

Chapter 4 Program Element Implementation

4-1 INTRODUCTION

Implementation of the City of Sacramento (City) Stormwater Management Program (Program) is conducted through Program management activities and seven Program Elements: Construction, Illegal Discharge, Industrial, New Development, Municipal Operations, Public Education and Outreach, and Watershed Stewardship.

Program Element activities and best management practices (BMPs) reflect the experience and knowledge acquired during the development and implementation of the Program since 1990. Many of these represent the continuation and expansion of activities that have been successfully implemented to date. A comprehensive list of accomplishments for each Program Element is provided in Appendix E.

Program Element Implementation

This chapter contains the following for each Program Element:

- *Overall strategy and specific goals and objectives*
- *Major proposed activities for 2007-2012*
- *Broader categories of activities to be conducted*
- *Best management practices (BMPs) – the itemized, specific pollutant reduction efforts for each activity*
- *Approach to effectiveness evaluation, including performance of activities and BMPs and the level of success in achieving Program goals*
- *Examples of assessment measures to be used in preparation of Annual Work Plans and Annual Reports*

The Five-Year Work Plan for the Program Elements is contained in Chapter 8, which provides a description of each Program Element's activities as well as corresponding implementation actions. Annual Work Plans are derived from the Five-Year Work Plan and included in Appendix A. These work plans include performance goals for those activities and BMPs that are quantifiable and predictable. These performance goals will be used to demonstrate the City's commitment to the Program and achievement of a reasonable level of implementation. Some activities are not easily quantifiable, and performance goals may not be appropriate. Other activities like spill responses and ordinance revisions are not predictable and will therefore be undertaken as needed.

Subsequent sections of this chapter provide detailed descriptions of the following for each Program Element:

- Goal
- Evolution
- Strategy
- Activities
- Effectiveness Evaluation

Effectiveness evaluation is key to ensuring that the Program implements activities which are successful in changing behaviors and reducing stormwater pollution. Examples are provided at the end of each Program Element section that show the types of information and evaluations which may be used to measure the degree of Program Element implementation and the effectiveness of activities conducted.

Specific goals, outcome levels for individual activities and evaluation measures to determine effectiveness will be included in the Annual Work Plans, submitted each year in May. The results of these effectiveness evaluations, including performance goals and outcome levels, will be provided in the Annual Reports, submitted each year in October. Where possible, the Annual Reports will quantify the previous fiscal year. This annual evaluation will assess how well the Annual Work Plan goals were achieved and whether performance goals and outcome levels were met. Specific activities and BMPs may also be modified, added or deleted as needed to meet Program Element goals. In-depth evaluation of each Program Element will be conducted at least once during the permit term, or when necessary.

4-2 CONSTRUCTION ELEMENT

Goal

The goal of the Construction Element is to reduce the discharge of stormwater pollutants to the maximum extent practicable (MEP) by requiring construction sites to reduce both sediment in site runoff and other pollutants such as litter and concrete wastes through good housekeeping procedures and proper waste management. Excessive erosion and sediment transport can harm creek habitat through both scour and smothering of spawning areas.

Evolution

In the past, activities under the Construction Element have concentrated on developing ordinances and standards and incorporating these requirements into the development review process and project management procedures. Currently, the development review process successfully incorporates stormwater requirements for private development projects from the planning process to completion of construction.

In the last permit term, the City of Sacramento (City) began to: (1) verify that the stormwater pollution prevention plan (SWPPP) required by the State General Construction Permit contained six specific components; (2) prioritize construction sites as a high or moderate threat to water quality; (3) inspect construction sites at minimum inspection frequencies; and (4) annually train City employees who are engaged in construction related activities.

In this permit term, the Construction Element will concentrate on updating and improving existing standards, procedures and/or specifications such as the City's *Administrative and Technical Procedures Manual for Grading, Erosion and Sediment Control* (Grading Manual) by updating control measures with current, innovative erosion and sediment control (ESC) measures and housekeeping practices. Resources will also focus on providing annual training of City staff on both City and state requirements and assessing the effectiveness of the Construction Element. For more information, see the Construction Element Five-Year Work Plan in Chapter 8.

Strategy

The Construction Element strategy includes the following components:

- Provide outreach and guidance to the development community on ESC requirements and housekeeping practices and the state National Pollutant Discharge Elimination System (NPDES) Permit for Storm Water Discharges Associated with Construction Activity (General Construction Permit).

POLLUTANTS ADDRESSED BY THIS ELEMENT

Sediment

Metals:

Copper*

Lead*

Mercury*

Zinc

Nutrients:

Nitrate

Total Nitrogen

Total Phosphorus

Pesticides*

Paints

Concrete

Litter

Non-stormwater
discharges

***Target pollutant for
Sacramento area**

- Train City staff on ESC requirements and housekeeping practices and the state NPDES Permit for Storm Water Discharges Associated with Construction Activity (General Construction Permit).
- Ensure that plan review and approval procedures, standards and field requirements are clear and effective.
- Provide plan review, inspections and enforcement actions.
- Evaluate and incorporate new technology and alternative control measures.

Activities

Outreach and Education

Program staff will educate and provide guidance to City staff and the construction and development communities on local and state requirements as well as new technology and practices. Outreach will include topics such as current regulations; changes in regulations, procedures or requirements; and new practices and control measures. Outreach may take the form of fact sheets on regulations, workshops, staff meetings, preconstruction meetings, boilerplate ESC plans, brochures for specific practices (e.g., landscapers), etc.

City staff who are engaged in construction activities, including development review staff, project managers, and inspectors, will be trained annually. See Table 2-4 in Chapter 2, Program Management for a summary table of the various City departments identified for training. Outreach to the construction and development community will be conducted as needed.

Ordinance and Standards

The Grading and Erosion and Sediment Control Ordinance (Grading Ordinance) will be evaluated periodically and updated as necessary. Erosion, sediment and pollution control standards and specifications will be evaluated and revised as necessary. These standards will be updated based on the latest technology and practices. Alternative and innovative control measures will be identified and evaluated through networking with other programs, product research, literature reviews, and BMP performance studies.

After reissuance of the General Construction Permit, the Construction Element will be evaluated to identify any standards and/or procedures that should be revised to effectively reduce construction site-related pollution to the MEP.

Inspection and Enforcement

Development projects are notified of local erosion, sediment and pollution control requirements and State General Construction Permit requirements during the entitlement process. Local and state requirements are incorporated into environmental documents such as Environmental Impact Reports (EIRs), mitigation monitoring plans (MMPs), and standard conditions for entitlements such as tentative maps and special permits.

Construction projects must adequately address City and state requirements through the development approval process and municipal procedures by ensuring that each project has an adequate ESC plan and, if applicable, obtains a State General Construction Permit. Prior to issuing a grading permit for development projects requiring a State General Construction Permit, development review staff will require the submittal of a SWPPP and of the project's WDID number to demonstrate that a State Permit was obtained.

SWPPPs submitted to the City must contain the following items at a minimum: (1) vicinity map; (2) site map; (3) list of potential sources of stormwater pollution; (4) type and location of ESC BMPs; (5) name and number of the person responsible for implementing the SWPPP; and (6) signed landowner certification. Municipal project managers must ensure that ESC plans are prepared and that State General Construction Permits are obtained and implemented for municipal construction projects. Municipal construction projects are also discussed in the Municipal Operations Element section.

Construction projects are inspected to ensure that sites adequately address erosion, sediment and pollution control and comply with local ordinances. Inspection staff ensure that control measures are implemented, properly installed and maintained during the construction of a project, beginning with rough grading and ending with home building.

- As applicable, inspectors will verify that SWPPPs are on-site at private development construction sites or being implemented at municipal project construction sites.
- Stormwater Program inspectors will ensure that private sites have a SWPPP on-site at the onset of the project and at the beginning of each rainy season.
- Enforcement related to private development projects is conducted by dedicated Program inspectors.
- Enforcement related to municipal projects is conducted by City construction inspectors from each department (e.g., Parks, General Services, Transportation, and Utilities).

Minimum construction inspection frequencies will be established for projects of one acre or more by prioritizing sites as a high or moderate threat to water quality. Factors utilized to rate sites are as follows:

- The project size, including the construction phase (i.e., grading, improvements and structures), activity level and land use
- Whether the site is located in the area of a previous project with known erosive soils that was required to use mechanical or chemical filtration systems
- Whether the site borders and/or discharges directly to a water of the State and 303(d)-listed water body that is sediment-impaired
- The number of previous violations of local stormwater ordinances, including recent State General Construction Permit violations obtained by developer /contractor in the City's jurisdiction, and the quality of the site's BMP implementation and housekeeping practices

Private development projects designated as a high threat to water quality will be inspected a minimum of once every two weeks during the wet season (October 1 to April 30) and once a month during the remainder of the year. Development sites designated as a moderate threat to water quality will be inspected a minimum of once a month throughout the entire year. Municipal construction inspectors will regularly enforce local stormwater requirements and document actions in their daily logs. At a minimum, municipal projects will meet the inspection frequencies discussed above based on each site's designation as a high or moderate threat to water quality. These are minimum standards for inspection schedules; when possible, staff will meet the Construction Element goal of inspecting each private development project every two weeks.

If Program staff cannot determine whether the developer/owner has submitted an NOI or received a WDID number, staff will notify the California Regional Water Quality Control Board, Central Valley Region (Regional Board) within five business days of discovery. Non-filer referrals will include the project location, developer, estimated project size, and records of communication with the developer regarding filing requirements.

The Program utilizes an Access database for private development projects to track grading permits issued, WDID numbers, SWPPPs submitted, site prioritization, inspections conducted, and enforcement actions issued.

Effectiveness Evaluation

Assessing the effectiveness of a stormwater program begins with the program planning process, which includes developing associated control measures and performance goals as well as identifying desired outcomes. Examples of goals and evaluation measures for the Construction Element by outcome level are provided below.

