrea Estates, Graham Estates, and Krishnamoorthi Medical Office Building projects were able to recertify before their project termination occurred.

Crows Landing Marketplace did not recertify, was stabilized, and remained terminated.

Rose Villas recertified, but no construction activity has begun to date.

Cambrooke Estates was referred to RWQCB because it met the new permit coverage criteria of being "part of a common plan of development."

In January 2011, the City Stormwater Construction Inspector discovered that the Hope Village project was actively working without a valid permit, issued a Stop Work Order, and referral was made to the RWQCB.

In November 2010, the City again verbally informed The Bridges project about its terminated permit status and directed that construction activity stop. In January, 2011, the City issued a NOV to The Bridges project, directed that all construction activity stop until permit coverage was obtained, and referral was made to RWQCB. In February 2011, the City issued a Stop Work Order to The Bridges, and referral was made again to RWQCB.

The tables below summarize the number of referrals that were made during the reporting period and details for each referral.

a) Did the City refer appropriate construction site violations to the RWQCB?

Yes No

Summary of the Number and Type of Referrals Made During the Reporting Period

| Cause of Referral | 2008-2009 | 2009-2010 | 2010-2011 (See the detailed summary below) |
|--|-----------|-----------|---|
| Three Significant Violations | 0 | 0 | 3 |
| Potential Non-Filers | 2 | 1 | 4 |
| Significant Violation at High Risk Site in Flood Plain or Proximity to Receiving Water | 1 | 0 | 0 |

Summary of Referral Details

| Site Description (list name/location of site) | Progressive Enforcement Actions Taken (list actions taken by City prior to referral) | Date of Referral to RWQCB |
|---|--|----------------------------------|
| Three Significant Violations | | |
| MJC East Campus New Student Services Building (DSA) | NOV 8/2/2011 | 8/4/2010 |
| The Bridges Business Park Phase I & II (construction without active Permit) | Warning 4/7/2010, Warning 6/29/10, NOV 7/8/2010, Citation 7/26/2010 | Not referred |
| Downstream Water System Imp Tier 1 North Tank Mains | NOV 1/21/2011, NOV 3/3/2011 | 3/17/2011 |
| Non-Filers | | |
| Cambrooke Estates, 2721 Fine Avenue (construction without active Permit) | NOV 12/27/2010 | 12/27/2010 |
| Hope Village, 0 Houser Lane (construction without active Permit) | NOV 1/11/2011 | 1/12/2011 |
| The Bridges Business Park Phase I & II (construction without active Permit) | NOV 1/20/2011 | 1/20/2011 |
| | Stop Work Order 2/9/2011 | 2/9/2011 |
| Significant Violation at High Risk Site in Flood Plain or Proximity to Receiving Water | | |
| None | NA | NA |

6.8.4 Audit Construction Inspection Database for Accuracy

The City is required to audit the Construction Inspection Database every two years to ensure accuracy of enforcement action records.

This audit is coordinated with the audit noted in Section 6.7.5 of this annual report. The inspection database is audited on an on-going basis to ensure the accuracy of information.

- a) Did the City audit the Construction Inspection Database to ensure accuracy of enforcement action records?
 Yes No Not required this year

6.8.5 Develop Enforcement Process for City-Operated Projects

The City is required to develop a fair and consistent enforcement process to remove potential conflicts of interest for City-operated projects.

City Stormwater Construction Inspectors provided verbal information on stormwater requirements and enforcement at the preconstruction meetings, weekly construction project meetings as requested by CIP construction inspection staff, and at tailgate sessions at City-operated projects as necessary. Contract language was revised in 2009-2010 to provide the enforcement process for city-owned projects.

- a) Did the City develop a fair and consistent enforcement process to remove potential conflicts of interest for City-operated projects?
 Yes No Not required this year

6.9 CO7 – Training

The Training control measure is important to successful implementation of the Construction Program Element. An effective training program is one of the best pollution prevention BMPs that can be implemented because it prompts behavioral changes that are fundamentally necessary to protecting and improving water quality.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below. The training formats used may include field demonstrations, classroom, or tailgate sessions.

Areas of Focus for the Construction Program Training

| Target Audience | Topics for Audience |
|---|--|
| Public Works design staff, building inspectors, construction inspectors, and stormwater construction inspectors | Erosion and Sediment Control BMPs Development Standards Construction General Permit Construction BMP requirements |
| Community and Economic Development | General stormwater quality issues at construction sites Construction BMP implementation Information to be recorded on inspection forms Notification procedure for stormwater violations to the Stormwater Program |

6.9.1 Conduct Training

The City is required to conduct training for key staff involved in the construction program. Key staff and training topics are identified above.

A summary of the training sessions conducted for key staff is provided below. Internal training modules and external training are listed. The City’s ECS Regulatory Compliance Administrator, ECS Inspectors, CEDD Environmental Compliance Inspector, and Utility Planning & Project’s Assistant Civil Engineer completed CASQA Qualified SWPPP Practitioner/Qualified SWPPP Developer (QSP/QSD) training in 2011. City employees took the State Water Board QSP/QSD exam in 2011: four employees successfully passed the QSP portion and three employees successfully passed the QSD portion. A summary of the Pre-training and post-training surveys conducted for the internal module is provided below to gauge the effectiveness of this training module.

a) Did the City conduct training for key staff involved in the Construction Program?

Yes No Not required this year

Summary of Training Sessions Conducted for Key Staff

| Date of Training | Title of Training Module | Number of Attendees | Target Audience | City Departments or Divisions |
|--------------------------|---|----------------------------|---|--|
| <i>External Training</i> | | | | |
| 10/12/10 | Stormwater Training for Municipal Operations (Building Inspection and NPU) | 9 | Building Department Inspectors, Neighborhood Preservation Unit (NPU) Code Enforcement Officers, Plan Checkers | Public Works Building Safety, Neighborhood Preservation Unit (NPU) |
| 12/2/10 | Stormwater Training for Municipal Operations (CIP Inspection) | 8 | CIP Construction inspectors | Public Works Construction Administration |
| <i>Internal Training</i> | | | | |
| 11/17/10 | Webinar: Stormwater Compliance on a Construction Site...What Everyone Should Know | 9 | ECS Inspectors | Public Works Environmental Compliance |
| 3/15/11 | Webinar: Track-Out: Construction's Most Costly BMP | 8 | ECS Inspectors | Public Works Environmental Compliance |
| 3/15/11-3/17/11 | WGR: Qualified SWPPP Developer/Qualified SWPPP Practitioner | 2 | ECS Inspectors | Public Works Environmental Compliance |
| 5/9/11-5/11/11 | ENPLAN: Qualified SWPPP Developer/Qualified SWPPP Practitioner | 5 | Utility Planning & Project's staff, plan review staff, ECS inspectors | Public Works Environmental Compliance, CEDD (Land Development), Utility Planning & Project's |

Summary of Training Survey Performance

| Training Module Title and Date | Total Number of Surveys Completed | Average Pre-Training Survey Score | Average Post-Training Survey Score | % Difference between pre- and post- training Average |
|---------------------------------------|--|--|---|---|
| 10/12/10 | 9 | 83% | 100% | 17% |
| 12/2/10 | 8 | 47.5% | 82.5% | 35% |

6.9.2 Review/Revise Training Strategy

The City is required to review its training strategy annually and update it as needed. Key considerations during the review and revision process include target audiences, expertise necessary, key message, existing modules, external opportunities for training, and the frequency at which the training should be provided.

The City reviews its training strategy on an on-going basis after each conducted training to assess the effectiveness of the message. After review, the City identified a need to add a module to its training program in order to provide information about the new SWPPP and BMP requirements of the new Construction General Permit that became effective July 1, 2010. City Stormwater inspection staff all plan to complete training and obtain registration as CASQA Qualified SWPPP Practitioner/Qualified SWPPP Developers (QSP/QSD).

- a) Did the City review the training strategy as necessary?
 Yes No Not required this year
- b) Did the City revise the training strategy if necessary?
 Yes No Not required this year

6.10 CO8 – Construction Program Effectiveness Assessment

The Effectiveness Assessment Strategy control measure is used to determine whether the Program Elements are achieving intended outcomes and ultimately, whether continued implementation will result in maintaining or improving water quality (CASQA, 2007). Outcome levels are used to categorize and describe the desired results of goals of the control measures and Program Elements. There are six outcome levels as defined by the CASQA Program Effectiveness Assessment Guidance.

This part of the Annual Progress Report assesses the effectiveness of the Construction Program and related control measures to determine their effectiveness and identify necessary modifications. Although the effectiveness assessment may change from year to year as new information is learned, the assessment will initially focus on Outcome Levels 1-4. Table 6-15 of the SWMP identifies the effectiveness assessment questions required for the Construction Program.

Summary of Assessment Levels Planned for the 2008-2013 Permit Term

| Control | Level 1 | Level 2 | Level 3 | Level 4 |
|--|-------------------|--------------------|-----------------|----------------|
| | Implement Program | Increase Awareness | Behavior Change | Load Reduction |
| CO1 – Construction Program Legal Authority | ✓ | | | |
| CO2 – Plan Review and Approval Process | ✓ | | ✓ | |
| CO3 – Construction Projects Database | ✓ | | | |
| CO4 – Pollution Prevention at Capital Improvement Projects | ✓ | ✓ | ✓ | |
| CO5 – Construction Site BMP Implementation and Inspection | ✓ | | ✓ | |
| CO6 – Enforcement | ✓ | | ✓ | |
| CO7 – Training | ✓ | ✓ | | |

CO1 – The City has legal authority to control pollutants from construction sites through its Grading and Erosion Control Ordinance. This Ordinance requires that construction activities disturbing more than 50 cubic yards of material and clearing and grubbing more than 0.5 acres are required to obtain a Grading and Erosion Control Permit. In 2010-2011, the City updated the Erosion and Sediment Control Standards to amend construction definitions to include demolitions as part of the revisions made to the Guidance Manual for New Development and Redevelopment. These revisions were made in order to reflect the new Construction General Permit requirements that became effective July 1, 2010. The City did not update the Municipal Code, but plans to update it in 2011-2012 after the New Guidance Manual is adopted and approved.

CO2 – The City maintained its Construction Projects database, and reviewed 19 SWPPPs. Following the City's review, one SWPPP that did not meet City requirements was successfully modified so that all 19 SWPPPs met the requirements. The City did not update the Plan Review Checklist, but plans to update it in 2011-2012 after the New Guidance Manual is adopted and approved. The City Stormwater Construction Inspector discovered 75 subdivision land parcels that had expired Construction General Permit coverage and tags were placed on these parcels in the Building Department's Tidemark database to ensure that building permits were not issued until they had undergone stormwater plan review and obtained Construction General Permit coverage.

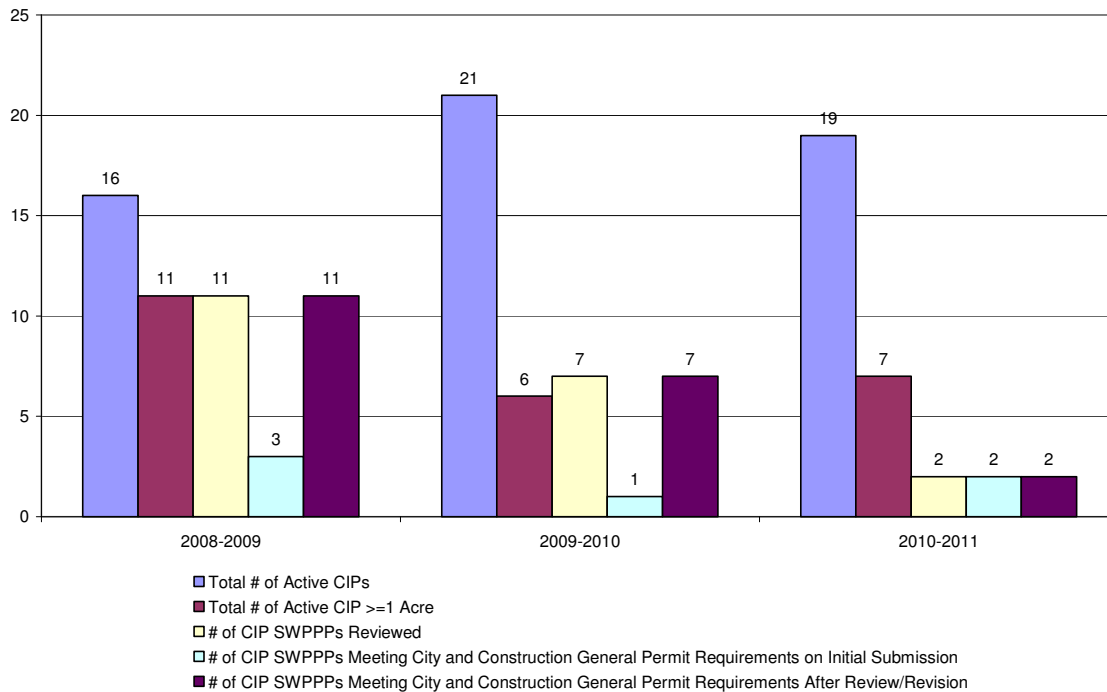
CO3 – The City maintained its Construction Projects database, tracking 49 private projects and 20 public projects.

CO4 – A City staff member attended all 12 CIP pre-construction meetings to inform the project developer/contractor of stormwater requirements. The Land Development Environmental Compliance Inspector attended 11 meetings and the Stormwater Construction Inspector attended the other one meeting. The City Environmental Compliance Inspectors coordinated with each other to ensure that every CIP pre-

construction meeting was attended by Stormwater staff to ensure that every meeting was attended.

The City reviewed two SWPPPs for CIPs that are one acre or greater in order to ensure compliance with the Construction General Permit. All of these SWPPPs met the requirements on initial submission and were confirmed to be in compliance. The City inspected 9 sites to ensure compliance with the SWPPPs and issued two Notices of Violations (NOVs). CIP sites were inspected semi-monthly during the wet season and monthly during the dry season.

C04 Active CIP Construction Sites and Submittals of SWPPPs

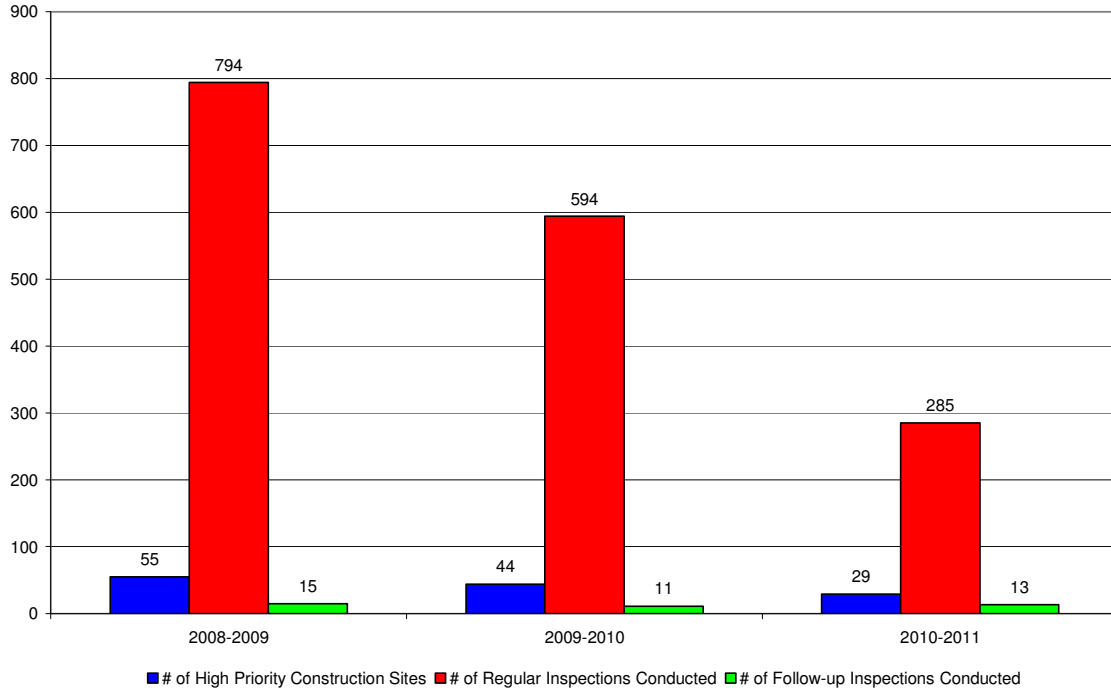


C05 – The City verbally informed City staff, developers, and contractors of the revised CASQA SWPPP outline and referred to the CASQA document on plan check review transmittal letters. The City plans to notify the construction and development community through an updated fact sheet once the New Guidance Manual is adopted and approved in 2011-2012. The City updated the standard Construction Site Inspection Checklist to reflect the New Construction General permit requirements. The City maintained its construction inspection database and audited it on an ongoing basis to ensure its accuracy. The City conducted 285 construction site inspections at 29 high priority sites. Low priority projects were inspected on a complaint basis, with 5 inspections conducted and two follow-up inspections conducted. The new Construction General Permit eliminated the designation of wet or dry season and high or low priority sites; instead sites are designated by Risk level (1, 2, 3) in determining inspection frequency, site requirements, etc.

The City plans to revise the frequency of construction site inspections to align with the new Construction General Permit to conduct inspections at a minimum of bi-weekly regardless of wet or dry season. The City conducted training of the City’s building inspectors and code enforcement officers to ensure consistency in notification of the

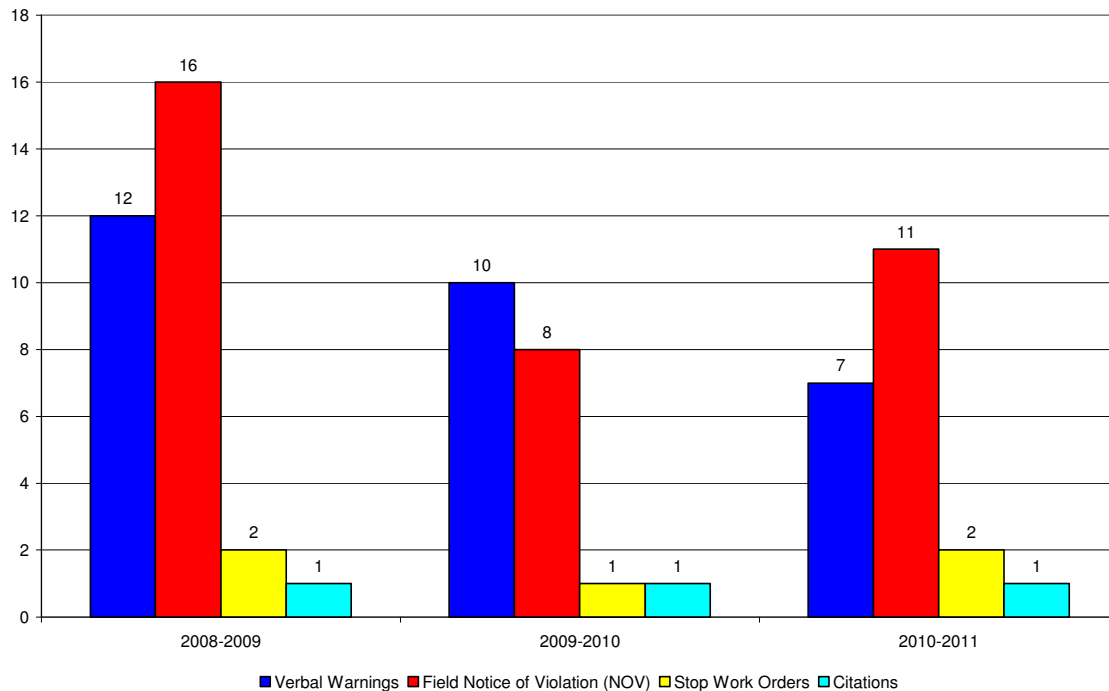
Stormwater Program regarding potential stormwater violations at construction sites and throughout the City.