Outcome Level	Goal	Example Evaluation Measures
Level 1 – Documenting Activities	Achieve program development, implementation and basic compliance with NPDES permit requirements.	<ul style="list-style-type: none"> • # of trainings held • # of inspections conducted • # of enforcement actions issued
Level 2 – Raising Awareness	Raise a target audience's awareness and understanding of an issue.	<ul style="list-style-type: none"> • % of participants who understood training concepts • % of contractors who know what types of BMPs to implement
Level 3 – Changing Behavior	Change a target audience's behavior that results in the implementation of recommended BMPs.	<ul style="list-style-type: none"> • % of sites that corrected problems after the follow up inspection • % of municipal projects adequately implementing BMPs
Level 4 – Reducing Loads From Sources	Reduce the load of pollutants from sources to the storm drain system.	<ul style="list-style-type: none"> • Estimate of sediment prevented from entering the storm drain using data from literature

The effectiveness of the Construction Element is based on the quality of the ESC plans/SWPPPs submitted, the level of contractor compliance with the plans, and the adequacy of municipal procedures for plan check and inspection. ESC plan quality measures the combined effectiveness of several nonstructural BMPs, including standards and specification development, staff training, construction industry education, and agency plan checking procedures. Field implementation measures combined effectiveness of several nonstructural BMPs, including standards and specification development, inspection staff training, construction industry education, and site inspection procedures.

Activities used in the past to assess the Construction Element's effectiveness included: a special study on the effectiveness of inlet protection, plan quality and field implementation assessments conducted by municipal staff, an independent third party audit and observations/feedback on improvements in knowledge and field implementation. The Element is currently implementing effectiveness assessments at Outcome Level 1 (Documenting Activities).

The focus during this permit term will be to develop a comprehensive effectiveness assessment incorporating Outcome Levels 1-4 and an associated implementation schedule. Details on the tasks, outcome levels and schedule are located in the Construction Element Five-Year Work Plan in Chapter 8. Evaluation measures may include assessments of trainings/workshops utilizing results of quizzes, percentage of plans incorporating standard notes and drawings, or percentage of construction sites correcting violations by the follow-up inspection. Staff will explore ways to update the existing private construction site Access database to incorporate tracking and effectiveness evaluation tools.

Results of the effectiveness evaluation will be used to focus and modify activities for maximum environmental benefit. Specific tasks, outcome levels and evaluation measures will be included in the Annual Work Plans. Results of the effectiveness measures will be provided in the Annual Reports. Chapter 3, Program Effectiveness Assessment, provides additional information on performance goals and effectiveness measures.

4-3 ILLEGAL DISCHARGE ELEMENT

Goal

The goal of the Illegal Discharge Element is to abate, contain and clean up reported illicit discharges and connections to the stormwater drainage system.

Evolution

Since being established in 1992, the Illegal Discharge Element has: (1) established the legal authority of the City of Sacramento (City) to prohibit illegal discharges and enforce those prohibitions; (2) established illicit discharge response and reporting procedures; (3) responded to reports of illegal discharges; (4) performed field work to clean and abate illicit discharges; and (5) implemented household hazardous waste collection programs. In 2004, the City revised the 1997 ordinance that had been used for enforcement of stormwater regulations.

An extensive illicit connection screening program was conducted from 1995 to 1998 for all City drainage basins. This investigation found only two illicit connections, which were subsequently removed. During the past permit term, an ongoing screening program was conducted within several selected drainage basins during each dry season to assist in identifying new potential illicit connections.

During the past permit term, existing Program inspection staff were assigned responsibility for enforcement response in support of first responder activities. A database was developed to track reports and enforcement response of illegal discharges. The database was developed to allow for specific report queries to identify, where possible, high-priority areas within the City or high-priority groups of dischargers that would be targeted for outreach.

City field staff receive annual training regarding illicit discharge response activities as well as identification of potential illicit discharges. If an illicit discharge is discovered by field services, the City first response unit is notified to protect the drainage system.

Strategy

The Illegal Discharge strategy includes the following components to achieve the goal of abating, containing and cleaning up reported illegal discharges and connections to the stormwater drainage system:

- Utilize a communications plan and implement an established Illicit Discharge Response Plan as illustrated in Figure 4-3-1 on the next page.
- Annually evaluate complaints of illicit discharges to determine the most common types of discharges.
- Develop outreach materials to address these activities.
- Provide annual training to spill response personnel on their job duties.

POLLUTANTS ADDRESSED BY THIS ELEMENT

Oil/grease
Petroleum/fuel
Construction waste
Automotive fluids
Paint
Concrete
Sediment

***Target pollutant
for Sacramento
area**

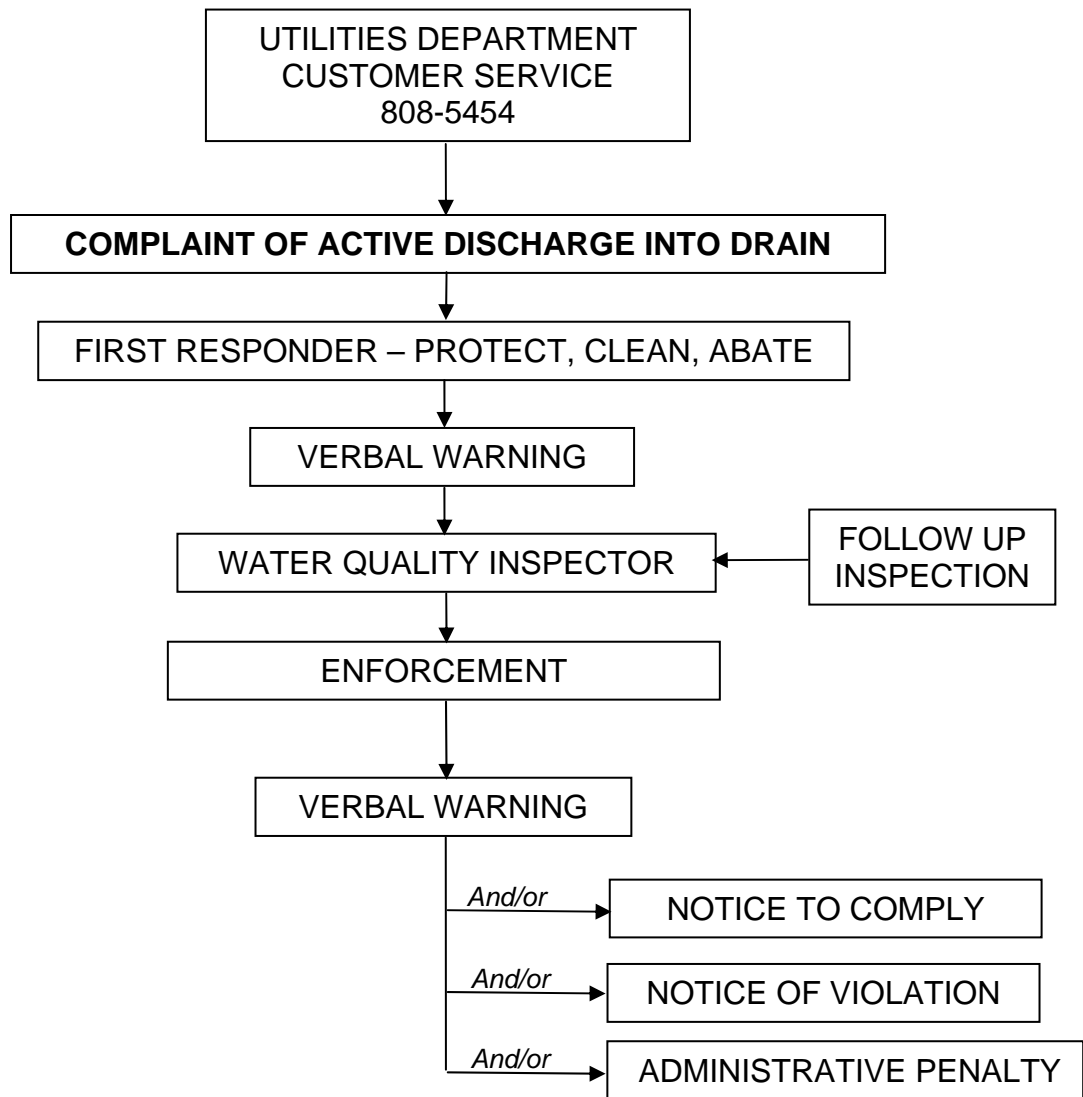


Figure 4-3-1: 2007 Illegal Discharge Protocol

Activities

Complaint Reporting

The Department of Utilities 24-hour operator continues to serve as the primary contact for public reporting of illegal discharges into the storm drain system. Reports can be submitted at (916) 808-5454 or at <http://www.sacstormwater.org/ReportaDischarge/ReportaDischarge.htm>. Once a report is received, the operator follows a formal notification procedure, alerting both City and outside agency staff.

First Responder

The City continues to provide 24-hour, on-call Department of Utilities drainage maintenance staff and City Fire Department Hazmat field staff, who respond as needed to reports of illegal discharges draining into the storm drain system. First responder staff is responsible for protecting the drainage system to prevent the discharge from entering the system and then cleaning/abating the discharge as needed.

Stormwater Ordinance Enforcement

The Department of Utilities Water Quality Section continues to provide enforcement of the City stormwater ordinance for those responsible for illicit discharges. As needed, the City also informs other departments and outside agencies regarding reports of illicit discharges and response.

Illegal Discharge Prevention

The City conducts several activities in addition to standard public outreach to help prevent illegal dumping. One example is providing alternatives to the public for waste disposal such as the small quantity household hazardous waste collection center located on Fruitridge Boulevard. This facility accepts waste from the public and small quantity generators. The City also provides biweekly curbside pickup of used automotive oil and filters. In addition, outreach is provided at several City public service counters, by inspectors, and by the Business Environmental Resource Center (BERC) regarding proper disposal of the types of hazardous wastes typically involved in reports of illegal discharges.

Illicit Connection Screening

City field services staff continues to receive annual training regarding illicit discharge response activities as well as identification of potential illicit discharges into the drainage system. Field services staff will review the drainage system during routine maintenance activities and notify the Department of Utilities Water Quality Section should an illicit connection be discovered. Reports of illicit connections will be investigated, eliminated if needed and subject to enforcement action should a responsible party be identified.

Effectiveness Evaluation

Effectiveness measures provide assessments of the degree to which activities reduce pollutants to the maximum extent practicable (MEP) or eliminate prohibited non-stormwater discharges. This information is used to focus and modify activities to maximize environmental benefits. Results of the performance goals and effectiveness measures will be provided in the Annual Reports. Chapter 3, Program Effectiveness Assessment, provides additional information on performance goals and effectiveness measures.