C05 Construction Site BMP Implementation and Inspection (High Priority)



CO6 – The City continued to implement progressive enforcement through the ERP. During 2010-2011, the City brought 15 enforcement actions against construction projects. The City Stormwater staff discovered construction projects with expired/terminated Construction General Permit status due to the failure to meet the requirements of the New Construction General Permit that became effective July 1, 2010. The City sent letters of non-compliance to these projects in order to inform them of their inactive permit status, assist them in obtaining coverage, and 3 projects were able to recertify before the deadline. The City issued Stop Work Orders and referred to the RWQCB 2 projects with inactive permit status that continued to perform active construction. The City referred 1 project to RWQCB that met the new permit coverage criteria of being “part of a common plan of development.” Stormwater Construction Inspectors and the LDE Environmental Compliance Inspector coordinated efforts with RWQCB staff in order to achieve compliance at these projects. Stormwater construction inspectors provided verbal information on stormwater requirements and enforcement at preconstruction meetings, weekly meetings as requested, and at tailgate meetings at City-operated projects as necessary. The City provided increased enforcement as necessary for city-owned projects.

C06 Construction Enforcement Actions



CO7 – In 2010-2011, the total number of attendees at training sessions was 41. Training was provided by both the stormwater program and external organizations. City Stormwater inspection staff plan to complete training and obtain registration as CASQA Qualified SWPPP Practitioner/Qualified SWPPP Developers (QSP/QSD).

6.11 Construction Program Modifications

The City evaluates the results of the Program Effectiveness Assessment as well as the experience that staff has had in implementing the program. The City also determines if any program modifications are necessary in order to comply with Clean Water Act requirements to reduce the discharge of pollutants to the maximum extent practicable.

The program modifications that will be made to the Construction Program during the next year include the following:

- CO1 –
 - Update the Municipal Code through City Council action.
- CO2 –
 - Update the Plan Review Checklist.
- CO3 –
 - Continue to maintain the Construction Projects database and tracking system.
- CO4 –
 - Increase CIP sites inspection frequency to align with the new General Permit requirements based on Risk Level designation.

- CO7 –
 - Continue to focus stormwater program on “training the trainer” to ensure all staff is being effectively trained within their respective organizations.
 - Train all stormwater staff and obtain registration as CASQA Qualified SWPPP Practioner/Qualified SWPPP Developer.

7. Planning and Land Development Program Element

7.1 Overview

The Planning and Land Development Program Element ensures that the impacts from new development on stormwater quality are limited through implementation of site planning, design practices and post-construction controls. The general strategy for development is to avoid, minimize, and mitigate the potential adverse impacts to stormwater. Long-term stormwater impacts from development can also be reduced by requiring ongoing operation and maintenance of selected post-construction treatment controls.

The City has developed a comprehensive program to establish the necessary policies and procedures in order to reduce pollutants in stormwater runoff from new development. As a part of this program, the City will propose modifications to the General Plan for additional stormwater quality principles, the project approval process, and establish development standards (Section 7 of the SWMP). Additional information is included within each of the Program Control Measures.

7.2 Control Measures

The City has developed several Control Measures to ensure that the planning and land development program requirements are effectively developed and implemented. For each Control Measure there are accompanying performance standards which, once accomplished, constitute compliance with the 2008-2013 Permit requirements.

The Planning and Land Development Control Measures consists of the following:

| ID | Control Measure |
|-----|---|
| LD1 | Incorporation of Water Quality Protection into City Procedures and Policies |
| LD2 | New Development Standards |
| LD3 | Plan Review Signoff |
| LD4 | Maintenance Agreement and Transfer |
| LD5 | Training |
| LD6 | Effectiveness Assessment Strategy |

In addition to the Control Measures listed above, activities conducted pursuant to the Public Education and Outreach (Section 3), Construction (Section 6), and other Stormwater Program elements also support and provide guidance for the Planning and Land Development Program.

This section of the Annual Report provides information on the specific tasks that have been initiated and/or completed during the reporting period pursuant to the Planning and Land Development Program Performance Standards and implementation schedules.

7.3 LD1 – Incorporation of Water Quality Protection into Procedures and Policies

This Control Measure ensures the consideration of water quality and watershed management in land development by incorporating them into the City's General Plan and Master Environmental Impact Report.

Integration of stormwater quality and watershed principles into the City's General Plan can serve as the basis for directing future planning and development in order to minimize the negative impacts of urban development on the aquatic environment. In addition, the CEQA process should provide for consideration of water quality impacts and provide for appropriate mitigation measures.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

7.3.1 Revise General Plan

The City is required to revise the General Plan to incorporate watershed management and water quality protection principles in the following sections:

- Land Use – (Chapter III)
- Housing – (Chapter IV)
- Conservation – (Chapters IV and V)
- Open Space – Chapter (VII)

The General Plan contains policies that address how the City will direct development efforts, with consideration for social, economic, and environmental impacts. The City also recognizes that opportunities exist to address and further develop water quality and watershed protection principles when the General Plan is modified.

In October 2008, the City Council updated and certified the General Plan and associated Master Environmental Impact Report (EIR). Section V.E of the General Plan and Sections V.9.1 and V.10.1 of the Master EIR were updated to address provisions of the 2002-2007 Permit. The full General Plan and Master EIR are available on the City's web site at http://www.modestogov.com/ced/documents/planning_general-plan-meir.asp. The next update is planned for 2012-2013, after the new development standards are revised and adopted.

a) Did the City revise the General Plan?

Yes No Not required this year

The Environmental Compliance Inspector II assigned to the Land Development Engineering Division is currently working with a Principal Planner from the Planning Division to review the General Plan language to ensure that it adequately addresses Water Quality and Watershed Principles in Land Development. The General Plan Housing Element is scheduled to be updated in 2012/2013. This update will include any necessary revisions to the General Plan language.

7.3.2 Review/Revise Master Environmental Impact Report

The City is required to review the Master EIR to ensure that impacts on stormwater and non-stormwater runoff are adequately considered. The Master EIR for the Modesto Urban Area General Plan revision was certified along with the General Plan update in October 2008.

- a) Did the City review the current Master EIR to ensure that impacts on stormwater and non-stormwater runoff are adequately considered?
 Yes No Not required this year

The Master EIR will be revised, as necessary, along with the Urban Area General Plan in the 2012 / 2013 update.

7.3.3 Review/Revise CEQA Documents

The City is required to review/revise CEQA documents in order to determine what potential impacts a proposed development project could have on the environment.

The CEQA Initial Study Template and Environmental Assessment Form of the Master EIR were revised to incorporate consideration for stormwater quality impacts and appropriate mitigation in October 2008.

- a) Did the City review the CEQA checklist to determine if it adequately addresses the above areas?
 Yes No Not required this year

The CEQA Initial Study Template and Environmental Assessment Form of the Master EIR will be revised, as necessary, in the 2012/ 2013 update of the Urban Area General Plan.

7.3.4 Provide Draft General Plan Amendments to the Regional Water Board

The City is required to provide the Regional Water Board with draft General Plan Revisions.

- a) Did the City provide draft General Plan amendments to the Regional Water Board?
 Yes No Not required this year

The City did not amend the General Plan this program year. The General Plan is scheduled to be updated in 2012 / 2013.

7.4 LD2 – New Development Standards

The New Development Standard control measure ensures that effective post-construction controls are required during the planning stages for development projects that pose potential water quality threats.

The current development standards were adopted in July 2001, and the Guidance Manual was adopted in July 2002. These documents will be updated during this permit term to meet the expanded requirements of the 2008-2013 permit.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

7.4.1 Convene Guidance Manual Revision Stakeholder Group

The City is required to convene stakeholder group for the purpose of revising the City’s Guidance Manual for New Development Stormwater Quality Control Measures to incorporate LID strategies.

- a) Did the City convene stakeholder group for the purpose of revising the City’s Guidance Manual for New Development Stormwater Quality Control Measure to incorporate LID strategies?

Yes No Not required this year

The City held one Stakeholders Meeting to finalize comments on the Guidance Manual update.

Summary of Internal and External Stakeholder Meetings

| Date of Meeting | Type of Stakeholders |
|-----------------|---|
| August 2, 2010 | Internal <input type="checkbox"/> External <input type="checkbox"/> Both <input checked="" type="checkbox"/> City, LWA & Stakeholders Group |

7.4.2 Select a Standard to Require LID Strategies

As an outcome of the stakeholder meetings, the City is required to select a standard to require the implementation of LID strategies in new development projects.

- a) Did the City select a standard for LID strategies in new development?

Yes No Not required this year

7.4.3 Revise City Guidance Manual

The City is required to revise the City’s Guidance Manual for New Development Stormwater Quality Control Measure to incorporate LID strategies.

The Guidance Manual for New Development Stormwater Quality Control Measures (Guidance Manual) and Standard Specifications are the means used to ensure that effective post-construction BMP controls are considered and incorporated during the planning process for Capital Improvement Plan projects and private projects.

- a) Did the City revise the City’s Guidance Manual for New Development Stormwater Quality Control Measure to incorporate LID strategies?

Yes No Not required this year

The City’s Guidance Manual for Development Stormwater Quality Control Measures has been revised to incorporate LID strategies. Stormwater treatment and source control sections have also been updated. The revised Guidance Manual is currently under review by the Regional Water Quality Control Board. Once the Board has approved the updated Guidance Manual, it will go to Modesto City Council for adoption. Following adoption by City Council, the updated Guidance Manual will be implemented.

7.4.4 Review/Revise Standard Specifications

The City is required to review, and revise if necessary, Standard Specification sections affected by changes in the Guidance Manual, and revised Construction and Industrial General Permits, when adopted.

- a) Did the City review, and revise if necessary, the Standard Specification sections affected by changes in the 2008-2013 permit, and revise Construction and Industrial General Permits, when adopted?

Yes No Not required this year

7.5 LD3 – Plan Review Sign-Off

The Plan Review Sign-off control measure ensures that stormwater quality controls are considered throughout the development plan review and approval process. The City must conduct comprehensive reviews of development plans in order to ensure that development projects properly address stormwater BMPs.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

7.5.1 Provide Environmental Compliance Inspector II for Plan Review and Sign-Off

The City is required to provide an Environmental Compliance Inspector II to the Land Development Engineering Division for plan review and sign-off.

- a) Did the City provide an Environmental Compliance Inspector II to the Land Development Engineering Division for plan review and sign-off?

Yes No

7.5.2 Review and Sign-Off on Development Plans

The City is required to review and sign-off on developmental plans. A summary of the number and type of projects reviewed during the reporting period is provided below. A breakdown of the type of priority projects is also provided.

- a) Did the City review and sign-off on developmental plans?

Yes No

Summary of Reviewed Projects

| Reporting Period | Total Number of Project Plans Reviewed | Total Number of High Priority Developments Project Plans | Total Number of CIPs |
|------------------|--|--|----------------------|
| 2008-2009 | 39 ^{1*} | 29 ² | 16 |
| 2009-2010 | 44 | 27 | 17 |
| 2010-2011 | 35 | 13 | 10 |

¹Total of 16 CIP and 23 private development projects combined

²Total of 13 CIP and 16 private development Priority Projects combined

Summary of Priority Projects Review and Projects Approved on First Review

| Priority Project Category | 2010-2011 Total Number Priority Projects Reviewed | 2010-2011 Total Number Priority Projects Approved ¹ on 1st Review | 2010-2011 Priority Projects 1 st Review % Approved |
|--|---|--|---|
| Commercial Developments (>1 acre impervious) | 5 | 0 | 0% |
| Automotive Repair Shops | 0 | 0 | 0% |
| Retail Gasoline Outlets | 1 | 0 | 0% |
| Restaurants | 1 | 0 | 0% |
| Parking Lots (> 5,000 SF or 25 spaces) | 6 | 0 | 0% |
| Streets and Roads (>1 acre paved surface) | 0 | 0 | 0% |
| Home Subdivisions (> 10 units) | 0 | 0 | 0% |

7.5.3 Review/Revise Stormwater Plan Check Transmittal

The City is required to review, and revise if necessary, the Stormwater Plan Check Transmittal to ensure that it addresses all components of the NPDES permit and is consistent with the revised Guidance Manual for New Development Stormwater Quality Control Measures.

This performance measure is connected to the LD2 guidance manual revision, performance standard due to be completed in 2011.

- a) Did the City review, and revise if necessary, the Stormwater Plan Check Transmittal to ensure that it addresses all components of the NPDES permit and is consistent with the revised Guidance Manual for New Development Stormwater Quality Control Measures?

Yes No Not required this year

The Stormwater Plan Check Transmittal will be revised next year, with the implementation of the updated Guidance Manual for Development Stormwater Quality Control Measures.

7.5.4 Audit Notification Process for Building and Grading Permits

The City is required to audit the notification process to ensure that the Stormwater Program is being notified of building and grading permits being issued.

- a) Did the City audit the notification process to ensure that the Stormwater Program is being notified of building and grading permits being issued?

Yes No Not required this year

In January 2011, the Environmental Compliance Section (ECS) discovered that some expired building permits for subdivisions of single-family homes that were previously in foreclosure were being re-issued by the Building Dept without notification to ECS. These permits were not being routed to the Environmental Compliance Inspector II in Land Development Engineering for Stormwater review before re-issuance. The City corrected this deficiency by flagging all undeveloped subdivision lots in the Building Dept. database with a note to route plans to Land Development Engineering for Stormwater review and sign-off before (re)issuing any building permit. All subdivision lots are now routinely reviewed for conformance with the City’s Stormwater Management Plan and the 2009 State General Construction Permit.

7.6 LD4 – Maintenance Agreement and Transfer

The Maintenance Agreement and Transfer control measure ensures that post-construction stormwater controls will remain permanently effective upon project completion for all priority development projects. This agreement is required when a developer, maintenance district, homeowners association, etc., is responsible for the continued operation and maintenance of a post-construction treatment control.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

7.6.1 Require Maintenance Agreement in Priority Projects

The City requires maintenance agreements for priority development projects that are installing stormwater devices.

A summary of the maintenance agreements that were executed during the 2010-2011 reporting period is provided in the table below.

a) Did the City require maintenance agreements for priority development projects?

Yes No

Summary of Maintenance Agreements Executed

| Project Name | Location (address, or Lat/Long) | Original Owner | Responsible Party for Maintenance Agreement | Type of Treatment Control (T1–T13) | Treatment Control Model | Date of Agreement Execution |
|---|---------------------------------|-------------------------------|---|------------------------------------|-------------------------|-----------------------------|
| Golden Corral Restaurant | 3737 McHenry Avenue | Golden Corral LLC, Seth Elder | Seth Elder | 3 grass swales & 1 grass basin | N/A | 3/29/2011 |
| Golden Valley Health Center Parking Lot | 1500 & 1510 Florida | Scott Penner | Scott Penner, Facilities Director | Stormfilters by Contech | 3 CBSF-1-S | 5/9/2011 |
| ARCO AM/PM | 2600 Coffee Road | Chandi & Dhanda | Nirmal Singh, President | Stormfilters by Contech | 2 CBSF-2-S | 12/6/2010 |

7.6.2 Send Inspection Letter to Parties Responsible for Post-Construction Treatment Controls

The City is required to send a letter to the responsible party for operation and maintenance of post-construction treatment controls to notify the responsible party of required self-inspections.

- a) Did the City send letter to responsible party for operation and maintenance of post-construction treatment controls?

Yes No

An example of the City’s Letter to Responsible Parties for Post-Construction Treatment Controls can be found in Appendix G-1.

7.6.3 Develop Post-Construction Treatment Control BMP Maintenance Self-Certification Program

The City is required to develop a program that mandates owners/operators of post-construction treatment controls to provide annual verification/certification for maintenance of the controls.

- a) Did the City develop a post-construction treatment control self certification program?

Yes No Not required this year

Owner-Operators of Post-Construction Treatment Control BMPs were required to self-certify and verify the maintenance of their treatment devices and return the Self-Certification Form to the City by April 30, 2011. An example of the City’s Post-Construction Treatment Control Self-Certification Form can be found in Appendix G-2.

Summary of Post Construction Treatment Control Self-Certifications

| Owner/Operator Certifications | |
|---|-----|
| Number of Owner/Operator Certifications Requested | 203 |
| Number of Owner/Operator Certifications Received | 144 |
| Number Reporting Compliance | 144 |
| Number Reporting BMP Problems | 0 |

7.6.4 Inspect Post Construction Treatment Controls when Self Certification is not Received

The City is required to inspect post-construction treatment controls when the responsible party fails to submit the required self-certification.

- Did the City inspect post-construction treatment controls?

Yes No Not required this year

An example of the City’s Post-Construction Treatment Control Inspection form can be found in Appendix G-3.

Summary of Post Construction Treatment Control Inspections

| Inspections | 2010-2011 |
|--|-----------|
| Number of Post-Construction Treatment Controls Inspected | 37 |
| Number of Follow-up Inspections | 0 |
| Number of Inspections Found with Treatment Controls / Device Maintained in accordance with Maintenance Agreement | 22* |
| Number of Inspections Sites/Controls Failing to Comply with Maintenance Agreement / No Maintenance Evident | 15** |
| Number of Inspections Discovering Site Not Built / Treatment Device Not Required | 22 |

* This is the first year we have implemented this program and therefore we have extended as much grace period as possible.

** NOV's will be issued.

7.6.5 Review/Revise Maintenance Agreement

The City is required to review, and revise if necessary, the current maintenance agreement form to incorporate 2008-2013 Permit requirements.

- a) Did the City review, and revise if necessary, the current maintenance agreement form to incorporate 2008-2013 Permit requirements?

Yes No Not required this year

The City revised the Stormwater Treatment Device Access & Maintenance Agreement to incorporate LID strategies and sent the Agreement to the City Attorney for approval. The revised Agreement will be implemented with the updated Guidance Manual when it is adopted. The Guidance Manual was submitted to the State Water Boards for its review on June 13, 2011.

7.6.6 Track Compliance with Maintenance Standards and Problems identified by Type of Practice and Maintenance Responsibility

The City is required to track compliance with maintenance standards for post-construction BMPs maintained by the City and by private entities. Private entity information comes from the self-certification forms and from inspections when these forms are not submitted.