Outcome Level	Goal	Example Evaluation Measures
Level 1 – Documenting Activities	Achieve program development, implementation and basic compliance with NPDES permit requirements.	<ul style="list-style-type: none"> • # of responses to complaints of illegal discharges
Level 2 – Raising Awareness	Raise a target audience’s awareness and understanding of an issue.	<ul style="list-style-type: none"> • # of enforcement actions taken including verbal warnings
Level 3 – Changing Behavior	Change a target audience’s behavior that results in the implementation of recommended BMPs.	<ul style="list-style-type: none"> • % of sites not needing a follow up inspection
Level 4 – Reducing Load From Sources	Reduce the load of pollutants from sources to the storm drain system.	<ul style="list-style-type: none"> • Estimate of pollutants prevented from draining into system

The Illegal Discharge Element is currently implementing Outcome Level 3 – Changing Behavior and Level 4 – Reducing Load from Sources. Pollutant loads are reduced to local waterways when reported illegal discharges are prevented from entering the drainage system and disposed of properly. If the source of the illegal discharge can be found, then behavior changes are expected as the responsible party is made aware of the potential for their incurring enforcement action and cost recovery fees as a result of their illegal discharge. These same outcome levels will continue to be implemented during the next permit term.

4-4 INDUSTRIAL ELEMENT

Goal

The goal of the Industrial Element is to reduce or eliminate the discharge of pollutants into the City of Sacramento (City) storm drainage system that are produced from all types of business activities to the MEP.

Evolution

One of the first tasks for the Industrial Element was trying to inform the industrial community about stormwater regulations and the State Industrial General Permit. Outreach was conducted, including a workshop in 1996 for industries that were believed to need coverage under the permit. While a great amount of effort went into developing and conducting the workshop, industry participation was low. Since the Commercial and Industrial Stormwater Compliance Program (CISCP) inspections began in July 2004 by the County of Sacramento (County) Environmental Management Department (EMD), the Industrial Element has been more successful at identifying industries that need coverage under the permit and reporting non-filers to the California Regional Water Quality Control Board (Regional Board).

The industries chosen for the CISCP inspections were those that had the greatest impact on water quality. In 1996, Sacramento Stormwater Management Program (Program) staff produced a list that prioritized and ranked 40 common industrial and commercial business types, using five different descriptive categories. In order to efficiently gain or ensure compliance with the Stormwater Ordinance or State Industrial General Permit, Program staff matched significant or high-priority industry types into specific Program or Industrial Element activities best suited to the industry's individual characteristics. As required by the 2004 Sacramento MS4 Permit, this industry list was updated using additional criteria specified by the Regional Water Board and is included in Appendix G.

The following industries were chosen for inspection:

- Auto repair shops and body shops
- Auto sales, lease and rental dealerships
- Gas stations
- Restaurants
- Nurseries
- Kennels
- Equipment rental businesses
- Facilities with coverage under the State General Industrial Stormwater Permit

POLLUTANTS ADDRESSED BY THIS ELEMENT

Sediment

Metals:

Copper*

Lead*

Mercury*

Other Metals

Pesticides*

Concrete

Other non-
stormwater
discharges

***Target pollutant for
Sacramento area**

Appendix G presents definitions for these industrial categories. In spring 2007, the definitions were improved in order to clarify which industries would be included in the CISC. This list has also been used to help determine which industry types should be addressed for educational outreach purposes. Outreach was implemented twice during the last permit term for industries that ranked in the top 20 of the prioritization list, including:

- Automotive washing and detailing businesses
- Carpet cleaning businesses
- Commercial pesticide applicators
- Concrete pouring/cutting contractors
- General building contractors
- Landscape installation and/or maintenance contractors
- Painting contractors
- Portable toilet rental and maintenance businesses
- Pressure washing businesses
- Street sweeping businesses
- Swimming pool contractors and maintenance businesses

In the last permit term, EMD performed triennial CISC inspections for these industries on behalf of all the Permittees. By having EMD manage the CISC, it ensures that industries all over the County are treated consistently and helps to minimize duplication of effort and disturbance to businesses by multiple agency inspection. The first cycle was completed on June 30, 2007. EMD created a separate database for the CISC inspections and sends monthly stormwater violation reports to the Regional Water Board.

City staff conducted investigations on industries that did not fall under the CISC program called the Complaint-Basis Stormwater Compliance Program (CBSC). These investigations were initiated on a complaint basis. Program staff were successful in working with industries to come in compliance with the City's Stormwater Ordinance using educational material, progressive enforcement, and cost recovery.

In this permit term, the Permittees will continue to implement the CISC and CBSC. An effectiveness evaluation of the CISC inspections will be conducted after the second triennial inspections are completed (June 30, 2010), and the data will also be used to revise the Industrial Prioritization List. The Permittees will also continue to conduct outreach and training to high priority businesses and encourage participation with the Business Environmental Resources Center (BERC) and Clean Water Business Partner (CWBP) Program.

Strategy

The Industrial Element strategy includes the following components:

- Continue to develop and implement control programs.
- Revise the Industrial Prioritization List after the second cycle of CISC inspections.
- Continue with CISC triennial inspections of the aforementioned industries.

- Continue efforts to identify and notify industries in the City that may need coverage under the State Industrial General Permit.
- Continue with the City's CBSCP for industries, on a complaint basis.
- Continue to encourage increased industry participation in the CWBP Program and to utilize other programs such as BEREC.
- Conduct outreach to industries that have a history of significant violations and ranked in the top 20 of the Industrial Prioritization List.
- Conduct a study within an isolated drainage basin that contains only industrial and commercial businesses to determine the effectiveness of source and structural control best management practices (BMPs).
- Evaluate the effectiveness of the Industrial Program.

Activities

Industrial Control Programs

This component of the Industrial Element will include updating the industry prioritization list and developing control programs for industries that have been determined to conduct activities or store materials identified as sources of pollutants (e.g., copper, lead and pesticides).

The industry prioritization list will be updated after the second cycle of CISCIP inspections. The prioritization list methodology will be modified to incorporate new data that the Permittees receive from the City, County and CISCIP databases.

The Target Pollutant Element has developed many control programs for target pollutants such as mercury, pesticides, coliform and pathogens. Industrial Element staff will continue to work with Target Pollutant Element staff to incorporate control programs for industries or to individually target other pollutants that are not on the target pollutant list (e.g., surfactants). In addition, City staff will continue to work with industries that are found to be conducting questionable activities or storing materials identified as significant pollutants.

Commercial and Industrial Stormwater Compliance Program (CISCIP)

EMD will continue to perform triennial stormwater compliance inspections for the aforementioned industries on behalf of all the Permittees. The second cycle of triennial inspections will begin July 1, 2007, and be completed by June 30, 2010. EMD will continue to maintain a separate database for stormwater inspections, enforcement actions and violations. Results from the stormwater inspection program will be reviewed after the second cycle to identify and prioritize future Industrial Element activities. EMD will also be responsible for EMD staff training.

EMD will continue to use standard inspection checklists when conducting inspections, which will help ensure consistency and efficiency of inspections throughout the County. The checklist will be revised as necessary. During inspection, EMD will also distribute education materials to the industries, including EMD Compliance Assistance Bulletins (CABs) and other material produced by the Permittees.

EMD will continue to use a progressive enforcement policy based on the County's Stormwater Ordinance and EMD's Enforcement Policy (see Appendix G). This policy will be updated as necessary during the fourth permit term. EMD may de-list certain industries from the CISCP that are found to have no exposure of pollutants from their activities. The de-listed industries will be reported in the Annual Reports and tracked in the EMD database.

State Industrial General Permit

Facilities covered by the State Industrial General Permit that are in the City are required to be inspected. EMD staff will continue to perform this task as part of the CISCP. During inspections of industries under the permit, EMD will verify that each industry has a current Waste Discharge Identification (WDID) number and an updated Stormwater Pollution Prevention Plan (SWPPP) available on-site. The industry must also be implementing BMPs effectively in compliance with the EMD policy.

Continued efforts will be made to identify industries (non-filers) in the City that may need coverage under the State Industrial General Permit. Upon discovery, these industries must be referred to the Regional Water Board within 30 days. EMD will submit a spreadsheet of all the non-filers with the monthly violation report to the Regional Water Board. Within two weeks of receipt of EMD's monthly report, the Regional Water Board will update information in the spreadsheet. The Regional Water Board will also copy EMD and the appropriate Permittees on all enforcement actions and correspondence related to permit status change or exemptions. A flow chart showing the process of reporting non-filers to the Regional Water Board is shown in Figure 4-4, on the next page.

Compliant-Based Stormwater Compliance Program (CBSCP)

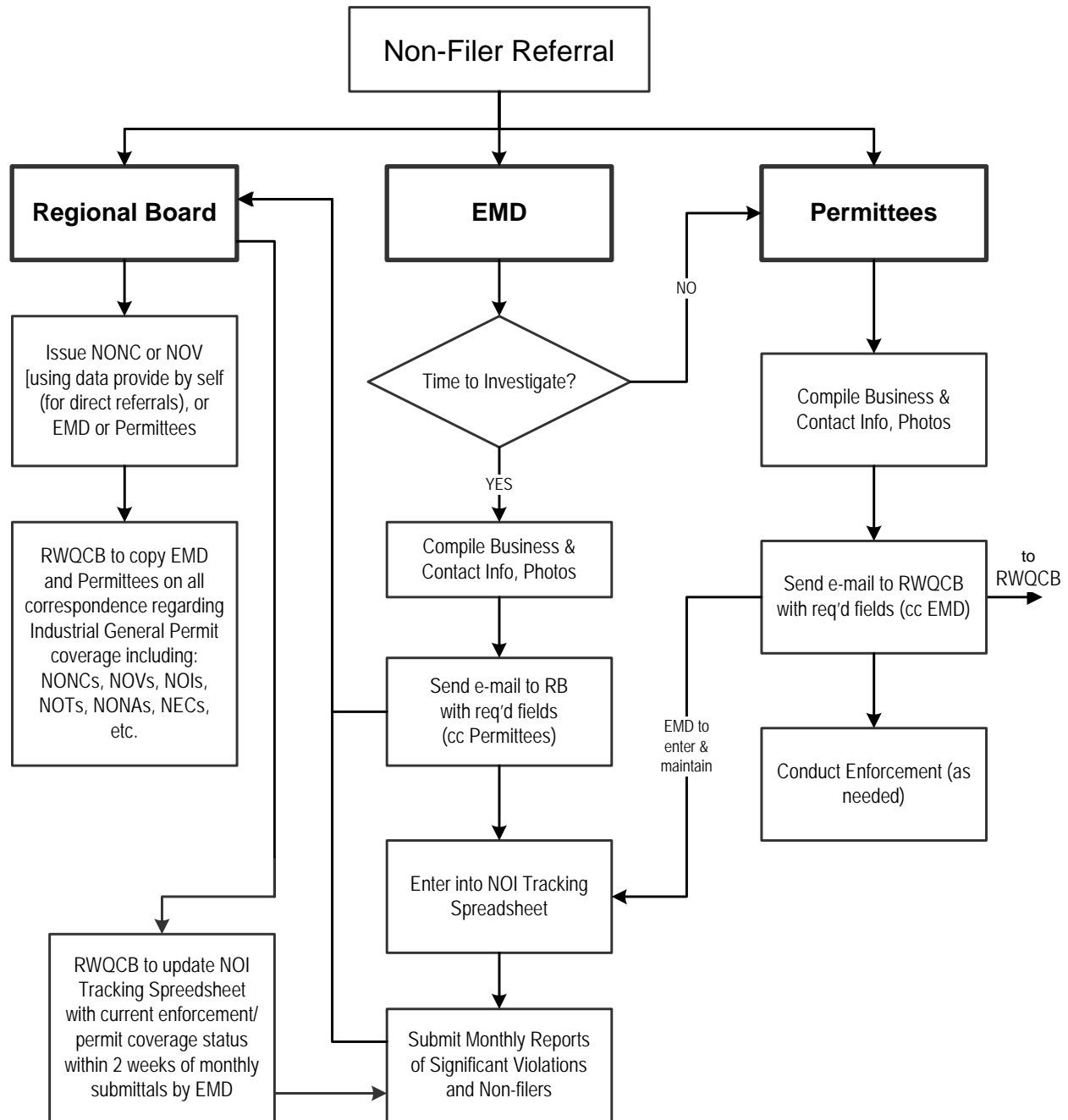
City staff will continue to investigate any complaints involving discharges of prohibited non-stormwater or other pollutants from industrial facilities within five days (within one day for suspected hazardous substances). These complaints involve industries that are not part of the CISCP inspections. Any complaints received that fall under the CISCP will be referred to EMD for investigation. City field crews will respond immediately to any complaint involving a non-stormwater discharge that needs to be cleaned up immediately. The Regional Water Board will be contacted regarding any significant violations. All referrals from the Regional Water Board will be investigated within three working days.

Investigations at industries will verify that each facility and/or activity conducted is in compliance with the City's Stormwater Ordinance. The progressive enforcement process will be continued, as needed, to issue warnings, Notices and Orders (Notice of Violations), and/or Administrative Penalties. Also, cost recovery will continue to be used when the City has to clean up a non-stormwater discharge and the discharger is known. City staff will continue to provide relevant educational material to industries during investigations.

In conjunction with the Illegal Discharge Program, a database will be continually updated with the investigation results from new complaints. The database will be used

to determine trends in violations among industries, response time, repeat offenders, and industries requiring outreach.

Figure 4-4: Referral Process for Industrial General Permit Non-Filers



Industrial Assistance Programs

Compliance assistance and information is made available through a variety outlets and types of media. Brochures, flyers, fact sheets, workshops, site visits, television, and radio all contribute to inform the business community. Industrial Element staff routinely work with Public Outreach Element staff and BERC to produce and distribute compliance information.

BERC regularly provides confidential assistance for local industries seeking stormwater compliance information. City staff work with BERC to ensure that appropriate stormwater pollution prevention information is distributed to local industries. BERC also conducts various stormwater compliance seminars every year targeting specific industries. The City contributes funds to BERC each year.

The CWBP Program utilizes a different and more positive approach for gaining compliance — one that relies on education, not enforcement. Participating businesses agree to: (1) conduct their activities in a manner that prevents stormwater pollution; and (2) provide outreach materials to their customers. In return, these businesses receive free advertising acknowledging their concern for water quality or other benefits best suited for their type of business.

The Industrial and Public Outreach Elements have set a goal of adding one new industry per year for participation in the CWBP Program. The program has targeted mobile carpet cleaning companies, pressure washers and landscape contractors in the past. More information on the CWBP Program can be found in the Public Outreach Element, Section 4-7 and in Chapter 7.

Outreach and Education

Along with other Permittees, the City will continue to conduct outreach twice during the fourth permit term to industries known to cause significant non-stormwater discharges. The goal is to increase awareness of stormwater pollution and applicable regulations, educate industry owners and operators about BMPs for addressing pollution, and encourage environmental stewardship. BERC will continue to manage the industrial outreach database and coordinate direct mailing of education materials on behalf of the Permittees. Outreach materials sent to industrial owners usually consist of brochures and fact sheets.

After the Industrial Prioritization List is revised, a new list of industries will be selected for outreach. The industries chosen will not be part of the CISC program.

Special Study

The City would like to conduct a special study within an isolated drainage basin that contains only industrial and commercial businesses to determine the effectiveness of source and structural control BMPs. The study would compare the water quality coming from these industries before and after inspections and outreach occur.

Effectiveness Evaluation

Effectiveness evaluation measures provide assessments of the degree to which activities reduce pollutants to the MEP or eliminate prohibited non-stormwater discharges. This information is used to focus and modify activities to maximize environmental benefits. The results of the evaluation measures will be provided in the Annual Reports. Chapter 3, Program Effectiveness Assessment, provides additional information on evaluation measures.

The Industrial Element is effective if its activities result in tangible reductions in the amount of prohibited non-stormwater discharges from industrial activities. Since it is impossible to directly monitor all discharges from all industries, effectiveness evaluation must be based on: (1) limited observations or monitoring; and (2) measurements of the degree of implementation, or performance, of Industrial Element activities. The results from inspection reports and feedback from inspection staff will provide the best opportunity to evaluate actual improvements.

Similarly, the success of the inspection program is dependent on development of effective BMPs and control programs and implementation of corrective actions. The evaluation measures that will be implemented are listed in the Annual Work Plan. Examples of the outcome levels, goals and evaluation measures that will be used to measure the effectiveness of the Industrial Element are provided below.

Outcome Level	Goal	Example Evaluation Measures
Level 1 – Documenting Activities	Achieve program development, implementation and basic compliance with NPDES permit requirements.	<ul style="list-style-type: none"> • # of inspections conducted • # of individuals attending trainings • # of complaints investigated
Level 2 – Raising Awareness	Raise a target audience’s awareness and understanding of an issue.	<ul style="list-style-type: none"> • # of businesses sent outreach material • % of businesses that filed for State Industrial General Permit coverage after notification from the City or EMD
Level 3 – Changing Behavior	Change a target audience’s behavior that results in the implementation of recommended BMPs.	<ul style="list-style-type: none"> • % of sites not needing a follow up inspection
Level 4 – Reducing Load From Sources	Reduce the load of pollutants from sources to the storm drain system.	<ul style="list-style-type: none"> • Estimates of pollutant loads removed from investigation and clean-up of incidents

4-5 MUNICIPAL OPERATIONS ELEMENT

Goal

The goal of the Municipal Operations Element is to mitigate potential pollutants generated by municipal facilities and activities to the maximum extent practicable (MEP), continue pollutant reduction efforts performed by the Drainage and Solid Waste Sections, and set an example of model pollution prevention for the public.

Evolution

During past permit terms, the Municipal Operations Element has: (1) implemented the Sewer Overflow Emergency Response Plan; (2) complied with the State General Construction Permit for municipal construction projects; (3) begun auditing existing municipal facilities having the potential to discharge pollutants into urban runoff and developed applicable mitigation procedures and/or best management practices (BMPs) to reduce pollutant discharges to the MEP; (4) conducted prioritized storm drain/facility maintenance activities based upon accumulation of debris, customer complaints, and seasonal concerns; (5) performed street sweeping schedules for all curbed streets at least once per month; (6) marked 95 percent of all storm drain inlets within City of Sacramento (City) jurisdiction with either long-term markers, stenciling, or permanent concrete stamps; and (7) trained City staff on the impacts of stormwater pollution and associated prevention activities.

During the upcoming permit term, the Municipal Operations Element will continue implementing these activities, but staff will also develop and implement other activities, including:

- Facility Pollution Prevention Plans (FPPPs) and tracking of BMP implementation for facilities and corporation yards involved with vehicle/equipment maintenance and material storage
- Integrated Pest Management strategies for all City departments involved with pesticide applications
- Inspection frequencies and maintenance procedures for City-owned parking lots exposed to rainfall
- Adaptive Management Plans (AMPs) or Lake Management Plans (LMPs) for water quality detention basins

A more specific list of tasks and schedules is presented in the Municipal Operations Element Five-Year Work Plan in Chapter 8.

POLLUTANTS ADDRESSED BY THIS ELEMENT

Sediment
Vegetation Waste
Clippings
Metals*
Nutrients
Pesticides*
Vehicle Waste
Products
Organic Carbon
Oil and Grease
Bacteria , Viruses
Paints
Concrete
Fuels
Litter
Non-stormwater
discharges

***Target pollutant for
Sacramento area**

Strategy

Many existing City services such as sump station cleaning, drainage system cleaning, and monthly street sweeping schedules provide a substantial reduction in stormwater pollutant discharges into the City's receiving waters. Additionally, the Municipal Operations Element will continue or enhance existing municipal services and mitigate potential pollutant generating activities in order to meet the its goal. The strategy will include activities in the following categories:

- Municipal activities
- Municipal facilities
- Municipal construction projects
- Spill response
- Outreach and training

Activities

Municipal Activities

Storm Drain Operation and Maintenance

During the next permit term, the City will continue providing the valuable service of removing pollutant loads from the storm drainage infrastructure (i.e., pumping stations, underground storm drain lines, drainage inlets, manholes, and drainage channels). The storm drain maintenance procedure implements cleaning schedules with varying prioritization factors. Key factors for cleaning frequencies of sumps include the amount of rainfall and the intensity of construction activities in the sump's drainage basin. Moreover, all sumps are visually inspected on a weekly basis to determine if any need to be placed on an accelerated cleaning frequency. All storm drain lines, drain inlets and manholes are scheduled for cleanings based on accumulation of waste, customer complaints and flood control issues. The majority of the City's underground storm drain lines terminate at one of several sump stations that are considered a downstream BMP during Municipal Separate Storm Sewer Systems (MS4) maintenance and cleaning activities.

The City's Stormwater staff works very closely with Drainage Field Services staff in order to ensure pollutant loads from the City's discharges into local receiving waters are minimized to the MEP. Stormwater inspectors also work very closely with Drainage staff first responders to ensure potential pollutants generated from illegal discharges are contained and abated. All cleaning, maintenance and inspection activities associated with the MS4 are tracked and recorded. Staff measure and properly dispose of all material removed from the MS4. The quantity of waste removed from these cleaning efforts can be quantified for the City's Program Effectiveness Assessment.