- a) Did the City track compliance with maintenance standards and identify the types of problems with BMPs?

Yes No Not required this year

Summary of BMP Maintenance Conducted and Problems Identified

| Type of BMP | Required Maintenance Conducted (Yes/No) | Problem(s) Identified |
|-------------------------------------|---|-----------------------|
| City Maintained BMPs | | |
| Vegetative Swales | Yes | 0 |
| Filter Strips | Yes | 0 |
| Media Filtration Devices | Yes | 0 |
| Surface Infiltration Trench | Yes | 0 |
| Infiltration Basin | Yes | 0 |
| Porous Paving Blocks | Yes | 0 |
| Extended Detention/Retention Basins | Yes | 0 |
| Privately Maintained BMPs | | |
| Vegetative Swales | Yes | 0 |
| Filter Strips | Yes | 0 |
| Media Filtration Devices | Yes | 14 |
| Surface Infiltration Trench | Yes | 0 |
| Infiltration Basin | Yes | 1 |
| Porous Paving Blocks | Yes | 0 |
| Extended Detention/Retention Basins | Yes | 0 |

7.6.7 Develop GIS or Other Electronic Tracking System for Projects Conditioned with Post-Construction Treatment Control

The City is required to develop GIS or other electronic tracking system for projects conditioned with post construction treatment controls.

- a) Did the City develop GIS or other electronic tracking system for projects conditioned with post construction treatment controls?

Yes No Not required this year

The Environmental Compliance Inspector II assigned to Land Development Engineering is currently working with the GIS Coordinator to develop a layer for post-construction stormwater treatment control BMPs on individual parcels. This will require the inspector to visit each post construction treatment control with a GPS to obtain Mapping-Grade Coordinates for each treatment device.

7.7 LD5 – Training

The Training control measure is important to successful implementation of the Planning and Land Development Program Element. An effective training program is one of the best pollution prevention BMPs that can be implemented because it prompts behavioral changes that are fundamentally necessary to protecting and improving water quality.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below. The training formats used may include field demonstrations, classroom, or tailgate sessions.

Areas of Focus for the Planning and Land Development Program Training

| Target Audience | Topics for Audience |
|---|---|
| Public Works inspectors Parks, Recreation, and Neighborhood field staff | Stormwater maintenance agreement requirements Post-construction treatment controls |
| Public Works design staff Community and Economic Development Department (CEDD) staff | General stormwater quality issues at Construction site BMPs Stormwater maintenance agreement requirements Post-construction treatment controls New Development Standards LID Standards and BMPs |

7.7.1 Conduct Training

The City is required to conduct training for key staff involved in the construction program. Key staff and training topics are identified above.

A summary of the training sessions conducted for key staff is provided below. Internal training modules and external training are listed. A summary of the training survey results are noted.

- a) Did the City conduct training for key staff involved in the Planning and Land Development Program?

Yes No Not required this year

Summary of Training Sessions Conducted for Key Staff

| Date of Training | Title of Training Module | Number of Attendees | Target Audience | City Departments or Divisions |
|--------------------|--|---------------------|--|---|
| 11/17/10 | Compliance on a Construction Site: What Everyone Should Know | 9 | Public Works Inspectors | Environmental Compliance |
| 2/28/11 to 3/2/11 | P2/ CWEA Training | 2 | Public Works Inspectors | Environmental Compliance |
| 3/15/11 to 3/17/11 | QSD/QSP Training | 4 | Public Works Inspectors | Environmental Compliance |
| 3/15/11 | Track Out: Constructions Most Costly BMP Violation | 8 | Public Works Inspectors | Environmental Compliance |
| 4/5/11 | An Introduction to Monitoring Your Stormwater Run-Off | 6 | Public Works Inspectors | Environmental Compliance |
| 5/9/11 to 5/11/11 | 2009 Stormwater General Construction Permit QSD/QSP Training | 5 | (1) CIP Design Engineer (1) Environmental Compliance Manager (3) Environmental Compliance Inspectors | Utility Projects & Planning Dept. Community & Economic Development Dept. Public Works Dept. |

7.7.2 Review/Revise Training Strategy

The City is required to review its training strategy annually and update it as needed. Key considerations during the review and revision process include target audiences, expertise necessary, key messages, existing modules, external opportunities for training, and the frequency at which the training should be provided.

During this reporting year the City reviewed training strategy to include LID, Stormwater BMP's and Post Construction BMP's.

a) Did the City review the training strategy as necessary?

Yes No Not required this year

b) Did the City revise the training strategy if necessary?

Yes No Not required this year

7.8 LD6 Planning and Land Development Program Effectiveness Assessment

The Effectiveness Assessment Strategy control measure is used to determine whether the Program Elements are achieving intended outcomes and ultimately, whether continued implementation will result in maintaining or improving water quality (CASQA, 2007). Outcome levels are used to categorize and describe the desired results of the goals of the control measures and Program Elements. There are six outcome levels as defined by the CASQA Program Effectiveness Assessment Guidance.

This part of the Annual Progress Report assesses the effectiveness of the Planning and Land Development Program and related control measures to determine their effectiveness and identify necessary modifications. The effectiveness assessment is expected to change from year-to-year as new information is learned and trends can be assessed. In this the first year of the new permit, the assessment initially focused on Outcome Levels 1-4. Table 7-11 of the SWMP identifies the effectiveness assessment questions required for the Planning and Land Development Program. The table below summarizes the assessments planned for the 2008-2013 permit term. Not all assessments are scheduled each year and assessments at levels 3 and 4 will require several years of data gathering to provide meaningful assessment.

Summary of Assessment Levels Planned for the 2008-2013 Permit Term

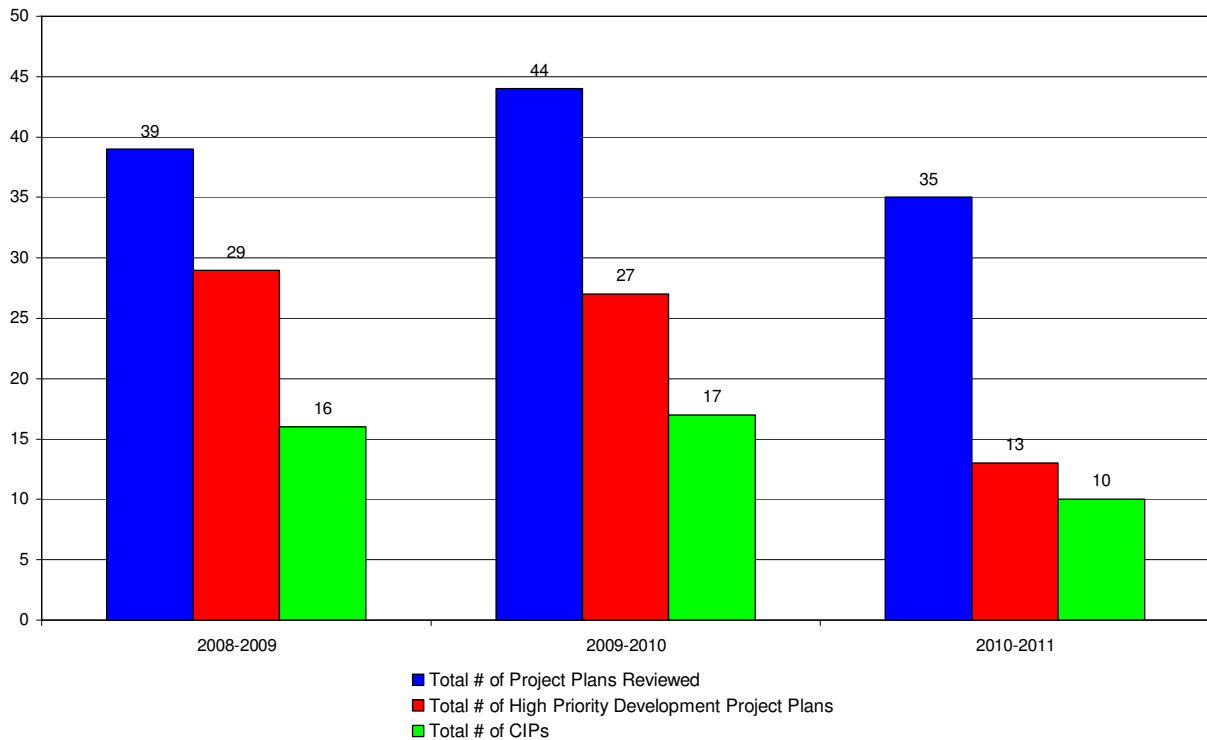
| Control | Level 1 | Level 2 | Level 3 | Level 4 |
|---|-------------------|--------------------|-----------------|----------------|
| | Implement Program | Increase Awareness | Behavior Change | Load Reduction |
| LD1 – Incorporation of Water Quality Protection into City Procedures and Policies | ✓ | | | |
| LD2 – New Development Standards | ✓ | | | |
| LD3 – Plan Review Signoff | ✓ | | ✓ | |
| LD4 – Maintenance Agreement and Transfer | ✓ | ✓ | ✓ | |
| LD5 – Training | ✓ | ✓ | | |

LD1 – In October 2008, the City Council updated and certified the General Plan. As part of the update, the CEQA Initial Study Template and Environmental Assessment Form of the Master EIR were revised to incorporate consideration for stormwater quality impacts and appropriate mitigation of these impacts. The City was not required to update the General Plan and Master EIR this year, but will review and revise them as necessary in 2011-2012.

LD2 – In 2009-2010, the City held meetings with both internal and external stakeholders to review the proposed revision to the City’s Guidance Manual. In 2010-2011 the Guidance Manual was submitted to the Regional Board for review and approval. This will lay the framework for the City to select a standard to require LID strategies and revise the Guidance Manual to incorporate the LID strategies, as required, in coming years.

LD3 – During 2010-2011, the City provided an Environmental Inspector II to the Land Development Engineering Division for plan review and sign-off. In total, the City reviewed 35 project plans, 13 of which were high priority development project plans and 10 of which were CIPs. Of the priority plans submitted, only four percent were approved in the first review, which shows the importance of the review process.

LD3 - Plan Review Sign off



LD4 – In 2010-2011, the City executed maintenance agreements with responsible parties for 13 priority projects. The City did send letters to responsible parties for operation and maintenance of post-construction treatment controls. The City sent 203 letters for Self Certification of maintenance of stormwater devices. 144 projects/businesses responded. 22 businesses/projects were found to not have been built. The City then inspected or attempted to inspect the remaining 37. Of the 37, 22 were in compliance. The remaining 15 will be issued an NOV for non compliance. The City will issue self certification requests during 2011-2012 to 181 projects / businesses.

LD5 –City engineers, planners and building inspectors attended external training sessions on the QSP/QSD.

7.9 PLANNING AND LAND DEVELOPMENT PROGRAM MODIFICATIONS

The City evaluates the results of the Program Effectiveness Assessments as well as the experience that staff has had in implementing the program. The City also determines if any program modifications are necessary in order to comply with Clean Water Act requirements to reduce the discharge of pollutants to the maximum extent practicable.

- LD4
 - Send letters to responsible parties for operation and maintenance of post-construction treatment controls.
 - Inspect post-construction treatment controls in cases where self-certification is not received.
- LD5
 - For CEDD and Public Works construction administration and construction inspection staff, establish “train the trainer” programs.

8. Water Quality Based Program Element

8.1 Overview

The Water Quality-based Program Element addresses specific pollutants and stormwater quality issues that have been identified as impacting or potentially impacting local water quality.

8.2 Control Measures

The control measures for this program element take the form of work plans for each water quality-based program. For each work plan, there are accompanying work plan tasks which, once accomplished, meet the program objectives. Each work plan is a stand-alone document although the work effort may rely upon the efforts and actions undertaken in other control measures. In particular, water quality-based programs frequently rely upon monitoring efforts identified in the Monitoring Program Element (Section 9).

| ID | Work Plan |
|-----|-----------------------------------|
| WQ1 | Discharge Characterization |
| WQ2 | Pesticide Plan |
| WQ3 | Rockwell Assessment |
| WQ4 | Peak Discharge Impact Study |
| WQ5 | Treatment Feasibility Study |
| WQ6 | Effectiveness Assessment Strategy |

8.3 WQ1 – Discharge Characterization

The Discharge Characterization control measure is required to evaluate and prioritize pollutants in stormwater discharge to identify Pollutants of Concerns (POCs) and Pollutants of Interest (POI). Once a POC has been identified and determined to be from a controllable source, a work plan is developed and implemented to address the POC or water quality issue to minimize its potential for discharge in stormwater or impact on the receiving waters.

The evaluation and prioritization of stormwater pollutants directly relies upon the data collected in the control measures MP1 and MP2 of the Monitoring Program. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

8.3.1 Monitor Stormwater Discharges

The City is required to monitor stormwater discharges as part of the Monitoring Program. Data is reported in Section 9.

- a) Did the City monitor stormwater discharge as part of the Monitoring Program (See Section 9 for details.)? Yes No

8.3.2 Evaluate Monitoring Data to Identify and Prioritize POCs and POIs

The City is required to evaluate stormwater discharge monitoring data to identify POCs and POIs.

The initial step in this process is to determine if a constituent exceeds a Water Quality Standard. On a regular basis the City compares urban discharge monitoring data to Water Quality Standards to identify pollutants of interest. The table below summarizes the constituents detected in urban runoff during the 2010-2011 monitoring period that exceeded Water Quality Standards.

- Subsequent steps are to determine if a pollutant of concern are to evaluate the following factors:
 - Pollutants listed as causing impairment in the San Joaquin River and Lower Tuolumne River and present in the stormwater discharge;
 - Pollutants causing toxicity in urban runoff or local receiving waters;
 - Pollutants identified in urban runoff that may cause or contribute to exceedances of water quality standards in the Central Valley Region Water Quality Control Plan (Basin Plan) and California Toxics Rule (CTR);
 - Issues of significant public or regulatory concern; and
 - Controllability of urban runoff pollutants through implementation of available control practices.
- a) Did the City evaluate stormwater discharge monitoring data to identify POC and POI?

Yes No

The City had reviewed the data from the three stormwater events during this permit year. Among the POCs previously identified during the 2002 – 2007 permit cycle, aluminum, copper, fecal coliform and E. coli continued to demonstrate elevated results above the WQO standard. Unlike previous permit years, levels of dissolved oxygen (DO) and zinc were found to have exceeded WQO standards at the Bodem site; first flush and dormant season respectively this year. The level of DO exceeded WQO at the Scenic site during the first flush event. DO and zinc shall be listed as pollutants of interest and will be monitored for possible determination as POCs during future permit years.

- a) Did the City monitor stormwater discharge as part of the Monitoring Program (See Section 9.)?

Yes No

8.3.3 Develop Work Plans as needed to Control POC/Water Quality Issues

The City is required to develop work plans, as needed, to evaluate all controllable and uncontrollable sources, evaluate effectiveness of existing BMPs and/or identify additional methods to control the POC to the MEP.

Once a POI is identified, the City conducts further evaluations to determine if the constituent should be prioritized as a POC and begins the process of developing a work plan to be submitted with the Characterization Report. During this reporting period, the City identified discharges from 7th Street and the Crater & Seine outfalls as a contributing factor to WQC receiving water exceedances based on sample data collected in 2010.

List of constituents in Receiving Water that Exceed WQO and Urban Runoff that Exceeded RWQE Tier 2 Threshold, to be evaluated as POIs.¹

| Consistent | Concentration | Location | Date | WQO Receiving Water Exceedance | RWQE Tier 2 Threshold Urban Runoff Exceedance |
|---------------------------|---------------|----------------------|----------|--------------------------------|---|
| Dissolved Oxygen | 3.12 mg/L | Scenic | 10/30/10 | NA | Yes |
| Fecal coliform | 1800 MPN | Tuolumne Downstream | 10/30/10 | Yes | NA |
| Fecal coliform | 330 MPN | Dry Creek Upstream | 10/30/10 | Yes | NA |
| Fecal coliform | 7800 MPN | Dry Creek Downstream | 10/30/10 | Yes | NA |
| Fecal coliform | 3300 MPN | Dry Creek Downstream | 2/15/11 | Yes | NA |
| pH | 4.04 pH units | Bodem | 2/15/11 | NA | Yes |
| Fecal coliform (resample) | 330 MPN | Dry Creek Downstream | 6/28/11 | Yes | NA |
| Iron | 180ug/l | Scenic | 6/21/11 | NA | Yes |
| Iron | 180 ug/l | Bodem | 6/21/11 | NA | Yes |
| Aluminum | 1300 ug/l | Dry Creek Upstream | 6/21/11 | Yes | NA |
| Aluminum | 1700 ug/l | Dry Creek Downstream | 6/21/11 | Yes | NA |

¹ Previously identified POCs are not included in this table.

The City is currently evaluating data from all stormwater sampling events this permit year as well as other outfall sampling results. Aluminum was the only POI's that was identified as reoccurring during in this monitoring year. The City submitted a Report of Water Quality Exceedance (RWQE) for aluminum, as well as fecal coliform and dissolved oxygen. The samples collect for the pervious year indicated that these POI's may be associated with discharges from the 7th Street outfall and the Crater & Seine. Pending the results of additional analyses the City will determine if aluminum and fecal coliform should be added as a Pollutant of Concern (POC) and warrant a work plan to address sources which involves isolating and sampling certain drainage areas which feed into trunk lines before discharging into main storm is under development. With this information, the City hopes to identify possible cross connections and other sources of contaminants. Once identified, the City will attempt to remove and/or control through BMPs or other measures the sources of pollutants.

- a) Did the City develop work plans, as needed, to evaluate all controllable and uncontrollable sources, evaluate effectiveness of existing BMPs and/or identify additional methods to control the POC to the MEP?

Yes No

Not required this year

8.3.4 Submit POC Characterization Report and Work Plans to Regional Board

The City is required to submit POC Characterization Report the fourth year of the permit term, and include the POC work plans.

- a) Did the City submit POC Characterization Report, and include the POC work plans?

Yes No Not required this year

8.4 WQ2 – Pesticide Plan

The Pesticide Plan is a strategy to address diazinon as a POC and chlorpyrifos as a potential POC. This work plan includes quantifying pesticide loadings, identifying and assessing sources of pesticides, determining available control strategies for identified sources, identifying methods to evaluate control strategies, and developing an implementation plan.

The Pesticide Plan is closely integrated into the Municipal Operations Program Element (control measure MO3) and many of the outreach materials developed and distributed in the Public Outreach Education and Participation Program element address residential pesticide use.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

8.4.1 Modify PCO Contract Language

The City is required to modify contract language for City-hired Pest Control Operators (PCOs) to track pesticide use. The City modified the PCO contract language in June of 2010 and included a copy with the 2009 -2010 Annual Report

- a) Did the City modify contract language for City-hired PCOs to track pesticide use?

Yes No Not required this year

8.4.2 Track PCO Contractor Pesticide Use

The City is required to track City-hired PCO pesticide use. This pesticide use by City-hired PCOs is provided in the Municipal Operations Program Element, Section 4.5.1.

- a) Did the City track City-hired PCO pesticide use?

Yes No Not required this year

8.4.3 Maintain Pesticide Use Inventory

The City is required to maintain an inventory of the pesticides used by City Departments. This control measure is an element of the Municipal Operations Program element. The inventory of pesticide use by City departments is provided in the Municipal Operations Program Element, Section 4.5.1.

The City compiles an internal inventory on pesticide use by all internal departments, divisions, and other operational units. The Stormwater Program coordinates with each City department/division/operational unit to ensure that pesticide use is being tracked. Each Department is required to report the amount of each pesticide used annually,

which is incorporated into a database that is used to track pesticide use by specific departments. The database is updated annually.

a) Did the City maintain the pesticide use inventory?

Yes No

8.4.4 Promote Usage of Less Toxic Alternatives

The City is required to promote usage of less toxic alternatives in City applications and contracting pest control services. The City drafted the Landscape Management Plan with the purpose of providing standard protocols for administering and applying pesticides and herbicides in the public right-of-way or at other City-owned/operated facilities. In addition, the Landscape Management Plan also provides a framework for implementation of the IPM program. Once the Landscape Management Plan is finalized, copies will be distributed to all prospective City departments that participate in pesticide, herbicide, or fertilizer application.

The City ensures all staff who apply pesticides receive annual training that includes information regarding less toxic methods of pest prevention and control (including IPM). This training is conducted together with proper use and disposal training under the Pesticide Materials and Uses section of the Pesticide Plan.

a) Did the City promote usage of less toxic alternatives in City applications and contracting pest control services?

Yes No

8.4.5 Participate in UPC and IPM Meetings

City staff is required to participate in Urban Pesticide Committee (UPC) and IPM meetings. City staff maintains up-to-date information regarding pesticide control by attending the UPC meetings. The UPC is a group sponsored by the San Francisco Bay Regional Water Board and is comprised of local and regional stormwater agencies, EPA, county Agricultural Commissioners, wastewater treatment plants, pesticide manufacturers, the Central Valley and San Francisco Bay Regional Water Boards, DPR, and other interested parties. The meetings held by the UPC provide an exchange of information, tracking of pesticide-related projects occurring in California, research on the pesticides most likely to replace diazinon and chlorpyrifos in the marketplace, regulatory issues, etc.

a) Did the City participate in UPC and IPM meetings?

Yes No

Summary of City Staff Attendance at UPC and IPM Meetings

| Participation by City Staff | 2009-2010 | 2010-2011 |
|---|-----------|-----------|
| Total number of UPC Meetings | 4 | 3 |
| Number of UPC meetings attended by Stormwater Program | 3 | 1 |
| Total number of IPM Meetings | 6 | 9 |
| Number of IPM meetings attended by Stormwater Program | 3 | 4 |

8.4.6 Implement Outreach Efforts to Promote Less Toxic Pest Control Methods or IPM Use

The City is required to implement outreach efforts to promote less toxic pest control methods or IPM use. The following outreach efforts have been identified by the Stormwater Management Plan to target City staff, residential audiences, retail stores that sell pesticides, and Pest Control Operators (PCOs) to promote less toxic pest control methods or IPM use:

- City Staff
 - Attend UPC meetings; and
 - Attend continuing education classes.

UPC and IPM meetings attended by City staff are reported in the previous section. Modesto city staff responsible for applying pesticides attend continuing educational classes. These are summarized in the table below.

- Residential Users
 - Develop and distribute a pesticide fact sheet for household chemicals and pesticides. The pesticides fact sheet is posted on the City’s website: <http://www.ci.modesto.ca.us/pwd/utilities/wastewater/pollution/>

During this reporting year the City made 1658 impressions regarding home and garden care activities and product use and provided fact sheets and other outreach materials that contained a less toxic pest control methods message. The pesticides fact sheet is posted on the City’s website. The details of the number of and type of each outreach material (or impression) are listed in Section 3.

- a) Did the City implement outreach efforts to promote less toxic pest control methods or IPM use?
 Yes No

Summary of Continuing Education by City Staff Responsible for Applying Pesticides

| Date of Continuing Education Class | Type of Continuing Education Class | Number of City Staff Attending |
|------------------------------------|--|--------------------------------|
| 9/15/2010 | Pesticide Applicators Professional Association Seminar | 1 |
| 11/17/2010 | Pesticide Applicators Professional Association Seminar | 1 |
| 2/17/2011 | Pesticide Applicators Professional Association Seminar | 1 |
| 5/17/2011 | Pesticide Applicators Professional Association Seminar | 1 |

8.4.7 Submit Survey Design and Protocols in the Annual Work Plan

The City is required to submit survey design and protocols in the annual Work Plan.

- a) Did the City submit survey design and protocols in the annual Work Plan
 Yes No Not required this year

8.4.8 Conduct Pesticide Sales and Use Surveys

The City is required to conduct a pesticide sales and residential and commercial pesticide use surveys.

a) Did the City conduct a pesticide sales and residential and commercial pesticide use surveys?

Yes No Not required this year

8.4.9 Implement Landscape Management Plan

The City is required to implement the Landscape Management Plan. The Landscape Management Plan specifically addresses pest control strategies outlined in IPM protocols including cultural controls. The City has also incorporated many other IPM strategies from the Landscape Management Plan.

a) Did the City implement Landscape Management Plan?

Yes No

8.4.10 Coordinate with HHW Program

The City is required to coordinate with the County HHW Program to educate the public on proper disposal of pesticide waste. A summary of the amount of pesticides disposed of through the HHW program is provided below. The County HHW program accepts HHW from all county residents and does not separately track whether drop-offs are made by Modesto residents. However the County’s permanent facility is located within the City Modesto, so while all county residents may use the facility there is a higher likelihood that city residents are primary users of the facility. Mobile collection events are provided in other Stanislaus County cities.

An estimate of the total amount of pesticides dropped off at the County HHW facility in Modesto is provided below. The County did not specifically track the amount pesticides dropped off. This was a new item to be tracked with the 2008-2013 Permit and the City is still transitioning its tracking systems. The City has provided an estimate based on a percentage of what the county HHW collected as poisons for fiscal year 2008-2009. The City is in the process of requiring the County to track the actual pesticide collection amounts for future annual reports.

a) Did the City coordinate with the County HHW Program?

Yes No

Estimated Amount of Pesticides Dropped off at HHW Facility

| | 2009-2010 | 2010-2011 |
|--|--------------|--------------|
| Amount of Pesticides dropped off at the County HHW facility in Modesto | 3,022 pounds | 4,923 pounds |

8.4.11 Maintain Pesticide Disposal Information on City Website

Information on proper disposal is required to be posted on the City's website and updated as necessary. In addition to other information on the less toxic use of pesticides, during this reporting period the city provide the following information regarding disposal of pesticides on its website.

Proper Pesticide Disposal:

When you have finished using a chemical pesticide, clean up properly so that pesticides stay out of the storm drains, waterways, and sewers. **Follow label instructions.**

Pesticides will remain in the bottom of your applicator when you finish spraying, even when you do a great job of estimating the quantity. Dilute these residues with clean water and respray in your garden until the solution is used up. Then dilute again and respray or broadcast on the ground. Finally, do this a third time. Be sure that this spray can't drain into the street or gutter. **Never rinse containers into the gutter (part of the storm drain system) or household drains (to the sewer system).**

Take unwanted pesticides or pesticide containers to a Cities and County of Stanislaus Household Hazardous Waste Collection Event. Call (209) 525-4123 for more information and a schedule. **Never throw pesticides or containers with pesticides into the garbage.**

<http://www.modestogov.com/pwd/utilities/wastewater/pollution/>

- a) Did the City maintain City website with information regarding pesticide disposal?

Yes No

8.4.12 Participate in TMDL Efforts

The City is not aware of any pending TMDL efforts that will affect their program at this time.

- a) Did the City participate in TMDL efforts

Yes No

8.4.13 Collaborate with Stakeholders

The City is required to collaborate with stakeholder groups and other Stormwater Management Agencies. The City collaborated with the Modesto Irrigation District, the UPC, and the IPM group BASMAA.

- a) Did the City collaborate with stakeholder groups and other Stormwater Management Agencies?

Yes No

8.4.14 Pesticide Monitoring

The City is required to continue pesticide monitoring in urban runoff and the receiving waters. Consistent with the previous Pesticide Plan, monitoring for diazinon and chlorpyrifos will continue at the upstream and downstream receiving water locations in Dry Creek and the Tuolumne River; and at the urban runoff locations; Bodem Street and Scenic Drive.

During the 2008-2013 Permit term, sediment from the receiving water and urban runoff monitoring locations will be analyzed for pyrethroid pesticides during the routine monitoring events. Sediment toxicity monitoring will be performed in the second and fourth years of the permit term using the amphipod *Hyalella azteca*, which is sensitive to pyrethroids.

Chlorinated pesticides, organophosphate pesticides (other than diazinon and chlorpyrifos), and herbicides will be monitored at the receiving water and urban runoff monitoring locations during the fourth year of the permit term. Details on the Monitoring Program Element, including the monitoring for pesticides are discussed in Section 9.

The details of this monitoring are reported in Section 9 with the urban runoff and receiving water monitoring. The table below summarizes the results for diazinon and chlorpyrifos relative to their WQS.

Sample results from all three storm events and sampling locations were below the WQO for Chlorpyrifos and Diazinon

a) Did the City conduct pesticide monitoring, including sediment toxicity?

Yes No

Pesticide Monitoring

| Sample Date | Sampling Location | Chlorpyrifos WQO | Chlorpyrifos Result | Diazinon WQO | Diazinon Result | Units |
|-------------|-------------------|------------------|---------------------|--------------|-----------------|-------|
| 10/30/2010 | Bodem | 0.025 µg/L | < 0.002 | 0.16 µg/L | < 0.005 | µg/L |
| 10/30/2010 | Scenic | 0.025 µg/L | < 0.002 | 0.16 µg/L | < 0.005 | µg/L |
| 10/30/2010 | Dry Creek Up | 0.025 µg/L | < 0.002 | 0.16 µg/L | < 0.005 | µg/L |
| 10/30/2010 | Dry Creek Down | 0.025 µg/L | < 0.002 | 0.16 µg/L | < 0.005 | µg/L |
| 10/30/2010 | Tuolumne Up | 0.025 µg/L | < 0.002 | 0.16 µg/L | < 0.005 | µg/L |
| 10/30/2010 | Tuolumne Down | 0.025 µg/L | < 0.002 | 0.16 µg/L | < 0.005 | µg/L |
| 2/16/2011 | Bodem | 0.025 µg/L | < 0.01 | 0.16 µg/L | 0.012 | µg/L |
| 2/16/2011 | Scenic | 0.025 µg/L | < 0.01 | 0.16 µg/L | 0.013 | µg/L |
| 2/16/2011 | Dry Creek Up | 0.025 µg/L | < 0.01 | 0.16 µg/L | < 0.01 | µg/L |
| 2/16/2011 | Dry Creek Down | 0.025 µg/L | < 0.01 | 0.16 µg/L | < 0.01 | µg/L |
| 2/16/2011 | Tuolumne Up | 0.025 µg/L | < 0.01 | 0.16 µg/L | < 0.01 | µg/L |
| 2/16/2011 | Tuolumne Down | 0.025 µg/L | < 0.01 | 0.16 µg/L | < 0.01 | µg/L |
| 6/21/2011 | Bodem | 0.025 µg/L | < 0.01 | 0.16 µg/L | < 0.05 | µg/L |
| 6/21/2011 | Scenic | 0.025 µg/L | < 0.01 | 0.16 µg/L | < 0.05 | µg/L |
| 6/21/2011 | Dry Creek | 0.025 µg/L | < 0.01 | 0.16 µg/L | < 0.05 | µg/L |

| | | | | | | |
|-----------|-------------------|------------|--------|-----------|--------|------|
| | Up | | | | | |
| 6/21/2011 | Dry Creek Down | 0.025 µg/L | < 0.01 | 0.16 µg/L | < 0.05 | µg/L |
| 6/21/2011 | Tuolumne Up | 0.025 µg/L | < 0.01 | 0.16 µg/L | < 0.05 | µg/L |
| 6/21/2011 | Tuolumne Down | 0.025 µg/L | < 0.01 | 0.16 µg/L | < 0.05 | µg/L |

8.4.15 Assess whether Urban Stormwater Runoff Contributes to any Exceedances of Water Quality Standards for Diazinon and Chlorpyrifos

The City is required to assess whether urban stormwater runoff is causing or contributing to an exceedance of water quality standards for chlorpyrifos and diazinon. The City routinely evaluates the monitoring data to determine whether runoff is causing or contributing to an exceedance of water quality standards. Chlorpyrifos and diazinon were established as Pollutants of Concern by the permit because of the established TMDL for these two constituents. The City’s Stormwater Management Plan identified a process to determine whether a POC is causing or contributing to an exceedance of water quality standards, which is summarized in Section 9 of this report. During this reporting period chlorpyrifos and diazinon were not detected above the WQO in any of the urban runoff or receiving water monitoring locations.

a) Did the City assess whether urban stormwater runoff is causing or contributing to an exceedance of water quality standards for chlorpyrifos and diazinon?

Yes No Not required this year

8.5 WQ3 – Rockwell Assessment

The Rockwell Assessment Plan is a study designed to determine the effectiveness of the City’s rockwells in removing pollutants in urban runoff and protecting groundwater quality. This Rockwell Assessment Plan builds on the assessment and monitoring that was conducted during the 2002-2007 Permit term. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

8.5.1 Identify Candidate Rockwells

The City is required to identify the candidate rockwells for the assessment. The City identified six City-owned rockwells for the 2008-2013 assessment. The sites were selected based upon the predominant land use draining to the rockwell. Access to the rockwells was the primary consideration. The six sites selected by the City are located within the public right of way and allow for safe access by field teams during the course of the study.

The rockwell sites, which were listed in the draft August 2009 SWMP, are identified below. These sites are subject to change during the final field screening.

a) Did the City identify candidate rockwells? (Required PY 1, by June 30, 2009)

Yes No Not required this year

Rockwell assessment Sites for the 2008-2013 Permit Term

| Rockwell site | Type |
|---------------------|-------------|
| 1901 Lifetime Drive | Residential |
| 1428 July Court | |
| 1801 Reliance Court | Industrial |
| 1000 Oates Court | |
| Carpenter Road | Commercial |
| 3838 Coralwood Road | |

8.5.2 Gather Background Data

The City is required to gather background data on the selected rock wells and previous shallow groundwater studies and data collection efforts in the Modesto area. Relevant information and details on the hydrogeology and groundwater quality, such as those developed by USGS, and the groundwater model developed for the Central Valley by the USGS will also be reviewed.

Available flow and water quality data from USGS and DWR have been collected for the City of Modesto and surrounding areas. The gathered information includes data that have been collected in different wells for a period of time spanning over 40 years and from wells are screened at different depths allowing a characterization of both shallow and deep aquifers. This evaluation revealed the influence that the impermeable Corcoran layer has on the behavior of the entire system.

- a) USGS reports such as Phillips et al. (2007) and Jurgens et al. (2008) and the new Central Valley Hydrologic Model (Faunt et al., 2009) have been reviewed to collect existing information on the geology and hydrogeology of the area.

Yes No Not required this year

8.5.3 Evaluate Hydrogeologic Conditions

The City is required to evaluate hydrogeologic conditions of selected rockwell locations. This evaluation, was based upon the data gathered in the previous task. Sampling of monitoring wells for the selected rockwell locations are underway.

A groundwater flow model has been developed for the city of Modesto to evaluate flow direction and magnitude in the vicinity of the six selected rockwells. The model has been implemented on the base of the USGS model for the Eastern San Joaquin valley (Phillips et al., 2007), but, considering the final goal of the project, the grid has been significantly refined to better represent the flow around the rockwells. The each grid (model cell) of the original model was a 400 m², while the grid that has been used in the refined Modesto model is about 25 m². The model results will be used to decide the location of the new monitoring wells that will be installed closed to the six selected rockwells; ideally two new monitoring wells will be installed at each location, one upgradient and one downgradient with respect to the rockwell. This will allow evaluation

of actual impact of the rockwell on the shallow aquifer. Initial information on the depths and gradients at each rockwell are included in **Appendix H-1**.

- a) Did the City evaluate hydrogeologic conditions of selected rockwell locations?
 Yes No Not required this year

8.5.4 Install Groundwater Monitoring Wells

The City is required to install two shallow groundwater monitoring wells in the immediate proximity of each study site immediately upgradient and downgradient of the rockwells. A total of thirteen monitoring wells were constructed at the six aforementioned locations within the City. Each of the six sites had two wells, one up gradient from the rockwell and one down gradient; with the exception of the Carpenter Basin rockwell which had three wells, up, down and mid gradient. Drilling began on August 19, 2010 with total depths of all wells ranging from 50 to 71 feet. Final development of all wells concluded on August 5, 2011.

- a) Did the City install groundwater monitoring wells?
 Yes No Not required this year

8.5.5 Install Continuous Monitoring Instrumentation

The City is required to instrument one downgradient monitoring well for each type of rockwell (residential, industrial, and commercial) with probes for the continuous measurement of temperature, water depth, nitrate, and pH.

While nitrate was proposed in the SWMP for each type of well, upon further evaluation it was determined that the sensors were not as robust as the general parameter sensors and would require a significantly higher investment to ensure proper ongoing calibrations. A nitrate sensor will be install on one well to test the technology. The City is moving forward with the installation of monitoring equipment at all of the monitoring well sites.

- a) Did the City install continuous monitoring instrumentation?
 Yes No Not required this year

8.5.6 Conduct Field Sampling

The City is required to sample each groundwater well for the constituents identified in the SWMP. Each groundwater well is required to be sampled four times during the permit term; two sampling events at each groundwater well during the wet season immediately following a storm event, and two sampling events during the dry season. This sampling may be spread out over three years, with the sampling to be completed no later than the June 2013. Upon installation of the monitoring equipment, City staff will begin to conduct field sampling.

- a) Did the City conduct field sampling?
 Yes No Not required this year

8.5.7 Annually Report Collected Data

The City is required to summarize data collected during each permit year in that year's Annual Report in a table format showing the comparison to applicable water quality standards and also provide the data electronically.

a) Did the City annually report collected data?

Yes No Not required this year

8.5.8 Analyze Monitoring Data to Determine Rockwell Effectiveness

The City is required to evaluate the data collected in the rockwell assessment. All the data collected will be analyzed and used to create a water quality evaluation of the inputs to the rockwells (MP2 and MP4) and the shallow groundwater influenced by the rockwells. The analysis should include all the data and information collected during the study period and assess the effectiveness of the rockwells at removing pollutants and the effects of infiltration on groundwater quality.

a) Did the City analyze monitoring data to determine rockwell effectiveness at removing pollutants and the effects of infiltration on groundwater quality?