The City will continue implementing maintenance procedures for drainage channels, ditches and creeks as specified in the existing maintenance agreements with the California Department of Fish and Game. These agreements identify the environmental character of each drainage facility and appropriate maintenance activities and schedules to adequately address flood control needs within the facility.

By following prescribed maintenance procedures, the City ensures removal of pollutants to the MEP and simultaneous protection of the habitat within the improved and/or natural drainage facility. The City will also continue to implement existing storm drain maintenance procedures that minimize the discharge of pollutants during maintenance of the drainage channels, ditches and creeks. Staff will also continue to measure the quantity of waste removed, properly dispose of material removed during this effort, and keep accurate records.

Over the past several years, the City has used volunteers to mark drain inlets with the spray painted message, "No Dumping Drains to River." Recently, the City has been attaching a more permanent curb marker that conveys more information than the stenciling message. The new markers include a phone number to report spills and dumping and also list the Sacramento Stormwater website; thus establishing a stewardship between the City and its' community. Initially, listing the river or creek name on the marker will educate the public about the specific receiving water being impacted by that drainage shed. When a marker needs to be replaced, a more general marker that does not designate a specific water body will be placed in order to minimize the logistics of replacing the markers. At least 95 percent of the City's drain inlets associated with curb and gutter will contain a no dumping message with either a concrete stamp or a marker; consequently, the volunteer stenciling program will be assessed to determine its' viability. The City will maintain the markers as needed either through field staff, volunteers or consultant services.

Pollutant discharges into City drainage facilities or into receiving waters will also be minimized by continuing to implement existing procedures for special event use permits that require proper management of trash and litter.

Streets and Roads Maintenance

The City has categorized all city streets with a curb as Priority A, which are swept once per month. The downtown area is on an accelerated schedule and is swept once per week. Due to the nature of green waste collection on City streets, all streets were determined to have similar quantities of accumulated waste. Since the downtown area has a greater concentration of large, mature trees and a more sensitive combined sewer system receiving urban runoff, an increased sweeping frequency has been implemented. Wash water and solid waste collected as part of the street sweeping activities will continue to be disposed of properly, following applicable solid waste disposal requirements.

The City will continue to audit street maintenance practices and revise them, as needed, to include recovery and proper disposal of sawcutting waste; proper management of concrete and other street and road maintenance materials and wastes; and use of designated areas for washout of concrete trucks and chutes.

Curbside Green Waste Collection

The City currently allows residents to place green waste in the street for collection by the Solid Waste Division. The mandatory discontinuation of this service has been prohibited by the passage of Measure A by City residents in 1977. In the last permit term, the City implemented a volunteer containerized green waste collection program. This program currently has 30,000 participating solid waste customers, with a goal to increase this number to 70,000 by 2009. The voluntary green waste program offers weekly curbside pick up.

Landscape and Recreational Facilities Management

The City will develop and implement Integrative Pest Management (IPM) policies and procedures that apply to all of the City's pest management activities. IPM, which focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation and modification of cultural practices, ensures that:

- Pesticides are used only after monitoring indicates they are needed and according to established guidelines.
- Treatments are made with the goal of removing only the target organism.
- Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and non-target organisms, water quality, and the environment.
- Application of pesticides or fertilizers immediately before, during or immediately after a predicted rain event or when water is flowing off the application area is prohibited.

In addition to adopting IPM management strategies, the City will continue implementing standardized protocols for chemical applications of pesticides, herbicides (including pre-emergents) and fertilizers that:

- Prohibit application or storage of banned or unregistered pesticides.
- Require staff applying pesticides are licensed by the California Department of Pesticide Regulation, or under the direct supervision of a certified pesticide applicator.
- Require the storage of fertilizers and pesticides indoors or under cover on paved surfaces, or the use of secondary containment.
- Minimize the use, storage and handling of hazardous materials and reduce the potential for spills.
- Require the regular inspection of storage areas.

Municipal Facilities

Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

The City has reviewed existing facilities that have the potential for discharging pollutants to the MS4 and/or waters of the state. The studies identified potential pollutant discharges resulting from the activities conducted at the site and the existing BMPs implemented to reduce potential discharges. During the reviews, additional BMPs, guidance materials and training required to further reduce potential pollutant discharges from City facilities were identified and will be addressed.

Existing Storm Water Pollution Plans will be reviewed and updated as needed, and Facility Pollution Prevention Plans (FPPPs) will be prepared for targeted facilities with the potential of discharging pollutants into runoff. Additionally, inspection frequencies will be established to ensure adequate BMP implementation and proper maintenance. The FPPPs will include BMPs to minimize pollutant discharges in stormwater, including good housekeeping practices, material storage control, vehicle leak and spill control, and illegal discharge control.

For existing facilities not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) will either be self-contained, equipped with a clarifier, equipped with an alternative pre-treatment device, or plumbed to the sanitary sewer. All vehicle and equipment wash areas proposed for new facilities or during significant redevelopment of existing facilities (including fire stations) will be plumbed to the sanitary sewer and, if necessary, equipped with a pre-treatment device in accordance with the requirements of the sewer agency.

Pest Management for City Owned Facilities

Pest management decisions for facilities will follow IPM Implementation Plans for each specific facility, and contract language for Pest Control Operators will require IPM services. In addition, training and guidance materials will be developed where necessary to support the effective implementation of IPM BMPs at these facilities.

Detention Basin Maintenance

The City is presently conducting an inventory of all water quality detention basins and reviewing any maintenance and operation measures for these basins. This inventory will be periodically reviewed and updated as more basins are identified and constructed. A few of the detention basins within the North Natomas community have Adaptive Management Plans (AMPs) and serve as a development model for subsequent AMPs. These plans provide guidance for the long-term maintenance and operations, with unique features for each detention basin.

The AMPs address key maintenance issues that include, but are not limited to: algae control, vegetation management, fuel load management and fire control, pond sediment removal, irrigation system operation, inlet maintenance, water quality control, and mosquito control. Each basin is divided into separate maintenance zones based on a variety of factors, including slope, topography, hydrology, and anticipated uses.

Moreover, maintenance prescriptions for each of these zones address the target condition of the area, the types of management activities needed to maintain the target condition, and frequency of management activities. Recommended monitoring activities are included as a type of maintenance activity to support the adaptive approach to basin management.

There are two detention basins that are currently being maintained by Home Owner Associations (HOAs), and these basins have Lake Management Plans (LMPs) similar to the AMPs. Additionally, there is a draft LMP for a detention basin that is currently under construction, which will also be managed by a HOA. As part of these LMPs, the HOAs collect water quality data on a quarterly basis, implement BMPs, and maintain the aesthetics (algae, trash, invasive plants) of the lakes.

Recently, the City has established a Pesticide Plan that addresses chemical usage associated with City activities (see the Landscape and Recreational Facilities Management section). It was decided that the best way to minimize the water quality risks associated with pesticides was to promote Integrated Pest Management (IPM) and ensure that pesticide benefits to society outweigh their potential risks to human and environmental health. All existing AMPs and LMPs will be reviewed and updated to include IPM language within the maintenance standards, and subsequent management plans will also include IPM practices.

Parking Facilities Management

The City will develop and implement a Parking Facility Inspection and Maintenance Plan for City-owned parking lots exposed to rainfall. The plan will identify prioritized categories of parking facilities and corresponding inspection and maintenance frequencies to prevent build-up of debris and excessive oil to the MEP.

Municipal Construction Projects

The City will review and revise the procedures for approval of public construction projects to ensure that development standards are implemented where applicable to public construction projects. Staff will also review and revise procedures for approval of public construction projects to ensure that Construction Program requirements are implemented at City-owned construction sites. The City will continue obtaining coverage under the General Construction Permit for applicable City construction sites.

Spill Response

The City will continue implementing the Sewer Overflow Emergency Response Plan when:

- Investigating complaints received
- Containing overflows
- Notifying appropriate sewer and public health agencies when flows to the MS4 occur
- Implementing procedures for preventing sewage spills from entering the MS4
- Identifying, repairing and remediating sanitary sewer blockages and wet weather overflows from sanitary sewers to the MS4

Outreach and Training

Outreach and training of City staff and contracted employees is an integral part of the Municipal Operations Element strategy. The Municipal Operations Element targets various groups to address Program requirements to promote a clear understanding of the potential for municipal activities to pollute stormwater and to identify and select appropriate BMPs. Training activities performed by the Municipal Operations Element may involve training for other Elements as well. Likewise, other Elements may perform some of the training required within the Municipal Operations Element. For example, the Construction Element has historically performed any training relating to the design, construction and inspection of public projects. See Table 2-5 in Chapter 2, Program Management for a summary table of the various City departments identified for training. Outreach to City-contracted staff will be conducted as needed.

Effectiveness Evaluation

Assessing the effectiveness of a stormwater program begins with the program planning process and includes developing associated control measures, performance goals and identifying desired outcomes. Examples of goals and evaluation measures for the Municipal Operations Element by outcome level are provided below.

Outcome Level	Goal	Example Evaluation Measure
Level 1 – Documenting Activities	Achieve program development, implementation and basic compliance with NPDES permit requirements.	<ul style="list-style-type: none"> • Keeping records of cleaning and maintenance activities • Performing street sweeping at prioritized frequency
Level 2 – Raising Awareness	Raise a target audience’s awareness and understanding of an issue.	<ul style="list-style-type: none"> • # of developed implementation plans (FPPPs , SWPPPs, AMPs) for targeted facilities, water quality detention basins, and corporation yards. • # of tailgate meetings and training sessions • % field maintenance staff who understood training concepts
Level 3 – Changing Behavior	Change a target audience’s behavior which results in the implementation of recommended BMPs.	<ul style="list-style-type: none"> • # of pollution prevention plans properly implemented • % decrease in amount of chemicals used during pesticide applications
Level 4 – Reducing Load From Sources	Reduce the load of pollutants from sources to the storm drain system.	<ul style="list-style-type: none"> • Estimates of pounds of pollutants removed by cleaning activities in storm drain system • Estimates of waste removed from street sweeping activities

The Municipal Operations Element is currently operating at Outcome Levels 1 and 2, with some activities reaching Outcome Level 4. The effectiveness of this Element depends on adequate training, resources and staff to ensure that City operations and facilities are reducing stormwater pollution and controlling non-stormwater discharges. In previous permit terms, the Municipal Operations Element focused on training and reviewing/documenting activities (Outcome Levels 1 and 2).