Yes No Not required this year

8.5.9 Submit Final Evaluation Report

The City is required to submit the final evaluation report in the fifth year of the permit term and include:

- Locations of the rockwells
- Locations of the groundwater wells
- Results of the field sampling and continuous monitoring
- Evaluation of the relationship of the rockwell assessment to any on-going USGS studies in the Modesto area

Contour maps of the piezometric head and concentrations of the groundwater constituents

a) Did the City submit final evaluation report?

Yes No Not required this year

8.6 WQ4 – Peak Discharge Impact Study

The Peak Discharge Impact Study is designed to determine the extent of erosion of natural stream channels and banks caused by urban runoff. This work plan also evaluates peak flow control and determines number criteria to prevent or minimize erosion of natural stream channels and banks caused by urban runoff.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

8.6.1 Complete Peak Discharge Impact Study

The City of Modesto was only able to perform qualitative observations for erosion caused by urban runoff during the two weather sampling events at Dry Creek and the Tuolumne River due to seasonably high flows and flood stage levels.

a) Did the City complete the peak discharge impact study?

Yes No Not required this year

8.7 WQ5 – Treatment Feasibility Study

The Treatment Feasibility Study (TFS) is designed to investigate the feasibility of diverting dry weather discharges to the sanitary sewer system or treatment control BMPs. The storm drain system collects stormwater and excess water from irrigation and other urban runoff, which may result in pollutant mobilization through the storm drain system and into the receiving waters.

This effort investigates and prioritizes opportunities for diversion of dry weather discharges in an effort to minimize urban runoff impacts to the receiving waters. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

8.7.1 Review Existing Information

The City is required to review existing information. The first milestone of this study is to compile and review existing information on the City's storm drainage system, including the watershed areas, storm drain outfall locations; and sanitary sewer system. The City maintains a GIS program that includes information regarding watershed areas, storm drain system, location of outfalls, and sanitary sewer system. This information was compiled and reviewed prior to conducting field investigations. Existing information was collected for field verification and to identify data gaps that need to be filled during the field investigation. During this task the City identified that the list of outfalls in the SWMP was incomplete and updated information was obtained from the City's GIS department.

a) Did the City review existing information?

Yes No Not required this year

8.7.2 Complete Field Investigations

The City is required to complete field investigations. The second milestone of this study is to conduct a field investigation to characterize each storm drain system outfalls. The following information will be verified and/or collected for each outfall:

- Pump station capacity and piping arrangement (if applicable) – storm pumps, dry weather pump(s), and above and below ground piping arrangement;
- Site characteristics – landscaping, nearby land uses, available land on-site, location of manholes, site constraints (e.g. overhead power lines, underground utilities), site accessibility, and right-of-way availability/accessibility;
- Receiving water characteristics – tidal influence, location of outfalls, size of outfalls, and other general observations; and

- Sanitary sewer line location – size of nearby sanitary sewer lines, location of manholes, and right-of-way availability/accessibility.

Information that is verified and/or collected during field investigations will be used to determine outfalls for which it may be feasible to divert or treat dry weather discharges and to prioritize these outfalls for further study. A field investigation was conducted on April 29, and May 4, 2010, to characterize each storm drain system outfall. The following information was verified and/or collected for each outfall:

- Pump station capacity and piping arrangement (if applicable) – storm pumps, dry weather pump(s), and above and below ground piping arrangement;
- Site characteristics – landscaping, nearby land uses, available land on-site, location of manholes, site constraints (e.g. overhead power lines, underground utilities), site accessibility, and right-of-way availability/accessibility;
- Receiving water characteristics – tidal influence, location of outfalls, size of outfalls, and other general observations; and
- Sanitary sewer line location – size of nearby sanitary sewer lines, location of manholes, and right-of-way availability/accessibility.

Information that is verified and/or collected during field investigations will be used to determine outfalls for which it may be feasible to divert or treat dry weather discharges and to prioritize these outfalls for further study.

a) Did the City complete field investigations?

Yes

No

Not required this year

8.7.3 Submit List of Prioritized Outfalls

The City is required to submit prioritize outfalls that may be technically feasible candidates for dry weather diversion to the sanitary sewer or treatment BMPs by the second year of the permit term.

Information collected from review of existing information and field investigation will be used to perform an initial planning level evaluation (1) to determine if it is technically feasible to divert dry weather discharges to the sanitary sewer system or to treatment control BMPs, and (2) to prioritize outfalls that may be technically feasible diversion candidates for further study.

Information collected from the review of existing information and the field investigation was used to perform an initial planning level evaluation (1) to determine if it is technically feasible to divert dry weather discharges to the sanitary sewer system or to treatment control BMPs, and (2) to prioritize outfalls that may be technically feasible diversion candidates for further study. Technical feasibility of dry weather discharge diversion options was determined according to the following criteria:

- Outfall size;
- Receiving water impact;
- Proximity to sanitary sewer system line;
- Proximity to cannery segregation line;

- Available space for equipment and infrastructure;
- Power source capacity and spatial proximity;
- Overall ease of implementation; and
- Public acceptance.

A numeric ranking system was developed for the evaluation, with a total of 40 points available. An outfall was prioritized for further evaluation (e.g., engineering study) if it received a total of 75% or more of the available points (i.e., 30 out of 40 points). Forty outfalls that discharge directly into the receiving waters were evaluated. The numeric ratings were applied based upon the field investigations. Of the 40 outfalls investigated four were ranked with a score of 35 or more and will be prioritized for further evaluation. Complete results were submitted to the RWQCB on June 29, 2010.

a) Did the City submit a list of prioritized outfalls?

Yes No Not required this year

8.7.4 Submit TFS Report

The City is required to submit the feasibility study to connect or treat any or all flows to the sanitary sewer to treatment control facility. Following the completion of the information review, field investigations, and outfall prioritization, a treatment feasibility study report will be prepared to summarize the findings of this study and to identify outfalls that are candidates for dry weather discharge diversion. Included in this report will be fact sheets for each outfall and summaries of the field investigations. A draft copy of the TFS study was submitted to RWQCB on June 30, 2011. The City is in the process of finalizing the study and will be available in the near future.

a) Did the City submit TFS report?

Yes No Not required this year

8.7.5 Finalize and Submit Recommendations and Develop Implementation Schedule

The City is required to submit the finalized the list of outfalls recommended for diversion and a schedule to implement the recommendations.

a) Did the City finalize and submit an evaluation and recommendations for diversion of priority outfalls?

Yes No Not required this year

8.8 WQ6 – Water Quality-Based Programs Effectiveness Assessment

The Effectiveness Assessment Strategy control measure is used to determine whether the Program Elements are achieving intended outcomes and ultimately, whether continued implementation will result in maintaining or improving water quality (CASQA, 2007). Outcome levels are used to categorize and describe the desired results of goals of the control measures and Program Elements. There are six outcome levels as defined by the CASQA Program Effectiveness Assessment Guidance. This part of the Annual Progress Report assesses the effectiveness of the Water Quality-Based Programs and related work plans (control measures) to determine their effectiveness

and identify necessary modifications. Although the effectiveness assessment may change from year to year as new information is learned, the assessment will initially focus on Outcome Levels 1-4. Table 8-11 of the SWMP identifies the effectiveness assessment questions required for the Water Quality-Based Programs. Most of the Water Quality-based program efforts got underway in 2008-2009, and it is too early to assess the effectiveness of the control measures.

Summary of Assessment Levels Planned for the 2008-2013 Permit Term

| Control | Level 1 | Level 2 | Level 3 | Level 4 |
|-----------------------------------|-------------------|--------------------|-----------------|----------------|
| | Implement Program | Increase Awareness | Behavior Change | Load Reduction |
| WQ1 – Discharge Characterization | ✓ | ✓ | | ✓ |
| WQ2 – Pesticide Plan | ✓ | ✓ | ✓ | ✓ |
| WQ3 – Rockwell Assessment Plan | ✓ | | | ✓ |
| WQ4 – Peak Discharge Impact Study | ✓ | | | |
| WQ5 – Treatment Feasibility Study | ✓ | | | |

WQ1 – During the monitoring period WQO exceedance included fecal coliform, dissolved oxygen, and aluminum. Of the POI's identified in 2009-2010 fecal coliform, and aluminum have reoccurred. The City is currently investigating data collected in 2010 for fecal coliform, and aluminum from the 7th Street and Crater and Seine outfalls. Based on the analyses the City will investigate an inspection and sampling plan.

WQ2 –The City continued to provide public outreach for to alternatives and proper handling and disposal of pesticide and fertilizers. Communication to the public was conducted through fact sheets, public multi-lingual brochures / flyers, expanding the locations where residential-related brochures are available, staffing public events (attend and distribute pollution prevention brochures and materials at various community events) and using various means to distribute educational brochures and continuing to update the website to include outreach material.

WQ3 – The City has completed installation and development of thirteen monitoring wells to evaluate the impact on shallow groundwater from rockwells at two residential locations, two commercial locations, and two industrial locations. Sampling was conducted in August 2011.

WQ4 – Due to seasonably high flows and flood stage levels the City of Modesto was only able to perform qualitative observations for erosion caused by urban runoff during the two weather sampling events at Dry Creek and the Tuolumne River.

WQ5– Treatment Feasibility Study revealed that diversion of the dry weather flow is not warranted at this time due to:

- Pollutant loads from dry weather discharges are minimal, and removal of these loads from discharge to the receiving waters will have minimal to no impact on water quality;

- Potential dry weather diversion volumes are small;
- And implementation of diversion alternatives are cost prohibitive for the minimal to no benefit received in improved water quality in Dry Creek or the Tuolumne River.

8.9 Water Quality-Based Program Modifications

The City evaluates the results of the Program Effectiveness Assessment as well as the experience that staff has had in implementing the program. The City also determines if any program modifications are necessary in order to comply with Clean Water Act requirements to reduce the discharge of pollutants to the maximum extent practicable.

The program modifications that will be made to the Water Quality-Based Program during the next year include the following:

- WQ1 – Evaluate work plan to determine source of fecal coliform and aluminum, and potential BMPs.
- WQ2 – Quantify pesticide and fertilizers usages by residence and landscaping contractors.
- WQ3 – Continue to monitoring the impact on groundwater from rockwells by groundwater samples from the newly develop monitoring wells.
- WQ4 – Quantify peak discharge impact by evaluate erosion potential in Dry Creek and the Tuolumne River.

9. Monitoring Program Element

9.1 Overview

The Monitoring Program Element includes several monitoring studies conducted by the City to characterize both urban runoff and receiving waters water quality and toxicity as well as to assess the effectiveness of treatment controls (i.e., BMPs). Monitoring is used to both assess the current health and condition of these waters and changes in conditions over time.

9.2 Monitoring Tasks

The monitoring tasks for this program element take the form of work plans for each monitoring component. For each work plan, there are accompanying work plan tasks which, once accomplished, meet the program objectives. Each work plan is a stand-alone document although the work effort may rely upon the efforts and actions undertaken in other control measures or other work plans. In particular, monitoring programs are inter-related with the Water Quality-Based Programs (Section 8) and the Receiving Water Monitoring work plan (MP1) is inter-related with the Urban Discharge Monitoring work plan (MP2).

| ID | Monitoring Tasks |
|-----|-----------------------------------|
| MP1 | Receiving Water Monitoring |
| MP2 | Urban Discharge Monitoring |
| MP3 | Detention Basin Monitoring |
| MP4 | Dry Weather Characterization |
| MP5 | Bioassessment Monitoring |
| MP6 | BMP Effectiveness Study |
| MP7 | Data Management |
| MP8 | Training |
| MP9 | Effectiveness Assessment Strategy |

9.3 MP1 – Receiving Water Monitoring

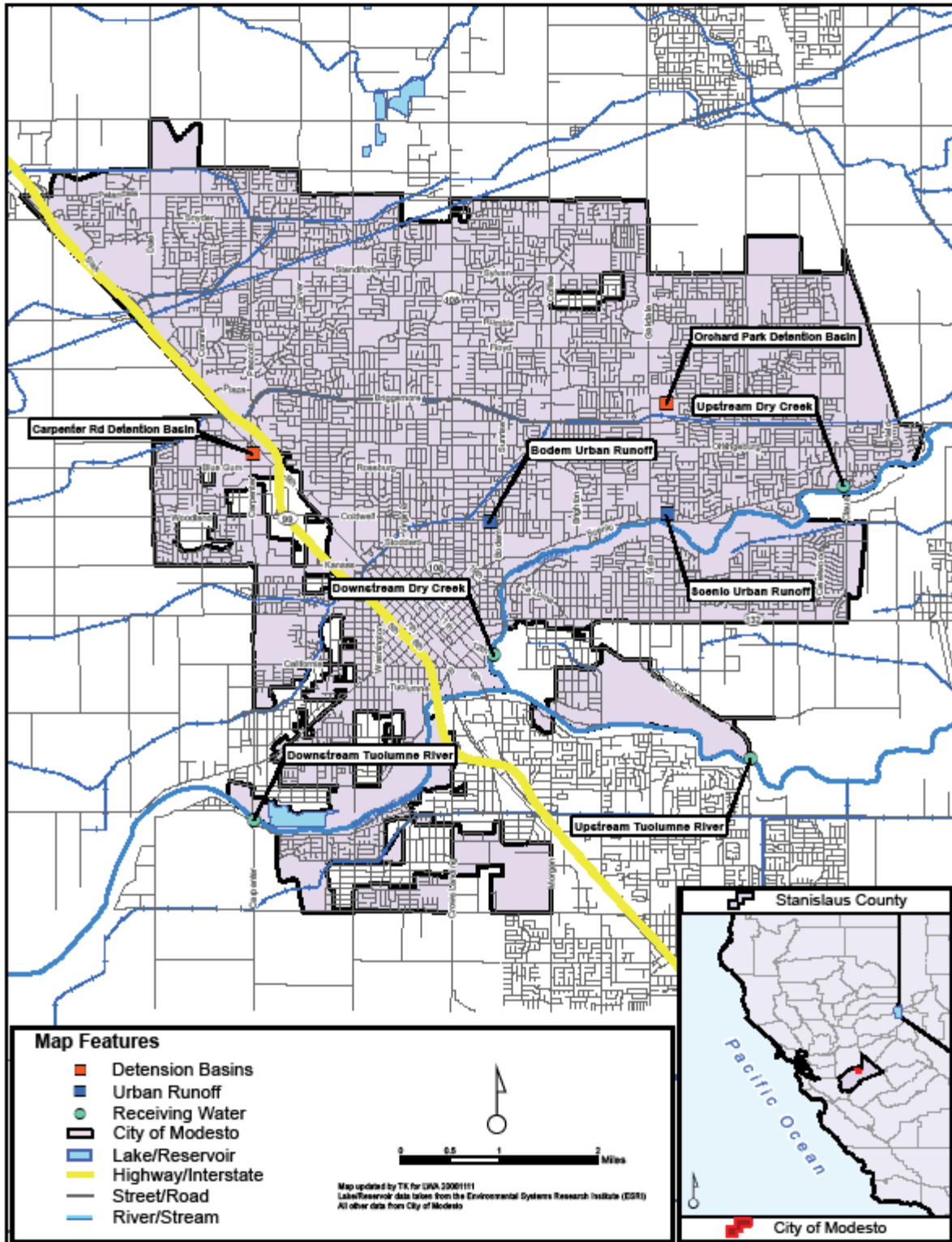
The purpose of the Receiving Water Monitoring task is to characterize the water quality of the Tuolumne River and Dry Creek at upstream and downstream locations relative to the City. This task also includes monitoring for diazinon and chlorpyrifos (the Tuolumne River is 303(d)-listed for these pesticides); monitoring sediment toxicity; and monitoring water column toxicity. If toxicity is observed, further tests are conducted to attempt to determine the cause.

Monitoring Locations

Receiving water monitoring locations are in the Tuolumne River and Dry Creek upstream and downstream of the City (shown in Figure 9-1) and described below. These locations have been monitored in previous years and will continue to be sampled.

Receiving Water Monitoring Locations

| Tuolumne River Upstream | Tuolumne River Downstream |
|--|---|
| <p>The site is located upstream of the Mitchell Road Bridge and east of the City airport and is accessible from the Tuolumne River Regional Park (TRRP) north parking lot, adjacent to the airport. At this location, the river is relatively narrow, deep, and fast flowing. Grab samples are collected at an equivalent mid-stream, mid-depth location directly from shore using a grab pole or portable pump with Teflon tubing. Direct submersion from the shore is also acceptable if safety conditions permit.</p> | <p>The site is located at the Carpenter Road Bridge on the northern bank of the river and is wider and shallower than the upstream location. Mid-stream sampling is not possible from the shore. Samples are taken as close to mid-stream, mid-depth as safely as possible.</p> |
| Dry Creek Upstream | Dry Creek Downstream |
| <p>The upstream Dry Creek location access point is just upstream from the Claus Road Bridge through a residential area north of the river. Dry Creek is narrow and densely tree-lined for most of its course through the City and upstream of the City. At this location the side-slopes are steep and access may be limited during severe weather or saturated soil conditions.</p> | <p>The site is located near the confluence of Dry Creek with the Tuolumne River. The access point is through the south entrance to Beard Brook Park. At this location, the creek is approximately 25 feet wide. Samples are taken from the shore under most conditions.</p> |



Water Quality Parameters

Water quality parameters with monitoring requirements in the receiving water are listed in the table below.

Receiving Water Sampling Constituent List

| Constituent | Analytical Method | Minimum Level | Units |
|--|-------------------|---------------|------------|
| Bacteriological | | | |
| <i>E. coli</i> | SM 9221E | 20 | MPN/100 mL |
| Fecal coliform | SM 9221E | 20 | MPN/100 mL |
| Conventional | | | |
| Dissolved oxygen | SM 4500-O-G | 5 | mg/L |
| Oil and grease | EPA 1664 | 5 | mg/L |
| pH | SM 4500-HB | 0.1 | Std. units |
| Temperature | SM 2550B | None | °C |
| General | | | |
| Alkalinity | SM 2320B | 2 | mg/L |
| Biochemical oxygen demand (BOD) | SM 5210 | 2 | mg/L |
| Chemical oxygen demand (COD) | SM 5220D | 20-900 | mg/L |
| Nitrate-nitrite (as N) | SM 4500-NO3-F | 0.1 | mg/L |
| Specific conductivity | SM 2550B | 1 | µmhos/cm |
| Total ammonia (as N) | SM 4500-NH3-D | 0.1 | mg/L |
| Total dissolved solids (TDS) | SM 2540C | 2 | mg/L |
| Total hardness (as CaCO ₃) | SM 2340B | 2 | mg/L |
| Total Kjeldahl nitrogen (TKN) | SM 4500-N-Org-D | 0.1 | mg/L |
| Total organic carbon (TOC) | SM 5310C | 1 | mg/L |
| Total phosphorus | SM 4500-P-F | 0.05 | mg/L |
| Total suspended solids (TSS) | SM 2540D | 2 | mg/L |
| Turbidity | SM 2130B | 0.1 | NTU |
| Metals | | | |
| Aluminum, Dissolved | EPA 200.8 | 50 | µg /L |
| Aluminum, Total | EPA 200.8 | 50 | µg/L |
| Copper, Dissolved | EPA 200.8 | 0.5 | µg/L |
| Copper, Total | EPA 200.8 | 0.5 | µg/L |
| Iron, Total | EPA 200.8 | 100 | µg/L |
| Lead, Dissolved | EPA 200.8 | 0.5 | µg/L |
| Lead, Total | EPA 200.8 | 0.5 | µg/L |
| Mercury, Total | EPA 1631E | 0.5 | ng/L |
| Zinc, Total | EPA 200.8 | 1 | µg/L |
| Methyl mercury | EPA 1630 | 0.05 | ng/L |
| Organophosphate Pesticides | | | |
| Chlorpyrifos | EPA 614 | 0.01 | µg/L |
| Diazinon | EPA 614 | 0.05 | µg/L |

The performance standards for this Work Plan and the activities that have been initiated and/or completed during this reporting period are summarized below. Summaries of all data discussed in Section 9 are included in Appendix I; data spreadsheets are included in Excel format in **Appendix I-1** and on the report compact disk (CD). Laboratory data reports are in **Appendix I-2**; however due to the size of these reports they are only included on the report CD.

9.3.1 Review/Revise SSOP

The City developed and uses a detailed Sampling and Analysis Plan as part of the Sampling Standard Operating Procedure (SSOP). All sampling is performed using clean sampling techniques according to the EPA Method 1669. Prior to the start of each monitoring event, City staff reviews both the Sampling and Analysis Plan along with the SSOP for each monitoring location.

- a) Did the City review the SSOP and revise if necessary?
 Yes No Not required this year

9.3.2 Conduct Receiving Water Monitoring

The City is required to conduct three receiving water monitoring events each year: early in the rainy season, mid-to-late in the rainy season (also referred to as dormant season), and dry weather season. Monitoring is to be conducted in coordination with urban discharge monitoring at the following locations:

- Tuolumne River (upstream)
- Tuolumne River (downstream)
- Dry Creek (upstream)
- Dry Creek (downstream)

The City conducted sampling events on 10/30/10 (first flush), 02/16/11 (mid-rainy season), and 06/21/11 (dry weather). The City missed the actual first flush event which occurred on 10/22 & 10/23 due to unpredictable weather forecasts. A copy of the notification letter sent to the RWQCB is in **Appendix I-3**. At the direction of RWQCB, the City targeted the next rain event which occurred on 10/29/10 & 10/30/10 as the first sampling event of the permit year. Short-term chronic toxicity samples were inadvertently missed during the 10/30/10 event. The City collected samples from a subsequent storm event on 11/20/10 & 11/21/10 for short-term chronic toxicity along with a number of field readings. Also included on these dates were re-samples for fecal coliform. All data are tabulated in **Appendix I-1**.

- a) Did the City conduct receiving water monitoring?
 Yes No

9.3.3 Conduct Receiving Water Monitoring for Expanded Constituent List

The City is required to monitor for the expanded list of constituents in the 2011-2012 permit year, in coordination with the early-season monitoring at the receiving water locations.

- a) Did the City conduct monitoring for constituents on the expanded constituent list?
 Yes No Not required this year

9.3.4 Conduct Water Column Toxicity Monitoring

As previously mentioned short- term chronic toxicity samplings were performed 11/20/10 & 11/21/10, 02/16/11 and 06/21/11

- a) Did the City conduct toxicity testing?
 Yes No Not required this year

9.3.5 Conduct a TIE if Toxicity is Present

The City is required to conduct a Toxicity Identification Evaluation (TIE) if toxicity testing indicates that samples are significantly toxic to either test species. In the event that samples are significantly toxic to either test species, the City will immediately conduct a Phase I TIE on the toxic samples. In the event that there is 50% mortality in both species the TIE will be conducted using both Fathead minnows and water fleas. TIEs will be conducted by Pacific EcoRisk or another qualified consultant.

No toxicity present in data; TIE not required

- a) Did the City conduct a TIE if toxicity was present?
 Yes No Not required this year

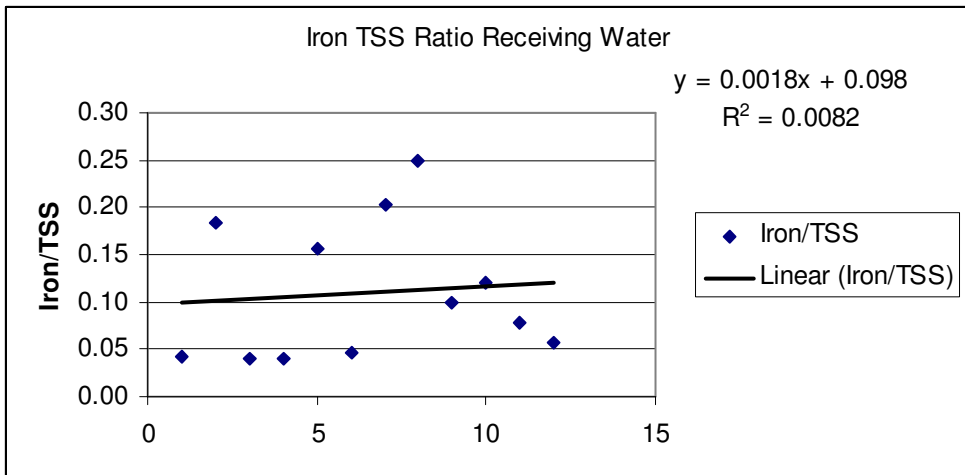
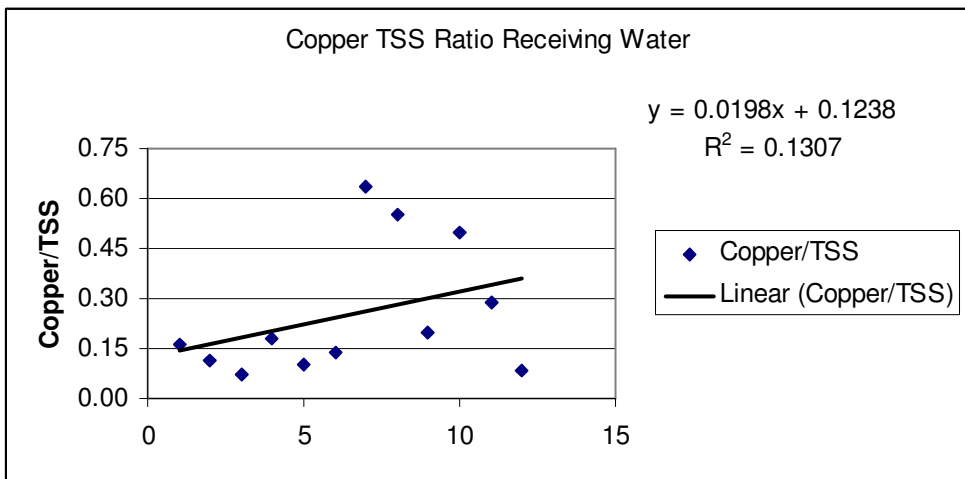
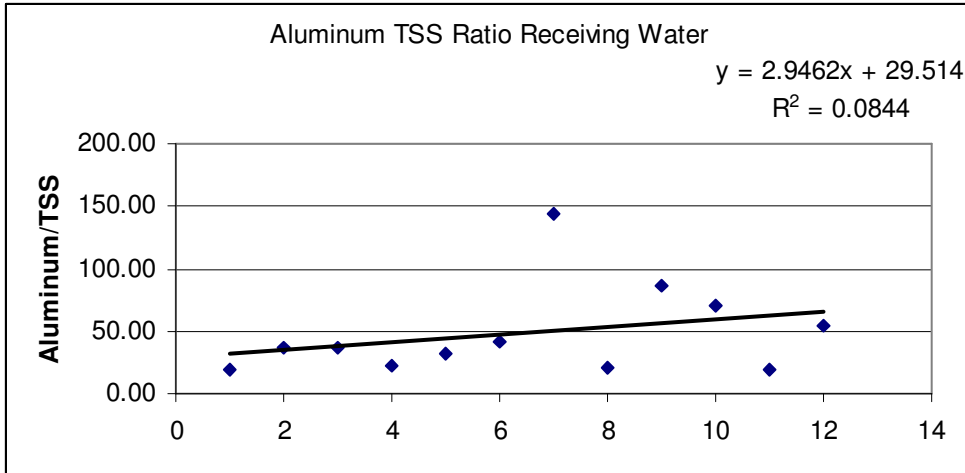
9.3.6 Conduct TRE, if TIE Identifies Toxicant

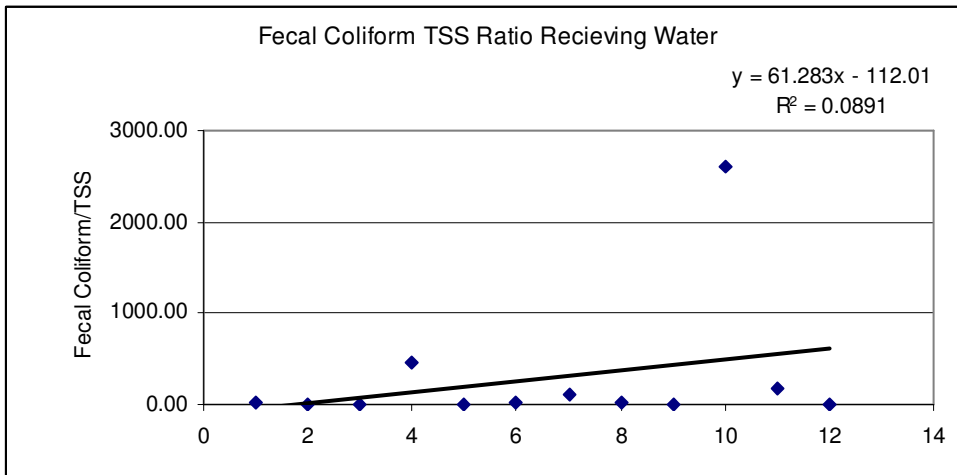
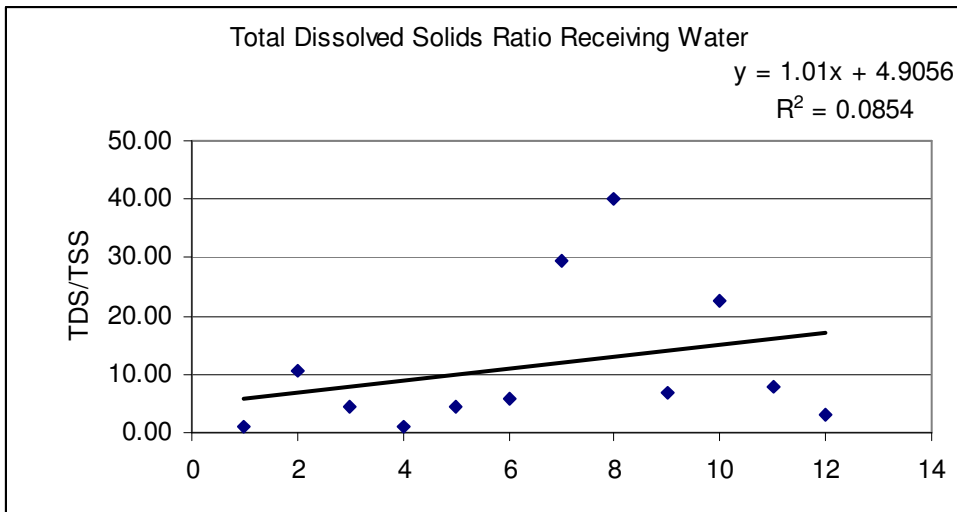
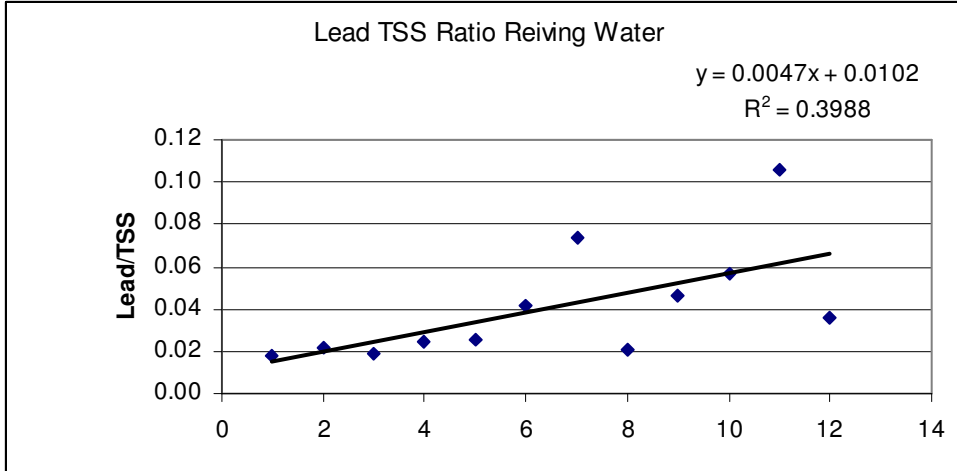
The City is required to conduct a Toxicity Reduction Evaluation (TRE) whenever a TIE identified a toxicant and submit a TRE Corrective Action Report. Once the source of toxicity is identified, the City will conduct a TRE as specified in the permit and will submit a TRE Corrective Action Report for the Executive Officer's approval as part of the Annual Report. TIE not performed therefore a TRE was not conducted.

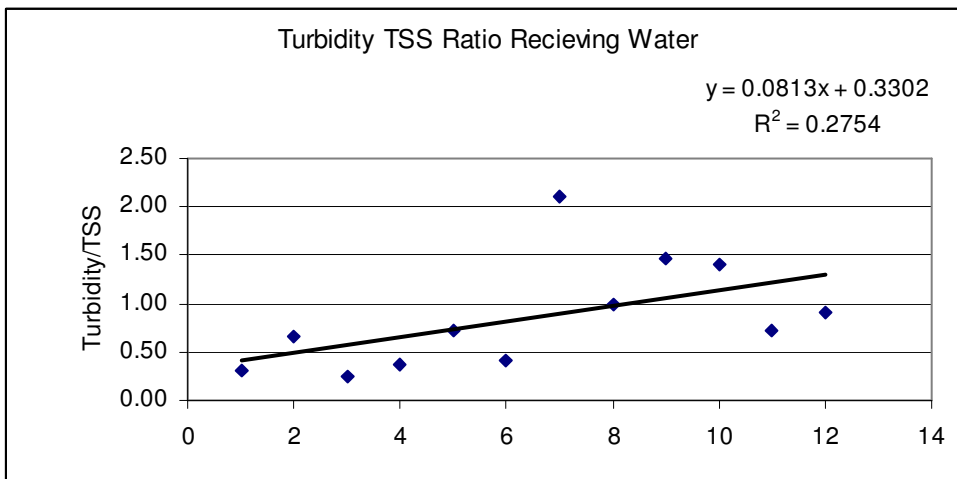
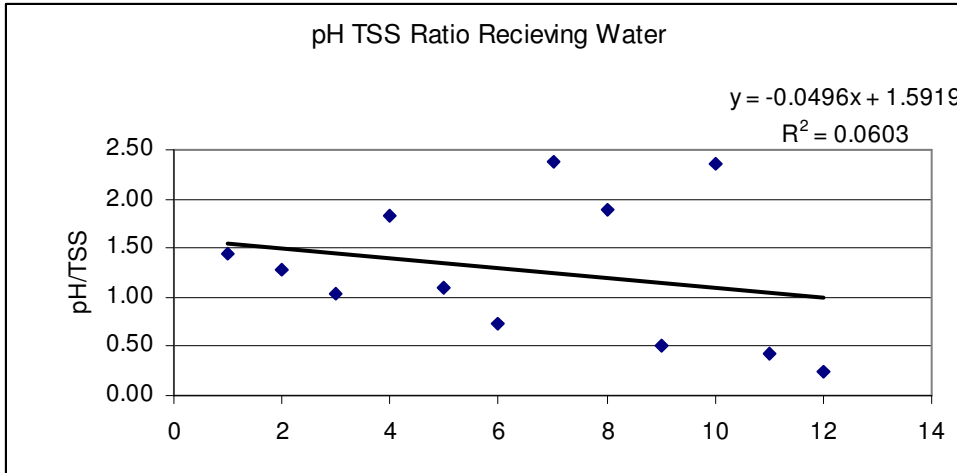
- a) Did the City conduct a TRE whenever a TIE identified a toxicant and submit a TRE Corrective Action Report?
 Yes No Not required
- b) If a TRE was conducted, did the City submit a TRE Corrective Action Report as part of the Annual Report?
 Yes No Not required

9.3.7 Conduct Correlation Analysis of POCs to TSS

The City is required to perform an analysis of the correlation between the pollutants of concern (POCs) and TSS loadings. The analyzed POCs included: total aluminum, total copper, total iron, total lead, total dissolved solids, diazinon, Escherichia coli, fecal coliform, pH, and turbidity. An analysis of these POCs' relationship to TSS at the receiving water monitoring sites was conducted. The analysis indicated that total aluminum, total iron, and turbidity have relatively weak correlations with TSS; all other POCs were not correlated to TSS. POCs versus TSS correlation plots are shown below.







- a) Did the City perform correlation analysis of POCs to TSS loadings?
 Yes No

9.3.8 Conduct Sediment Toxicity Monitoring

The City is required to perform sediment toxicity testing at the City’s receiving water locations to determine the significance of the increase in urban pyrethroid usage, and assess management practice effectiveness.

The first round of sediment toxicity testing was conducted in the first year of the permit term. Sediment samples were collected from one dry weather monitoring event and from one post flush storm event. (A post flush event is defined as within two weeks of a qualifying storm event.)

The testing included two sets of sediment toxicity tests on the freshwater species *Hyaella azteca* (10-day survival and growth tests) accompanied by TOC and grain size analyses.

The sediment toxicity testing showed no toxicity to *H. azteca* for the post flush event. There was sediment toxicity for *H. azteca* during the dry weather sampling event at Dry Creek Upstream (70% survival), Dry Creek Downstream (55% survival), and Tuolumne

River Downstream (62.5% survival). Sediment chemistry for pyrethroids and chlorpyrifos was conducted for the two Dry Creek sites. Dry Creek Upstream sediment pyrethroid analytical results were all below the laboratory reporting limit. Dry Creek Downstream sediment chemistry analysis detected:

- Bifenthrin (1 µg /kg),
- Chlorpyrifos (DNQ 0.21 µg /kg), and
- Cyfluthrin (DNQ 0.23 µg /kg).

Sediment pyrethroid analysis for Tuolumne River Downstream was accidentally omitted. Only the dry weather samples were analyzed for TOC and grain size.

a) Did the City conduct sediment toxicity monitoring?

Yes No Not required this year

9.3.9 Notify Regional Water Board of Water Quality Objective (WQO) Exceedances in the Receiving Water

The City is required to evaluate the monitoring results to determine whether the WQOs are exceeded in the receiving water and, starting in the year 2009-2010, it will also be required to notify the Regional Water Board within 48 hours of receiving the data indicating an exceedance. The WQO notification letters sent to the Regional Water Board are in **Appendix I-4**. A summary of WQO exceedances observed in the 2010-2011 receiving water monitoring events is included in the table below.

a) Did the City evaluate WQO exceedances?