Quantitative measurements of effectiveness include quantity of waste removed from sump maintenance, storm drain system cleanings, and street sweeping (Outcome Level 4).

The focus during this permit term will be to continue gathering information pertaining to potential storm water pollutants generated by municipal activities and facilities, and input this information into a database designed to assist in tracking, scheduling and assessing stormwater-related activities. Assessments will include evaluation of procedures for managing pollutants, inspections, site visits, review of feedback from City staff, and public comments. Once the information is in the database, the City will establish baseline numbers for the variety of tasks performed. As the program develops, the baseline numbers will be compared for consecutive years in order to establish a method of effectiveness evaluation in order to advance portions of the Municipal Operations Element into Outcome Level 3.

4-6 NEW DEVELOPMENT ELEMENT

Goal

The goal of the New Development Element is to protect local creeks and rivers by reducing the discharge of stormwater pollutants that can result from new developments to the MEP. Generally, new developments may result in: (1) an increase in the total urbanized area, with an attendant increase in the overall load of pollutants discharged into local creeks and rivers; and (2) an increased impervious area, with an attendant increase in the volume of stormwater runoff flows.

Evolution

Currently, this Element mitigates the effects of new development on stormwater quality with the installation and maintenance of source controls and structural control measures on both a regional scale such as detention basins and on individual properties (termed on-site controls) such as vegetated swales. Control measures referred to as treatment control measures in this report are essentially pollutant removal best management practices (BMPs).

Redevelopments are also part of the New Development Element, because they offer opportunities to incorporate on-site controls using the same procedures established for new developments. The current stormwater quality requirements for new development and redevelopment are outlined in Table 3-2: Stormwater Quality Control Measure Selection Matrix in the *Stormwater Quality Design Manual* (May 2007).

In the past, the emphasis of the New Development Element has been to develop ordinances, design standards, guidance manuals, and maintenance protocols, and to incorporate these requirements into the development review process. Currently, the development review process successfully integrates stormwater quality requirements into environmental documents, conditions projects during the entitlement process, incorporates control measures during the plan approval process, and requires maintenance agreements for on-site treatment control measures.

A comprehensive evaluation of the stormwater quality development standards, numeric sizing criteria and planning procedures and policies was conducted in 2003 and submitted to the California Regional Water Quality Control Board (Regional Board) in the *Development Standards Plan* (DSP), which was approved in May 2005. The updated development standards went into effect on May 18, 2006, and include eight categories of new development and redevelopment projects, corresponding source and treatment control thresholds, and revised numeric sizing criteria.

POLLUTANTS ADDRESSED BY THIS ELEMENT

Sediment

Metals:

Copper*

Lead*

Mercury*

Zinc

Nutrients:

Nitrate

Total Nitrogen

Total Phosphorus

Pesticides*

Vehicle waste
products

Organic carbon

Oil and grease

Coliform*

***Target pollutant for
Sacramento area**

In addition, a regional *Stormwater Quality Design Manual for the Sacramento and South Placer Regions* was completed in May 2007, which replaces the City of Sacramento (City) *Guidance Manual for On-Site Stormwater Quality Control Measures*. The regional Stormwater Manual was a collaborative effort between the County of Sacramento and Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, Rancho Cordova, and Roseville. This manual includes the stormwater quality requirements for new development and redevelopment projects; low impact development strategies (i.e., runoff reduction control measures); and guidance for selecting, designing and maintaining stormwater source and treatment control measures.

In this permit term, the New Development Element will focus on implementing the revised development standards, resolving conflicts in City codes, expanding the program to ensure treatment controls are properly installed and maintained, training municipal staff, and developing a waiver program.

Strategy

The New Development Element strategy includes the following components:

- Provide outreach and guidance to the development community on the stormwater quality development standards, including required source and treatment controls.
- Provide training to City staff on stormwater quality requirements and procedures.
- Ensure that plan review and approval procedures, standards and maintenance requirements are clear and effective.
- Require new development and redevelopment projects to incorporate and design source and treatment controls as specified in the stormwater quality development standards.
- Develop and/or require maintenance provisions for various treatment control measures.
- Evaluate new technology and alternative control measures.

New Development Element Activities

Outreach and Education

Program staff will conduct outreach to the development community to provide information and serve as a technical resource on policies, requirements, and new technology and practices. This may be accomplished through workshops, presentations at professional organizations, newsletters, or fact sheets. In addition to this outreach, staff will provide training and serve as a technical resource for municipal staff on proper design, installation, inspection, and maintenance of control measures and new technology.

City staff who are engaged in development planning, including development review staff, planners and project managers, will be trained annually. See Table 2.5 in Chapter 2, Program Management for a summary table of the various City departments identified for training. Outreach to the development community will be conducted as needed.

Policy and Standards

Development standards include policies, ordinances and codes; planning practices; site design; source, treatment and runoff reduction controls; and maintenance requirements. The Policy and Standards Activity includes the following areas: (1) General Plan Amendment; (2) California Environmental Quality Act (CEQA) process; (3) ordinances and codes; and (4) design standards and manuals.

- General Plan Amendment: The City of Sacramento 1988 General Plan is currently being updated. Water quality and watershed protection principles will be added to the new General Plan for 2030.
- CEQA process: Program staff will review and, if necessary, revise the environmental review procedures to ensure stormwater quality requirements are incorporated into environmental documents such as environmental impact reports and mitigation monitoring plans.
- Ordinances and codes: Existing ordinances and codes will be reviewed periodically and amended as needed. Stormwater staff will work to resolve conflicts in City codes as they are identified.
- Design standards and manuals: The *Stormwater Quality Design Manual for Sacramento and South Placer Regions* was completed in May 2007. Future updates to the standards and manuals will be conducted as needed based on new technical information, new innovative technologies, and control measure effectiveness. Alternative and innovative control measures will be identified and evaluated through networking with other programs, product research, literature reviews, and BMP performance studies. The *Department of Utilities Procedures Manual* and *City/County Drainage Manual Volume 2-Hydrology* will be revised to refer to the new *Stormwater Quality Design Manual* for regional stormwater quality and numeric sizing criteria.
- Waiver Program: The City will work with the Permittees to develop a waiver program for projects where structural treatment control measures are infeasible. The Permittees will obtain Regional Board approval prior to implementation of the waiver program.
- Hydromodification: The City will work with the Permittees to assess the applicability of hydromodification for the Sacramento area. Criteria will be established and the development standards will be amended for the areas identified as requiring hydromodification.

Development Standard Implementation

Development projects are required to address stormwater quality requirements during the entitlement process. Post-construction stormwater quality requirements are incorporated into environmental documents such as environmental impact reports and mitigation monitoring plans and standard conditions for entitlements such as tentative maps and special permits. Source controls and treatment controls will be incorporated for all new development and redevelopment projects as specified in Table 3-2 in the *Stormwater Quality Design Manual*. Regional facilities will be incorporated as a part of large master-planned developments and, where feasible, will be integrated into new drainage basins or retrofit projects constructed by the City. On-site treatment controls for new development and redevelopment projects will be located in areas without regional controls.

Development review staff and municipal project managers ensure that projects incorporate source and treatment control measures through the development approval process and municipal procedures. Inspection staff ensure that regional and on-site control measures are properly installed. Implementation of control measures on municipal projects and proper installation of treatment controls will be improved through annual staff training.

Regional treatment facilities are owned and maintained by the City. Detention basin maintenance is discussed in the Municipal Operations Element. Development review staff will ensure that maintenance provisions are provided for on-site treatment control measures such as requiring maintenance agreements for treatment control measures installed on private property.

Program staff will maintain an Access database of the regional and on-site treatment control measures constructed by new development and redevelopment projects and associated maintenance provisions. This database will be expanded to include tools for effectiveness evaluation.

Effectiveness Evaluation

Assessing the effectiveness of a stormwater program begins with the program planning process and includes developing associated control measures, performance goals and identifying desired outcomes. Examples of goals and evaluation measures for the New Development Element by outcome level are provided below.

Outcome Level	Goal	Example Evaluation Measures
Level 1 – Documenting Activities	Achieve Program development, implementation and basic compliance with NPDES permit requirements.	<ul style="list-style-type: none"> • # of plans reviewed • Standards developed • # of trainings held
Level 2 – Raising Awareness	Raise a target audience’s awareness and understanding of an issue.	<ul style="list-style-type: none"> • % of engineers who know what types of BMPs to incorporate • % of participants who understood training concepts
Level 3 – Changing Behavior	Change a target audience’s behavior which results in the implementation of recommended BMPs.	<ul style="list-style-type: none"> • % of projects with BMPs implemented • % of projects with maintenance agreements and/or plans
Level 4 – Reducing Load From Sources	Reduce the load of pollutants from sources to the storm drain system.	<ul style="list-style-type: none"> • # of treatment controls installed and the associated load of pollutants removed determined by literature reviews and the International BMP database

The effectiveness of the New Development Element will be based on whether on-site and regional stormwater quality control measures have been designed, constructed and maintained according to developed criteria. Maintenance records, inspection records and visual monitoring will provide verification that control measures are working. Chemical monitoring may be conducted on selected control measures to assist in determining effectiveness. In addition to collecting and evaluating data on control measures that have been installed, information from literature reviews and other studies may be used to assess effectiveness and estimate pollutant load reductions.

Information from special studies and literature reviews will also be used to develop and revise design criteria and maintenance protocols.

Activities used in the past to assess the New Development Element's effectiveness included documentation of implementation activities such as the number of projects conditioned and treatment controls constructed, assessment of workshops through feedback on evaluation forms, and extensive research on treatment control measure performance. Some of the special studies completed include the following:

- Stormwater interceptor and catch basin insert effectiveness study
- Dry extended detention basin effectiveness study (Brown Road Detention Basin)
- Vegetated swale effectiveness study
- Proprietary device effectiveness investigation

Appendix E contains more information on the special studies conducted. To date, the New Development Element is currently implementing effectiveness assessments at Outcome Levels 1 (Documenting Activities).

The focus during this permit term will be to develop a comprehensive effectiveness assessment incorporating Outcome Levels 1-4 and an associated implementation schedule. Details on the tasks, outcome levels and schedule are located in the New Development Element Five-Year Work Plan in Chapter 8. Evaluation measures may include assessments of trainings/workshops utilizing results of quizzes, percentage of plans incorporating accepted treatment controls, or the estimated load of pollutants removed by the installed treatment controls. Staff will explore ways to update the existing Access treatment control measure database to incorporate tracking and effectiveness evaluation tools.