Yes No

b) Did the City notify the Regional Water Board within 48 hours of any WQO exceedances?

Yes No Not required this year

Summary of Receiving Water WQO Exceedances

| Constituent | Concentration | Sample Date / Location | WQO |
|-----------------------|-----------------|-------------------------|---------------|
| Fecal Coliform | 330 MPN/100mL | 10/30/10 Dry Creek Up | 200 MPN/100mL |
| Fecal Coliform | 7800 MPN/100mL | 10/30/10 Dry Creek Down | 200 MPN/100mL |
| Fecal Coliform | 1800 MPN/100mL | 10/30/10 Tuolumne Down | 200 MPN/100mL |
| Dissolved Oxygen (DO) | 5.94 mg/L | 10/30/10 Dry Creek Up | 7.0 mg/L |
| Dissolved Oxygen (DO) | 4.87 mg/L | 10/30/10 Dry Creek Down | 7.0 mg/L |
| Fecal Coliform | 490 MPN/100mL | 11/20/10 Tuolumne Down | 200 MPN/100mL |
| Fecal Coliform | 11000 MPN/100mL | 11/21/10 Dry Creek Down | 200 MPN/100mL |
| Fecal Coliform | 3300 MPN/100mL | 02/16/11 Dry Creek Down | 200 MPN/100mL |
| Fecal Coliform | 450 MPN/100mL | 06/21/11 Dry Creek Up | 200 MPN/100mL |

| Constituent | Concentration | Sample Date / Location | WQO |
|----------------|----------------|-------------------------|---------------|
| Fecal Coliform | 330 MPN/100mL | 10/30/10 Dry Creek Up | 200 MPN/100mL |
| Fecal Coliform | 1015 MPN/100mL | 06/21/11 Dry Creek Down | 200 MPN/100mL |
| Aluminum | 1300 µg/L | 06/21/11 Dry Creek Up | 750 µg/L |
| Aluminum | 1700 µg/L | 06/21/11 Dry Creek Down | 750 µg/L |
| Fecal Coliform | 330 MPN/100mL | 06/28/11 Dry Creek Down | 200 MPN/100mL |

9.3.10 Evaluate Water Quality Data and Develop Reports of Water Quality Exceedance (RWQEs)

The City is required to evaluate the results to determine whether the urban runoff discharges are causing or contributing to an exceedance of water quality objectives in the receiving water.

a) Did the City evaluate data and develop RWQEs if needed?

Yes No Not required this year

Summary of RWQEs

| Constituent | Concentration | Sample Date/ Location | Exceeded RWQE Tier 2 Threshold (Y/N) | Date RWQE Submitted |
|-----------------------|----------------|-------------------------|--------------------------------------|---------------------|
| Fecal Coliform | 330 MPN/100mL | 10/30/10 Dry Creek Up | No | 12/12/10 |
| Fecal Coliform | 7800 MPN/100mL | 10/30/10 Dry Creek Down | No | 12/12/10 |
| Fecal Coliform | 1800 MPN/100mL | 10/30/10 Tuolumne Down | No | 12/12/10 |
| Dissolved Oxygen (DO) | 5.94 mg/L | 10/30/10 Dry Creek Up | No | 12/12/10 |
| Dissolved Oxygen (DO) | 4.87 mg/L | 10/30/10 Dry Creek Down | No | 12/12/10 |
| Fecal Coliform | 3300 MPN/100mL | 02/16/11 Dry Creek Down | No | 04/06/11 |
| Fecal Coliform | 450 MPN/100mL | 06/21/11 Dry Creek Up | No | 07/27/11 |
| Fecal Coliform | 1015 MPN/100mL | 06/21/11 Dry Creek Down | No | 07/27/11 |
| Aluminum | 1300 µg/L | 06/21/11 Dry Creek Up | No | 07/27/11 |
| Aluminum | 1700 µg/L | 06/21/11 Dry Creek Down | No | 07/27/11 |
| Fecal Coliform | 330 MPN/100mL | 06/28/11 Dry Creek Down | No | 07/27/11 |

9.4 MP2 – Urban Discharge Monitoring

The purpose of the Urban Discharge Monitoring task is to characterize urban runoff discharged directly to surface receiving waters within the City limits. Urban runoff in the City flows to both rockwells and receiving waters. For the purpose of this task, urban discharge monitoring generally refers to monitoring of urban runoff to surface receiving waters. This task also includes monitoring for diazinon and chlorpyrifos, which are listed on the 303(d) list as impairing the Tuolumne River; and monitoring water column toxicity, which if found, the cause of the toxicity is determined.

Monitoring Locations

Two locations are used to characterize urban runoff. The locations are described below and shown in Figure 9-1. These locations have been monitored in previous years and will continue to be sampled.

Urban Discharge Monitoring Locations

| Bodem Street | Scenic Road |
|--|---|
| <p>The Bodem Street line drains the McHenry Avenue Corridor, a mostly residential/commercial area. The 84-inch drain pipe invert is approximately 20 feet below grade. The maintenance access is within the traveled roadway of a two-lane bi-directional street with moderate traffic. The discharge point to Dry Creek is in Moose Park with a limited number of additional contributions to the discharge line downstream of the monitoring location.</p> | <p>The Scenic Drive line drains urban runoff from the Sonoma residential neighborhood. The 36-inch pipe is 10 feet below grade. The maintenance access is located in the traveled roadway of a four-lane bi-directional street with heavy, fast-moving traffic. Access to the discharge point to Dry Creek is through a private residential property.</p> |

Water Quality Parameters

Water quality parameters with monitoring requirements in the urban discharge are the same as constituents monitored in the receiving water and are listed in Section 9.3. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

9.4.1 Review/Revise SSOP

The City is required to review and revise the SSOP. The City uses the SSOP for all the monitoring program work plans. The SSOP status is reported in Section 9.3.1 of this Annual Progress Report.

- a) Did the City review the SSOP and revise if necessary?
 Yes No Not required this year

9.4.2 Conduct Urban Discharge and Flow Monitoring

The City is required to conduct urban discharge monitoring for first flush, mid-to-late season, and dry weather each year (total 3 events per year) in coordination with the receiving water monitoring at the following locations:

- Bodem Street
- Scenic Drive

The City conducted sampling events on 10/30/10 (first flush), 02/16/11 (mid-rainy season), and 06/21/11 (dry weather). The City missed the actual first flush event which occurred on 10/22 & 10/23 due to unpredictable weather forecasts. At the direction of

RWQCB, the City targeted the next rain event which occurred on 10/29/10 & 10/30/10 as the first sampling event of the permit year. Samples for toxicity and re-samples for fecal coliform followed the first flush event on 11/20/10 & 11/21/10.

a) Did the City conduct urban discharge monitoring?

Yes No

9.4.3 Conduct Urban Discharge Monitoring for Expanded Constituent List

The City is required to monitor for the expanded list of constituent in Permit year 4, in coordination with the early-season monitoring at the urban runoff locations.

a) Did the City conduct monitoring for constituents on the expanded constituent list?

Yes No Not required this year

9.4.4 Conduct Water Column Toxicity Monitoring

Beginning in Permit year one, and occurring every other year, the City is required to conduct short-term chronic toxicity at the urban runoff locations. No toxicity was observed in any of the sampling events.

a) Did the City conduct toxicity testing?

Yes No Not required this year

9.4.5 Conduct a TIE if Toxicity is Present

The City is required to conduct a Toxicity Identification Evaluation (TIE) if toxicity testing indicates that samples are significantly toxic to either test species. In the event that samples are significantly toxic to either test species, the City will immediately conduct at Phase I TIE on the toxic samples. In the event that there is 50% mortality in both species the TIE will be conducted using both Fathead minnows and water fleas. TIEs will be conducted by Pacific EcoRisk or another qualified consultant. **No toxicity was present.**

a) Did the City conduct a TIE if toxicity was present?

Yes No Not required

9.4.6 Conduct TRE if TIE Identified Toxicant

The City is required to conduct a Toxicity Reduction Evaluation (TRE) whenever a TIE identified a toxicant and submit a TRE Corrective Action Report.

Once the source of toxicity is identified, the City will conduct a TRE as specified in the permit and will submit a TRE Corrective Action Report for the Executive Officer's approval as part of the Annual Report. **No toxicity was present.**

a) Did the City conduct a TRE whenever a TIE identified a toxicant and submit a TRE Corrective Action Report?

Yes No Not required

b) If a TRE was conducted, did the City submit a TRE Corrective Action Report as part of the Annual Report?

Yes No Not required

9.4.7 Conduct Correlation Analysis of POCs to TSS

The City is required to perform an analysis of the correlation between the pollutants of concern (POCs) and TSS loadings. As previously mentioned 9.3.7

- a) Did the City perform correlation analysis of POCs to TSS loadings?
 Yes No

9.4.8 Evaluate Data and Report Tier 1 Threshold Exceedances to the Regional Water Board

The City is required to evaluate data and report Tier 1 threshold exceedances to the Regional Water Board within 48 hours if needed.

- a) Did the City evaluate data and report Tier 1 threshold exceedances to the Regional Water Board within 48 hours?
 Yes No

9.4.9 Evaluate Water Quality Data and Develop RWQEs

Starting in the 2009-2010 permit year, the City is required to evaluate the monitoring results to determine whether the urban runoff discharges are causing or contributing to an exceedance of water quality objectives in the receiving water. Although not required at this time, the City has performed an exceedance evaluation, but RWQEs were not developed at this time. A summary of WQO exceedances observed in the 2020-2011 urban discharge monitoring events is included in the table below.

- a) Did the City evaluate data and develop RWQEs as needed?
 Yes No Not required this year

Summary of Urban Discharge WQO Exceedances

| Constituent | Concentration | Sample Date / Location | WQO |
|-------------------|-------------------|--------------------------|----------------|
| Fecal Coliform | <18000 MPN/100 mL | 10/30/10 Bodem | 200 MPN/100 mL |
| Fecal Coliform | 40000 MPN/100 mL | 10/30/10 Scenic | 200 MPN/100 mL |
| Dissolved Oxygen | 5.05 mg/L | 10/30/10 Bodem | 7.0 mg/L |
| Dissolved Oxygen | 3.12 mg/L | 10/30/10 Scenic | 7.0 mg/L |
| Copper, Total | 9.4 µg/L | 10/30/10 Bodem | 6.6 µg/L |
| Copper, Dissolved | 6.9 µg/L | 10/30/10 Bodem | 6.3 µg/L |
| Fecal Coliform | 110000 MPN/100 mL | 11/20/10 Bodem | 200 MPN/100 mL |
| Fecal Coliform | 1100 MPN/100 mL | 11/20/10 Scenic | 200 MPN/100 mL |
| Fecal Coliform | 13000 MPN/100 mL | 02/16/11 Bodem | 200 MPN/100 mL |
| Fecal Coliform | 4500 MPN/100 mL | 02/16/11 Bodem Duplicate | 200 MPN/100 mL |
| Fecal Coliform | 4900 MPN/100 mL | 02/16/11 Scenic | 200 MPN/100 mL |
| Aluminum, Total | 1400 µg/L | 02/16/11 Bodem | 750µg/L |
| Aluminum, Total | 800 µg/L | 02/16/11 Scenic | 750µg/L |
| Copper, Total | 25 µg/L | 02/16/11 Bodem | 6.6 µg/L |
| Copper, Total | 19 µg/L | 02/16/11 Scenic | 6.6 µg/L |
| Zinc, Total | 110 µg/L | 02/16/11 Bodem | 61 µg/L |

| | | | |
|-------------------|----------------------------------|-----------------|----------------|
| Copper, Dissolved | 24 µg/L | 02/16/11 Bodem | 6.3 µg/L |
| Copper, Dissolved | 16 µg/L | 02/16/11 Scenic | 6.3 µg/L |
| pH | 4.04 S.U. (Tier 2 exceedance) | 02/16/11 Bodem | 6.5 – 8.5 S.U. |
| Fecal Coliform | 680 MPN/100 mL | 06/21/11 Bodem | 200 MPN/100 mL |
| Fecal Coliform | 1400 MPN/100 mL | 06/21/11 Scenic | 200 MPN/100 mL |
| Copper, Total | 8 µg/L | 06/21/11 Scenic | 6.6 µg/L |
| Dissolved Oxygen | 4.38 mg/L | 06/21/11 Scenic | 7.0 mg/L |

Compliance with the chlorpyrifos water quality objective cannot be determined because the method detection limit was higher than the water quality objective for all sample results. For future monitoring events, the City will contract out this analysis to a certified laboratory that can achieve lower detection levels. Refer to August 25, 2009, letter in **Appendix I-3** for details.

9.4.10 Re-evaluate Tier 1 Threshold Concentrations

The City is required to re-evaluate Tier 1 threshold concentrations. The City re-evaluated the Tier 1 threshold concentrations that were established in the SWMP based on the monitoring data collected since the thresholds were developed. The city is not proposing any changes to the thresholds at this time.

a) Did the City re-evaluate Tier 1 threshold concentrations?

Yes No

9.5 MP3 – Detention Basin Monitoring

The purpose of the Detention Basin Monitoring task is to evaluate the effectiveness of detention basins at removing pollutants of concern. Detention basin influent and effluent water quality samples are collected during flow events and sediment chemistry samples are collected at multiple locations in each detention basin during non-storm conditions.

Monitoring Locations

Two detention basin locations were selected to represent runoff from a residential watershed (Orchard Park Basin) and a commercial/industrial watershed (Carpenter Road Basin). These locations are described below and show on Figure 9-1.

Detention Basins Monitoring Locations

| Orchard Park Basin | Carpenter Road Basin |
|--|--|
| The Orchard Park Basin is located at Merle Avenue near Bailey Drive. This basin receives primarily residential runoff from a drainage area of approximately 480 acres. The basin has a single inlet and a single outlet pipe, which discharges, via pump, to MID Lateral Number 3. | The Carpenter Road detention basin is located on Brink Avenue. near Fire Science Lane. This basin receives runoff from approximately 97 acres consisting of light industrial and commercial land uses. The basin has a single inlet and single discharge pipe. The storm water is pumped to a discharge point approximately 2,400 feet northeast into Modesto Irrigation District (MID) Lateral 3. |

Water Quality Parameters

Parameters with monitoring requirements for both the water and sediment chemistry are listed in the table below. In addition to sediment chemistry, sediment toxicity monitoring is done.

Detention Basin Sampling Constituent List

| Constituent | Analytical Method |
|---|--------------------|
| Conventional and General Parameters | |
| Turbidity (water) | SM 2310B/Field |
| Total Dissolved Solids (TDS) (water) | SM 2540C |
| Total Suspended Solids (TSS) (water) | SM 2540D |
| Bacteria | |
| E-coli (water) | SM 9221E |
| Fecal coliform (water) | SM 9221E |
| Metals | |
| Arsenic, Total (water/sediment) | EPA 200.8/EPA 6010 |
| Barium, Total (water/sediment) | EPA 200.8/EPA 6010 |
| Chromium, Total (water/sediment) | EPA 200.8/EPA 6010 |
| Copper, Total (water/sediment) | EPA 200.8/EPA 6010 |
| Lead, Total (water/sediment) | EPA 200.8/EPA 6010 |
| Mercury, Total (water/sediment) | EPA 1631E/EPA 7410 |
| Methyl mercury (water) | EPA 1630 |
| Nickel, Total (water/sediment) | EPA 200.8/EPA 6010 |
| Selenium, Total (water/sediment) | EPA 200.8/EPA 6010 |
| Silver, Total (water/sediment) | EPA 200.8/EPA 6010 |
| Zinc, Total (water/sediment) | EPA 200.8/EPA 6010 |
| Hydrocarbons | |
| Total purgeable petroleum hydrocarbons (TPPH) (water/sediment) | EPA 8015M/SM 5520 |
| Total recoverable petroleum hydrocarbons (TRPH) (water/sediment) | EPA 8015M/SM 5520 |
| Organophosphate Pesticides | |
| Diazinon (water) | EPA 614 |
| Chlorpyrifos (water) | EPA 614 |
| Sediment toxicity | |
| Amphipod survival <i>Hyaella azteca</i> (10-day survival and growth) Total organic carbon Sediment grain size | EPA 600/R-99/064 |

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

9.5.1 Review/Revise SSOP

The City is required to review and revise the SSOP. The City uses the same SSOP for all the monitoring program work plans. The SSOP status is reported in section 9.3.1

- a) Did the City review the SSOP and revise if necessary?
 Yes No Not required this year

9.5.2 Conduct Detention Basin Monitoring

The City is required to conduct influent, effluent, and sediment monitoring at Orchard Park and Carpenter Road detention basins.

- a) Did the City conduct the required monitoring at Orchard Park and Carpenter Road detention basins?
 Yes No Not required this year

9.5.3 Evaluate POC Removal Efficiency

The City is required to evaluate removal efficiencies of the detention basins for the pollutants of concern (POCs).

- a) Did the City evaluate the removal efficiencies of the detention basins for the POCs?
 Yes No Not required this year

9.5.4 Evaluate Potential for Methyl Mercury Production

The City is required to evaluate the potential for methyl mercury production.

- a) Did the City evaluate the potential for methyl mercury production?
 Yes No Not required this year

9.6 MP4 – Dry Weather Characterization

The purpose of this monitoring element is to identify dry weather flows and potential illicit discharges. The City will conduct dry weather field monitoring to characterize the dry weather urban discharge entering the storm drain system, rockwells, and retention/detention basins.

Monitoring Locations

To characterize the impact of dry weather flows on surface waters, the City will monitor 20% of the storm drain outfalls a year so that during the 2008-2013 Permit term all outfalls will be monitored at least once. Dry weather sampling sites for the positive storm drain system will be located at storm drain outfalls greater than 24 inches in diameter or at the nearest manhole upstream of the outfall. There are 11 outfalls that are greater than 24 inches (tabulated below). To characterize the impact of dry weather flows on groundwater, the City will monitor at least 20 representative rockwells and/or retention/detention basins (residential, industrial, commercial, and/or mixed use) during the 2008-2013 Permit term.

Outfalls Greater than 24 Inches Monitored

| Outfall Designation Watershed/Drainage Area | Outfall Location (Designation Number) | Drainage Area (acres) | Pipe Diameter (inches) | Land Use |
|--|--|-----------------------------|------------------------------|--|
| Tuolumne River | | | | |
| Ninth Street | Seventh Street Bridge (3203091601) | 1,000 | 4 ft x 12 ft rectangular | Commercial, Residential, Industrial, Park |
| Ustick Neighborhood | Crater/Ustick (804090101) | 170 | 36 | Residential |
| Ustick Neighborhood | Crater/Seine (504091401) | | 30 | Residential |
| West Side Area | Neece Dr / Muni (3203091501) | | 54 | Residential, Park |
| Dry Creek | | | | |
| McHenry Avenue Corridor | Moose Park footbridge (2803091103) | 850 | 68 | Residential, Commercial |
| Sonoma Neighborhood | McGuire Drive (2603090103) | 415 | 42 | Residential, School |
| Fara Biundo Neighborhood | Claus Road (1903100901) | 320 | 48 | Residential, Commercial, Industrial |
| Dry Creek Meadows | McClure Road (2303090201) | 270 | 66 | Residential, Commercial |
| La Loma Neighborhood | N/A (2803091101) | 115 | 30 | Residential |
| Riverside Neighborhood | N. Riverside Dr. (Not in GIS) | 110 | 30 | Residential, Park |
| Scenic Drive Corridor | Coffee Road (2703090502) | 80 | 36 | Residential, Commercial, Park |

Water Quality Parameters

Required water quality parameters for the dry weather characterization are listed in the table below.

Dry Weather Characterization Sampling Constituent List

| Constituent | Analytical Method | Minimum Level | Units |
|---------------------------|-------------------|---------------|-----------------------|
| Field Parameters | | | |
| pH | Field/SM 4500-HB | 0-14 | Std. units |
| Temperature | Field/SM 2550B | None | °C |
| Specific conductance | Field/SM 2510B | 1 | µmhos/cm µmhos/sec |
| Dissolved oxygen | Field/SM 4500-O-G | 5 | mg/L |
| Chlorine (Total Residual) | Field | 0.1 | mg/L |
| Turbidity | Field/SM 2310B | 0.1 | NTU |

| Constituent | Analytical Method | Minimum Level | Units |
|---|-------------------|---------------|------------|
| Laboratory Analyses | | | |
| Bacteriological | | | |
| E. coli | SM 9221E | 20 | MPN/100 mL |
| Fecal coliform | SM 9221E | 20 | MPN/100 mL |
| Conventional and General | | | |
| Total dissolved solids (TDS) | SM 2540C | 2 | mg/L |
| Methylene blue active substances (MBAS) | EPA 425.1 | 0.5 | mg/L |
| Oil and grease | EPA 1664 | 5 | mg/L |
| Phenols | EPA 420.4 | 0.1 | mg/L |
| Metals | | | |
| Aluminum, Total | EPA 200.8 | 50 | µg/L |
| Copper, Total | EPA 200.8 | 0.5 | µg/L |
| Iron, Total | EPA 200.8 | 100 | µg/L |
| Lead, Total | EPA 200.8 | 0.5 | µg/L |

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

9.6.1 Review/Revise SSOP

The City is required to review and revise the SSOP. The City uses the same SSOP for all the monitoring program work plans. The SSOP status is reported in section 9.3.1.

- a) Did the City review the SSOP and revise if necessary?
 Yes No Not required this year

9.6.2 Verify Outfalls

The City is required to verify outfalls (location and size). The City researched via GIS and conducted field observations of all outfalls during the Treatment Feasibility Study. The table of outfalls listed above reflects current data as of August 2010. A 42" outfall listed as "Yosemite Boulevard Corridor" in previous annual reports was determined to have taken stormwater from CalTrans highway SR132; therefore, it should not have been included in the City's monitoring plan and was subsequently removed. A previously unidentified 54" outfall along Neece Dr was discovered during field investigations and has been added to the list.

- a) Did the City verify outfalls?
 Yes No Not required this year

9.6.3 Conduct Dry Weather Characterization Monitoring

The City is required to conduct dry weather characterization monitoring at 20% of the outfalls greater than 24 inches per year and 20 rockwells or detention basins. Dry weather characterization monitoring was not performed in 2008-2009, because the SWMP was not approved. The City will increase the percentage of outfalls monitored to 25% and increase the number of rockwell/detention basins monitored each year to meet the permit requirement of characterizing 100% of the 24-inch or greater outfalls and

flows to 20 rockwells or detention basins. During 2010-2011 permit year, the City sampled two of the outfalls greater than 24-inches, which represents 18% of the outfalls greater than 24 inches. Having monitored 64% of the required outfalls to date, the City is on schedule to have all outfalls greater than 24 inches monitored during this permit cycle.

- a) Did the City monitor a portion of the required 20 rockwells/detention basins?
 Yes No
- b) Did the City monitor 20% (2-3) of the outfalls greater than 24 inches?
 Yes No

| Date Monitored | Outfall Location | Drainage Area (acres) | Land Use |
|----------------|--------------------------|-----------------------|-------------------------------------|
| 06/23/11 | Fara Biundo Neighborhood | 320 | Residential, Commercial, Industrial |
| 06/23/11 | La Loma Neighborhood | 115 | Residential |

9.7 MP5 – Bioassessment Monitoring

The purpose of the Bioassessment Monitoring task is designed to assess the biological integrity of the receiving water and physical/habitat conditions not detected by chemical and physical water quality analyses.

9.7.1 Evaluate Bioassessment Data

The City is required to fully evaluate the Bioassessment data collected during the previous permit term. Pacific EcoRisk completed the bioassessment data evaluation of the data collected in 2006 and 2007. The report is attached in **Appendix I-5**. An excerpt of the report conclusions are noted here.

The Dry Creek at Claus Road reach ranked as ‘suboptimal’ for physical habitat quality in 2006 and 2007, primarily due to a relatively straight channel, moderate levels of sediment deposition, moderate percentage of vegetation on the banks, and a relatively narrow riparian corridor. The Dry Creek at Beard Brook Park reach ranked as ‘marginal’ in 2006 and ‘suboptimal’ in 2007. The 2006 habitat ranking was primarily due to a low epifaunal substrate (i.e., low benthic habitat complexity), increased channel alteration (e.g., rip-rap), moderate sediment deposition, and reduced vegetative protection of the banks, resulting in reduced bank stability at this site and limited riparian vegetation; it is important to note that the habitat was likely influenced by scouring storm events and water backing up into the site from the Tuolumne. The increased habitat quality recorded for Dry Creek at Beard Brook Park in 2007 was due primarily to improved epifaunal substrate, bank stability, and riparian vegetation zone.

Caution should also be used when making any conclusions about habitat and biological metric differences between the 2006 and 2007 sampling since the 2006 samples were collected in the summer (due to non-wadeable conditions in the spring) and the 2007 samples were collected in the spring; any differences in these two years could be due to seasonal differences alone.

- a) Did the City fully evaluate bioassessment data collected under the previous Permit?

Yes No Not required this year

9.7.2 Report Data and Evaluation Results

The City is required to report and evaluate bioassessment monitoring results in the 2009-2010 Annual Progress Report.

- a) Did the City report results and evaluation in the 2009-2010 Annual Progress Report?

Yes No Not required this year

9.8 MP6 – BMP Effectiveness Study

The purpose of the BMP Effectiveness Study task is to evaluate the effectiveness of treatment control BMPs with the objectives of:

- Monitor the reduction of pollutants of concern in storm water from a minimum of one BMP that has been properly installed within the year preceding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined;
- Evaluate the requirements for and installation and maintenance cost of each BMP; and
- Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in the Modesto Urbanized Area.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

9.8.1 Identify BMP Studies

The City is required to identify the BMP studies that it will conduct or participate in during the permit term. An agreement for a cooperative study with the City of Stockton could not be achieved during this permit year. With RWQCB approval, the City of Modesto conducted its own BMP effectiveness study on two treatment devices:

- A proprietary stormwater treatment device, CONTECH StormVault, which was installed in a residential area in 2005 and;

The City of Modesto's only Water Quality Detention Basin installed in a residential area in 2006

- a) Did the City identify BMP studies?

Yes No Not required this year

9.8.2 Participate In BMP Effectiveness Studies

The City is required to conduct or participate in a minimum of two BMP effectiveness studies.

On 3/16/11 the City performed stormwater monitoring on the CONTECH StormVault located at the 1400 block of Christiansen Dr. Pollutant removal efficiency was analyzed through sampling data collected at the inlet of the treatment device and upon exit before entering the City's MS4. Most data proved inconclusive with little parameters showing significant reduction. Potential cause may be attributed to low flow through the unit due to minimal rainfall on that particular day. However, fecal coliform counts were reduced by 62% and were below WQO upon exit.

On 3/24/11 the City performed stormwater monitoring on the water quality detention basin (Fairview) located within Rancho Encantado Park. Similar to the Stormvault monitoring, samples were taken on the influent to the basin and then on the pump station effluent to the City's MS4. Analysis of the sampling data suggest significant removal of a number of pollutants and/or other constituents between the stormwater influent and the basin treated effluent:

- Average metals reduction – 21 %
- Oil & Grease reduction – 27 %
- TKN reduction – 88%
- TSS reduction – 36 %
- Turbidity – 25 %

These preliminary results suggest that the biofiltration of pollutants through this water quality detention basin are an effective means of stormwater treatment to the maximum extent practicable.

- a) Did the City participate in BMP effectiveness studies?
 Yes No Not required this year

9.8.3 Develop BMP Recommendations for Modesto

The City is required to develop BMP recommendations for Modesto based on the outcome of the studies conducted.

- a) Did the City develop BMP recommendations for Modesto?
 Yes No Not required this year

9.9 MP7 – Data Management

The purpose of the Data Management task is to develop and implement a standard/system to electronically store data collected from the City's various monitoring efforts. The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below.

9.9.1 Develop and Implement Data Management Standard/System

The City is required to develop and implement a database system to electronically store monitoring data. The City currently contracts with Lablite, which maintains the City's monitoring data in a spreadsheet-based database. The database system includes database standards, quality control criteria, and monitoring submittal protocols.

- a) Did the City develop and implement a database system to electronically store monitoring data?
 Yes No

9.9.2 Audit Data Management System

The City is required to audit data management standard/system to check for accuracy.

- a) Did the City audit data management standard/system to check for accuracy?
 Yes No Not required this year

9.10 MP8 – Training

The purpose of the Training task is to train field and office personnel regarding successful implementation of the Monitoring Program Element. The overall goals and objectives of the training program for the Monitoring Program are to:

- Promote effective implementation of the SWMP;
- Create a cohesive stormwater training program that supports the proper collection and analysis of stormwater monitoring samples; and
- Increase specific knowledge of the SWMP and its requirements.

The performance standards for this Control Measure and the activities that have been initiated and/or completed during this reporting period are summarized below. The training formats used may include field demonstrations, classroom, or tailgate sessions.

Areas of Focus for the Monitoring Program Training

| Target Audience | Topics for Audience |
|----------------------|--|
| Field Sampling Staff | General stormwater program information Clean sampling techniques Field log documentation Downloading data from data loggers Calibration and use of field equipment |

9.10.1 Conduct Training

The City is required to conduct training for key staff involved in the monitoring program. The City did not hold formal training for the sampling team during this reporting period. Tailgate meetings were held before each sampling event.

- a) Did the City conduct training for key staff involved in conducting sampling and analysis?
 Yes No

9.10.2 Review/Revise Training Strategy

The City is required to review its training strategy annually and update it as needed. The City reviewed its training strategy and found that no further revision is necessary at this time.

- a) Did the City review the training strategy as necessary?
 Yes No
- b) Did the City revise the training strategy if necessary?
 Yes No

9.11 MP9 – Monitoring Program Effectiveness Assessment Strategy

The Effectiveness Assessment Strategy control measure is used to determine whether the Program Elements are achieving intended outcomes and ultimately, whether continued implementation will result in maintaining or improving water quality (CASQA, 2007). Outcome levels are used to categorize and describe the desired results of goals of the control measures and Program Elements. There are six outcome levels as defined by the CASQA Program Effectiveness Assessment Guidance.

This part of the Annual Progress Report assesses the effectiveness of the Monitoring Program and related control measures to determine their effectiveness and identify necessary modifications. Although the effectiveness assessment may change from year to year as new information is learned, the assessment will initially focus on Outcome Levels 1-4. Table 9-18 of the SWMP identifies the effectiveness assessment questions required for the Monitoring Program.

Summary of Assessment Levels Planned for the 2008-2013 Permit Term

| Control | Level 1 | Level 2 | Level 4 | Level 5 | Level 6 |
|------------------------------------|-------------------|--------------------|----------------|----------------------------------|----------------------------|
| | Implement Program | Increase Awareness | Load Reduction | Urban Runoff Quality Improvement | Beneficial Uses Protection |
| MP1 – Receiving Water Monitoring | ✓ | | | | ✓ |
| MP2 – Urban Discharge Monitoring | ✓ | | | ✓ | |
| MP3 – Detention Basin Monitoring | ✓ | | | | ✓ |
| MP4 – Dry Weather Characterization | ✓ | | ✓ | ✓ | ✓ |
| MP5 – Bioassessment Monitoring | ✓ | | | | ✓ |
| MP6 – BMP Effectiveness Study | ✓ | | | | |
| MP7 – Data Management | ✓ | | | | |
| MP8 – Training | ✓ | ✓ | | | |

In the 2008-2009 reporting year, a significant focus was on the development and revision of the SWMP following the permit adoption. During the process, of revising the SWMP with input from the Regional Water Board staff, several performance standards were added late in the process. Additionally, because the SWMP has not been approved, some tasks were not completed because of uncertainty of the final requirements.

MP1 – The City conducted the required two wet season and one dry season receiving water monitoring events consistent with the monitoring program. A correlation analysis was conducted for each of the POCs in the receiving water. Analysis indicated that total lead and copper concentrations and turbidity have strong correlations with TSS while total aluminum and fecal coliform have moderate correlations with TSS. All other POCs were not correlated to TSS.

During the course of the wet and dry season monitoring the City identified that three parameters exceeded WQOs in the receiving water and notified the RWQCB of these exceedances as required in the SWMP. For a subset of these events, the City determined that urban runoff may have contributed to the concentration in the receiving water and the City developed RWQEs for total aluminum, fecal coliform, and dissolved oxygen.

MP2 – The City conducted the required two wet season and one dry season urban runoff monitoring events consistent with the monitoring program. The City identified two exceedances of a Tier 1 threshold for dissolved oxygen during the October 29, 2010, and pH during the February 15, 2011 monitoring event. The subsequent investigation concluded that the depressed pH may have been associated with undetected acidic discharge and the low dissolved oxygen may have been a result to bacteria. No changes are proposed to the Tier 1 thresholds.

MP3 – As planned in the SWMP, the detention basin sampling will be repeated in 2011-2012 and provide more data for the evaluations.

MP4 – The City is on schedule to sample all of the outfalls greater than 24 inches by the end of the permit cycle with the completion of two outfalls greater than 24-inches, which represents 18% of the outfalls greater than 24 inches.

MP5 – Completed in 2008-2009.

MP6 – The City completed an evaluation of the CONTECH StormVault located at the 1400 block of Christiansen Dr. Pollutant removal efficiency was analyzed through sampling data collected at the inlet of the treatment device and upon exit before entering the City's MS4. Most data proved inconclusive with little parameters showing significant reduction. Potential cause may be attributed to low flow through the unit due to minimal rainfall on that particular day. However, fecal coliform counts were reduced by 62% and were below WQO upon exit.

In addition the City performed stormwater monitoring on the water quality detention basin (Fairview) located within Rancho Encantado Park. Similar to the Stormvault monitoring, samples were taken on the influent to the basin and then on the pump station effluent to the City's MS4. Analysis of the sampling data suggest significant removal of a number of pollutants.

MP7 – The City maintained its data management system.

MP8 – The City sampling staff held tailgate meetings before each sampling event.

9.12 Monitoring Program Modifications

The City evaluates the results of the Program Effectiveness Assessment as well as the experience that staff has had in implementing the program. The City also determines if any program modifications are necessary in order to comply with Clean Water Act requirements to reduce the discharge of pollutants to the maximum extent practicable. The program modifications that will be made to the Monitoring Program during the next year include the following:

The program modifications that will be made to the Monitoring Program during the next year include the following:

- MP1 – The City plans to evaluate discharges to the 7th Street and Crater and Seine outfalls for fecal coliform and aluminum to determine possible upstream sources. In addition the City will continue public outreach and illicit discharge investigation and mitigation.
- MP2 – The City will continue public outreach on proper disposal of waste that may have been a contributing factor to the depressed pH and dissolved oxygen.
- MP3 – The City plans to perform detention basin monitoring for methyl mercury production potential evaluation. Changes that would be considered for 2011-2012 sampling include:
 - Flow rate—to compare the relative load of basin outflows to other urban areas and to the receiving waters;
 - Dissolved organic carbon in inflow and outflow —to use in the Water Environment Research Federation bioavailable mercury fraction model; and
 - Grain size distribution in inflow, outflow, and sediment samples—to compare (and normalize) suspended sediment samples to bed sediment samples.
- MP4 – The City plans to complete sampling of outfalls greater than 24 inches.

Appendix A

A-1 City Organization Chart

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Appendix B

- B-1 Illicit Discharge Reports***
- B-2 Modesto Fire Department Incident Map by Type, including log***
- B-3 Illicit Discharges Maps (including illegal connections)***
- B-4 1-800-WEANSWER new language for operators handling spills and illicit discharges***

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Appendix C

C-1 *Pollution Investigation Report*

C-2 *Brochures are located online at*
<http://www.modestogov.com/pwd/utilities/wastewater/compliance.asp>

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Appendix D

- D-1 Back-up Response Plan***
- D-2 Storm Drain and Rockwell Cleaning Standard Operating Procedure***
- D-3 Sanitary Sewer Overflow and Backup Response Plan***
- D-4 Summary of Pesticide and Fertilizer Use by City Departments and Contractors***
- D-5 Contract Language for Pesticide Application***
- D-6 Landscape Management Plan***
- D-7 Landscape BMP Fact Sheet (English)***
- D-8 Landscape BMP Fact Sheet (Spanish)***
- D-9 Storm Drain Catch Basin Marker Pictures***
- D-10 Special Events Permit***
- D-11 Guide for Storm Drain Protection at Special Events***
- D-12 List of Pump Stations, Detention Basins and Retention Basins***
- D-13 Storm Lift Station Run Times***
- D-14 Street Sweeping BMP Fact Sheet***
- D-15 Street Cleaning and Maintenance BMP Fact Sheet***
- D-16 Water Dept. BMP Fact Sheet***
- D-17 Curbs, Gutters and Sidewalks BMP Fact Sheet***
- D-18 Emergency Operation Plan***
- D-19 Modesto Fire Department Standard Operating Procedures***
- D-20 Illicit Discharge Wallet Card***

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Appendix E

E-1 Summary of SIC Codes

E-2 List of Facilities Subject to be Inspected Inventory

E-3 List of Facilities Inspected

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Appendix F

F-1 CIP Standard Contract Language

F-2 Standard Construction Site Inspection Checklist

F-3 Example Non-Compliance Letter

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Appendix G

- G-1** *Letter to Responsible Parties for Post-Construction Treatment Controls*
- G-2** *Post-Construction Treatment Control Self-Certification*
- G-3** *Post Construction Treatment Control Inspection Form*

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Appendix H

- *H-1 Initial Information on the Depths and Gradients of each Rockwell*

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Appendix I

I-1 Data Spreadsheets (Excel spread sheet included on the report CD)

I-2 Laboratory Data Reports (only included on the report CD)

I-3 Notification of Delay of First Flush Sampling

I-4 Report of Water Quality Exceedance(s)

I-5 Bioassessment Report

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