Results of the effectiveness evaluation will be used to focus and modify activities to maximize environmental benefits. The specific tasks, outcome levels and evaluation measures will be included in the Annual Work Plans. The results of the effectiveness measures will be provided in the Annual Reports. Chapter 3, Program Effectiveness Assessment, provides additional information on performance goals and effectiveness measures.

4-7 PUBLIC EDUCATION AND OUTREACH ELEMENT

Goal

The goal of the Public Education and Outreach (PEOE) Element is to promote behavioral changes that will reduce stormwater pollution. The PEOE supports all other Program Elements.

Evolution

During the last three permit terms, the PEOE developed the initial outreach strategy through a highly interactive process with the public. Recognizing the importance of providing a strong base for an effective and efficient element, the City of Sacramento (City) invested significant resources during previous permit terms to implement a strategic plan specifically designed for City residents, including: (1) biennial surveys to measure public awareness of stormwater pollution issues; (2) several education programs targeting elementary and high school students; and (3) numerous programs that combined this Element with aspects of other Elements to address Program issues and concerns.

As the City implemented the second and third permits, increased interaction with the other Permittees began to form a more coherent, region-wide message. In 2004 recognizing the importance of message consistency and program resource management, the Permittees implemented joint public awareness surveys that encompassed the entire Permittee area. Although some City-only baseline data was lost, the group considered it important to establish a new baseline of public awareness and stated behaviors reflecting new issues significant to all of the Permittees.

Over the next five years, a central effort of the PEOE will address making a larger impact on the non-English speaking population of the Sacramento region, while continuing to address existing target audiences. The partnership will conclude a three-year analysis of Program effectiveness that will assist in focusing media and educational and general outreach efforts. Additional program investment will occur in the Hispanic, Slavic and Asian-Pacific Islander communities, as research data indicate these key non-English speaking audiences need more outreach than they have had in the past.

Strategy

The PEOE will pursue its goal by using education to: (1) create awareness of the storm drain system and its relationship to the health of local waterways; and (2) promote active participation in stormwater pollution prevention to foster a stewardship ethic of local waterways. This two-part strategic effort is grouped into four categories:

- Outreach to the general public and target sectors

POLLUTANTS ADDRESSED BY THIS ELEMENT

Sediment

Metals*

Nutrients

Pesticides*

Vehicle Waste
Products

Organic Carbon

Oil and Grease

Coliform

Non-stormwater
discharges

***Target pollutant for
Sacramento area**

- Outreach to children in local schools
- Outreach to public employees, officials and agency managers
- Regional activities

Building partnerships comprises a key component of a successful outreach program to assist in promoting stormwater messages and maximize limited City resources. In the next permit term, the PEOE Element will continue to actively seek opportunities to work with others to promote water quality protection. For example, since the media plays an enormous role in keeping the public informed on important issues, efforts will be directed at educating the media to recognize stormwater pollution prevention as an important factor in protecting the environment and quality of life in Sacramento.

The new joint public outreach plan details the Permittees' new website and hotline as well as the existing joint efforts of the Water Wise Pest Control/Our Water Our World program, Clean Water Business Partnership program, Splash and South Yuba River Citizens League (SYRCL) educational programs, public event participation, and multimedia campaigns. City-specific activities are discussed below.

Activities

Outreach activities are divided into the four general categories stated above. Activities often overlap between categories and are closely coordinated with other Program Elements.

Outreach to General Public and Target Sectors

General outreach activities include participation in a wide variety of community events, the volunteer stenciling program, community action grant program, stormwater website and hotline, and Sacramento Zoo program.

In the past, elementary school classes, Boy Scouts, Girl Scouts, high school community service groups, and others have stenciled storm drain inlets (DIs) around the city with a "No Dumping – Flows to River" message. During the last Permit term, approximately ninety-five percent of the DIs have been marked with a "No Dumping" concrete stamp or marker. The new marker includes a phone number to report spills and dumping and the Sacramento Stormwater website establishing a stewardship between the City and the community. The remaining five percent of the DIs may be used for the volunteer stenciling program. Since the paint wears off every 12-18 months, those drains not marked or stamped provide a constant public outreach opportunity. The PEOE Element will evaluate the viability of the volunteer stenciling program now that a majority of the DIs have been marked and stamped.

The community action grant program awards \$2,500 grants to at least four recipients each year, including teachers, non-profit organizations, community service groups, and other interested parties that have ideas for projects and programs to protect water resources and/or educate others about stormwater pollution issues and what can be done to lessen the impacts from urban runoff. The Program website (www.sacstormwater.org) contains a complete list of all grant recipients and their projects.

At the Sacramento Zoo, the Program maintains an on-site, interactive stormwater pollution prevention display and children's "pond" playground. More than 500,000 people each year visit the zoo, which usually receives one of the community action grants for its summer classroom series.

Outreach to Schools

In addition to participating in the Splash and SYRCL programs, several thousand students in grades 1-6 take part in classroom presentations each year, discussing stormwater pollution, the impact of pesticides on the aquatic food chain, and the water cycle. Each summer, the Sacramento Zoo offers a variety of classes for kids on water quality and the environment with funding from the Community Action Grant Program. The long-range goal is to make stormwater integral part of the classroom lesson plan developed for each school year. By educating children about the importance of water quality protection, a new generation will have the necessary tools to make informed decisions on how best to protect Sacramento's waterways.

Outreach to Public Officials and Municipal Operations

City department activities provide another strategic target for partnerships. The coordinated efforts of the PEOE and Municipal Operations staff result in a knowledgeable City workforce that can implement appropriate control measures and serve as role models for water quality protection. Staff provides opportunities for City officials to participate in environmental education activities such as Creek Week's "Splash-off" and Celebration Day; Pollution Prevention Week; and the distribution of proclamations for groups, industries, businesses, and individuals who have provided outstanding contributions to water pollution prevention.

Outreach Involving Statewide Regional Activities

Through the California Stormwater Quality Association (formerly the Stormwater Task Force), Program staff continues to work with other regions to share information and promote statewide campaigns that are cost effective and efficient. This effort becomes increasingly important as Phase II communities begin implementation of public outreach campaigns with the guidance and assistance of established Phase I jurisdictions, especially throughout California's Central Valley.

Effectiveness Evaluation

Assessing the effectiveness of a stormwater program begins with the program planning process and includes developing associated control measures and performance goals as well as identifying desired outcomes. Examples of goals and evaluation measures for the PEOE Element by outcome level are provided below.

Outcome Level	Goal	Example Evaluation Measures
Level 1 – Documenting Activities	Achieve Program development, implementation and basic compliance with NPDES permit requirements.	<ul style="list-style-type: none"> • # of students reached • # of community events attended • # of businesses in Clean Water Business Partnership (CWBP) • # of calls received on hotline • # of impressions made via media campaign
2 – Raising Awareness	Raise a target audience's awareness and understanding of an issue.	<ul style="list-style-type: none"> • type of calls received on hotline • analyzing results of awareness survey • analyzing feedback from CWBP survey cards
3 – Changing Behavior	Change a target audience's behavior which results in the implementation of recommended BMPs.	<ul style="list-style-type: none"> • % increase of stated behavioral change in surveys • track and record increases in sales of Our Water Our World products
4 – Reducing Load From Sources	Reduce the load of pollutants from sources to the storm drain system.	N/A

Activities used in the past to assess the PEOE Element's effectiveness included documentation of classroom presentations, materials disseminated, number of businesses participating in a program, and other similar accounting-style measurements. Documenting the number of brochures disseminated and the number of workshops presented does not go further than Outcome Level 1.

The focus during this permit term will be to develop a comprehensive effectiveness assessment incorporating Outcome Levels 1-3 and an associated implementation schedule. Details on the tasks, outcome levels and schedule are located in the Joint Public Education and Outreach Element Evaluation Worksheet and Chapter 8: Five Year Work Plans.

Results of the effectiveness evaluation will be used to focus and modify activities to maximize environmental benefits. The specific tasks, outcome levels and evaluation measures will be included in the Annual Work Plans and the results will be provided in the Annual Reports. Chapter 3, Program Effectiveness Assessment, provides additional information on evaluation measures.

4-8 WATERSHED STEWARDSHIP ELEMENT

Goal

The goal of the Watershed Stewardship Element is to maintain, improve and promote the health and quality of urban creek and river watersheds in the City of Sacramento (City).

Evolution

The Program included this Element to emphasize, prioritize and allocate resources for local watershed stewardship efforts, including specific habitat improvement or enhancement projects. The watershed stewardship approach provides the opportunity to solve stormwater and creek quality problems by considering a variety of factors and alternatives in order to arrive at the best solutions. Stewardship involves a process of stakeholder participation, problem identification, and development of appropriate strategies and solutions. Public support and community participation in stewardship is critical to achieving comprehensive, long-term improvements in the local environment. To develop and build community support for the Watershed Stewardship Element, the City focused on Arcade Creek as a lighthouse project during the initial implementation of the Element. An Arcade Creek watershed management group was established in 2002, comprised of public officials from state, local and special districts along with environmental organizations and members of the public.

In 2005, the City received a \$1 million grant from CalFed, administered by the State Water Resources Control Board (SWRCB), to implement specific improvements along Arcade Creek and conduct a large-scale public education campaign. In this permit term, the City will continue implementing this grant, which includes a wetland/filtration basin along an Arcade Creek tributary, public outreach to the entire watershed, removal of non-native invasive plants, and completion of a Phase II Stream Corridor Masterplan (SCM) for Arcade Creek. The impetus for future efforts on Arcade Creek will come from the watershed management group and the partnership with the Mira Loma High School International Baccalaureate Arcade Creek study. Additional grant funds will be pursued to implement other aspects of the Phase II SCM after that document is produced. All activities will be closely coordinated with those of the Public Education and Outreach Element and the Monitoring Program.

Strategy

The Watershed Stewardship Element goal will be pursued using three strategies:

- Initiate and support efforts to improve creek and river habitat, preserves and natural areas; and protect beneficial uses.
- Support and utilize citizen monitoring and other community partnerships to identify problems and implement solutions.

POLLUTANTS ADDRESSED BY THIS ELEMENT

Sediment

Metals*

Nutrients

Pesticides*

Vehicle Waste
Products

Organic Carbon

Oil and Grease

Coliform

Non-stormwater
discharges

***Target pollutant
for Sacramento
area**

- Increase public understanding and awareness of the value of protecting the quality of local creeks and rivers.

Activities

Watershed Improvement Projects

Working with the diverse group of watershed stakeholders mentioned above, Program staff will identify and prioritize projects that restore, improve and/or preserve habitat; enhance water quality; improve flood control; and increase recreational opportunities. Funding opportunities will be researched and pursued to complete selected projects, and ongoing monitoring will take place to evaluate effects of watershed improvement projects. The Arcade Creek project is linked through the partnership with the Laguna Creek watershed project and the work done in the Splash educational program.

Watershed Public Outreach and Citizen Monitoring Programs

The Program supports classroom and community training for awareness of aquatic life and habitat (e.g., Splash Program, Community Action Grant Program) and works to nurture community ownership and pride in local creeks and rivers. This activity includes supporting or conducting training and workshops on restoration and watershed stewardship as well as encouraging local stewardship efforts.

Citizen monitoring programs will be supported to foster community watershed stewardship and generate information on creek health. This includes training and workshops on citizen monitoring and implementation of local efforts in conjunction with restoration projects.

Effectiveness Evaluation

Assessing the effectiveness of a stormwater program begins with the program planning process and includes developing associated control measures and performance goals as well as identifying desired outcomes. Examples of goals and evaluation measures for the Watershed Stewardship Element by outcome level are provided on the next page.

Outcome Level	Goal	Example Evaluation Measures
Level 1 – Documenting Activities	Achieve Program development, implementation and basic compliance with NPDES permit requirements.	<ul style="list-style-type: none"> • # and diversity of stakeholders that join the Arcade Creek watershed management group • # of community events attended to promote watershed management goals, specifically those of the Arcade Creek grant project
Level 2 – Raising Awareness	Raise a target audience's awareness and understanding of an issue.	<ul style="list-style-type: none"> • Analyzing results of PEOE awareness survey related to watershed stewardship concepts • Increased awareness of students attending school field trips to wetland component of the Arcade Creek grant project
Level 3 – Changing Behavior	Change a target audience's behavior which results in the implementation of recommended BMPs.	<ul style="list-style-type: none"> • % increase of stated behavioral change in surveys • % increase of watershed management group activities in the area
Level 4 – Reducing Load From Sources	Reduce the load of pollutants from sources to the storm drain system.	<ul style="list-style-type: none"> • Monitoring effectiveness of the constructed wetland to reduce pollutant loads from the Arcade Creek tributary into the main body of Arcade Creek

Effectiveness of the Watershed Stewardship Element during the next permit term will be evaluated on a regional basis, as the Stormwater Management Program increasingly focuses on watershed management as an appropriate means to improving water quality in the entire region. This analysis will be tied to the completion of the Arcade Creek project, future watershed projects that result from completing initial efforts, and the ability of the Arcade Creek Watershed Management Group to become self-sustaining and to develop a common voice heard throughout the watershed.

Results of the effectiveness evaluation will be used to focus and modify activities to maximize environmental benefits. The specific tasks, outcome levels and evaluation measures will be included in the Annual Work Plans. The results of the effectiveness measures will be provided in the Annual Reports. Chapter 3, Program Effectiveness Assessment, provides additional information on performance goals and effectiveness measures.

4-9 PROGRAM ELEMENT INTERRELATIONSHIPS

Program Element activities are interrelated to ensure coordination and best use of Program resources. These interrelationships are shown in Table 4-9-1 below. Many BMPs involve the same or similar efforts that achieve the goals of two or more Program Elements. For example, the Volunteer Stenciling Program provides community involvement and education, as described in the Public Education and Outreach Element as well as a method to prevent illegal discharges, as shown in Illegal Discharge Element. The New Development Element requires stenciling or marking of storm drains to prevent illegal discharges in new development areas.

In addition to the Program Element activities previously described in this chapter, there are numerous program management and Monitoring Program activities that also interrelate and coordinate with the Program Elements. (Program Management and Monitoring Program activities are described in Chapters 3 and 6, respectively.)

Table 4-9-1: Program Element Activities Interrelationships

Activities	Related Program Element Activities
Construction Element	
Outreach and Education	Illegal (Illegal Discharge Prevention) Municipal (Spill Response) New Development (Technical Assistance) Public Education (Outreach to General Public and Target Sector; Outreach to Public Officials and Municipal Operations; and Outreach Involving Statewide Regional Activities)
Ordinance and Standards	Illegal (Stormwater Ordinance Enforcement; Spill Response; Illegal Discharge Prevention) Industrial (Inspection and Enforcement Programs) New Development (Design Standards; Development Standards Implementation)
Inspection and Enforcement	Illegal (Spill Response; Illegal Discharge Prevention) Industrial (Inspection and Enforcement Programs) Municipal (Municipal Activities) New Development (Development Standards Implementation)
Illegal Discharge Element	
Stormwater Ordinance Enforcement	Construction (Ordinance and Standards) Industrial (Significant Industry Control Programs; Inspection and Enforcement Programs) Municipal (Municipal Activities) New Development (Design Standards; Development Standards Implementation)
Spill Response	Construction (Ordinance and Standards; Inspection and Enforcement) Industrial (Significant Industry Control Programs; Inspection and Enforcement Programs) Municipal (Municipal Activities) New Development (Design Standards; Development Standards Implementation)

Activities	Related Program Element Activities
Illegal Discharge Element (continued)	
Illegal Discharge Prevention	Construction (Outreach and Education; Ordinance and Standards; Inspection and Enforcement) Industrial (Significant Industry Control Programs; Inspection and Enforcement Programs; Industrial Assistance Program) Municipal (Municipal Activities; Municipal Facilities; Municipal Construction Projects; Spill Response) New Development (Technical Assistance; Design Standards; Development Standards Implementation) Public Education (Outreach to General Public and Target Sectors; Outreach Involving Statewide Regional Activities)
Industrial Element	
Significant Industry Control Programs	Illegal (Stormwater Ordinance Enforcement; Spill Response; Illegal Discharge Prevention) Municipal (Municipal Activities; Spill Response) New Development (Design Standards; Development Standards Implementation) Public Education (Outreach to General Public and Target Sectors; Outreach to Public Officials and Municipal Operations; Outreach Involving Statewide Regional Activities)
Inspection and Enforcement Programs	Construction (Ordinance and Standards; Inspection and Enforcement) Illegal Discharge (Stormwater Ordinance Enforcement; Spill Response; Illegal Discharge Prevention) Municipal (Municipal Activities)
Industrial Assistance Program	Illegal (Illegal Discharge Prevention) Municipal (Spill Response) New Development (Technical Assistance) Public Education (Outreach to General Public and Target Sectors; Outreach Involving Statewide Regional Activities)
Municipal Operations Element	
Municipal Activities	Illegal Discharge (Illegal Discharge Prevention) New Development (Design Standards; Development Standards Implementation) Public Education (Outreach to Public Officials and Municipal Operations; Outreach Involving Statewide Regional Activities) Watershed Stewardship (Watershed Improvement Projects; Watershed Public Outreach and Citizen Monitoring Programs)
Municipal Facilities	Industrial (Significant Industry Control Programs; Inspection and Enforcement Programs)

Activities	Related Program Element Activities
Municipal Operations Element (continued)	
Municipal Construction Projects	Construction (Inspection and Enforcement) New Development (Design Standards; Development Standards Implementation) Watershed Stewardship (Watershed Improvement Projects; Watershed Public Outreach and Citizen Monitoring Programs)
Spill Response	Illegal Discharge (Stormwater Ordinance Enforcement; Spill Response; Illegal Discharge Prevention)
Training	Construction (Outreach and Education) Illegal (Illegal Discharge Prevention) Industrial (Industrial Assistance Program) New Development (Technical Assistance) Public Education (Outreach to Public Officials and Municipal Operations; Outreach Involving Statewide Regional Activities)
New Development Element	
Technical Assistance	Construction (Outreach and Education) Illegal (Illegal Discharge Prevention) Industrial (Industrial Assistance Program) Municipal (Spill Response) Public Education (Outreach to General Public and Target Sectors; Outreach to Public Officials and Municipal Operations; Outreach Involving Statewide Regional Activities) Watershed Stewardship (Watershed Improvement Projects; Watershed Public Outreach and Citizen Monitoring Programs)
Design Standards	Construction (Ordinance and Standards) Illegal (Stormwater Ordinance Enforcement; Spill Response; Illegal Discharge Prevention) Industrial (Significant Industry Control Programs; Inspection and Enforcement Programs) Municipal (Municipal Facilities; Municipal Construction Projects)
Development Standards Implementation	Construction (Ordinance and Standards; Inspection and Enforcement) Illegal (Stormwater Ordinance Enforcement; Spill Response; Illegal Discharge Prevention) Industrial (Significant Industry Control Programs) Municipal (Municipal Activities, Municipal Facilities, Municipal Construction Projects) Watershed Stewardship (Watershed Improvement Projects; Watershed Public Outreach and Citizen Monitoring Programs)

Activities	Related Program Element Activities
Public Education and Outreach Element	
Outreach to General Public and Target Sectors	Construction (Outreach and Education) Illegal (Illegal Discharge Prevention) Industrial (Significant Industry Control Programs; Industrial Assistance Program) New Development (Technical Assistance) Watershed Stewardship (Watershed Improvement Projects; Watershed Public Outreach and Citizen Monitoring Programs)
Outreach to Schools	Watershed Stewardship (Watershed Improvement Projects; Watershed Public Outreach and Citizen Monitoring Programs)
Outreach to Public Officials and Municipal Operations	Construction (Outreach and Education) Industrial (Significant Industry Control Programs) Municipal (Municipal Activities; Spill Response) New Development (Technical Assistance) Watershed Stewardship (Watershed Improvement Projects)
Outreach Involving Statewide Regional Activities	Construction (Outreach and Education) Illegal (Illegal Discharge Prevention) Industrial (Significant Industry Control Programs; Industrial Assistance Program) Municipal (Municipal Activities; Spill Response) New Development (Technical Assistance) Watershed Stewardship (Watershed Improvement Projects; Watershed Public Outreach and Citizen Monitoring Programs)
Watershed Stewardship Element	
Watershed Improvement Projects	Municipal (Municipal Facilities; Municipal Construction Projects) New Development (Technical Assistance; Development Standards Implementation) Public Education (Outreach to General Public and Target Sectors; Outreach to Schools; Outreach to Public Officials and Municipal Operations; Outreach Involving Statewide Regional Activities)
Watershed Public Outreach and Citizen Monitoring Programs	Municipal (Municipal Facilities; Municipal Construction Projects) New Development (Technical Assistance; Development Standards Implementation) Public Education (Outreach to General Public and Target Sectors; Outreach to Schools; Outreach Involving Statewide Regional Activities)