

US EPA ARCHIVE DOCUMENT

## Program Evaluation Report

### Riverside Area Stormwater Program: Cities of Corona, Moreno Valley and Riverside (NPDES Permit No. CAS 618033)

#### Executive Summary

Tetra Tech, Inc., with assistance from the California Regional Water Quality Control Board, Santa Ana Region (Regional Board), conducted a program evaluation of 3 of the 14 co-permittees implementing the Riverside Area Stormwater Program in May 2004. The purpose of the program evaluation was to determine the co-permittees' compliance with the National Pollutant Discharge Elimination System (NPDES) permit (CAS 618033 and Board Order R8-2002-0011) and to evaluate the current implementation status of the co-permittees' Urban Runoff Program (Program). The program evaluation included an in-field verification of program implementation. The three co-permittees evaluated were the cities of Corona, Moreno Valley, and Riverside.

This program evaluation report identifies potential permit violations, program deficiencies, and positive attributes. This report is not a formal finding of violation. Potential permit violations are areas of concern that the Regional Board staff should review to determine whether a violation has occurred. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate overall progress in implementing the Program.

The following potential permit violations are considered the most significant:

- The cities are not taking adequate steps to comprehensively evaluate program effectiveness.
- It is unclear whether the co-permittees are fully implementing the requirements in the New Development Guidelines (Supplement A to the DAMP).
- The co-permittees lack adequate guidance for reviewing new development project plans to assist with implementation of Supplement A and Water Quality Management Plans (WQMPs).
- The City of Corona does not adequately prioritize construction sites.
- The City of Corona lacks documentation on how it prioritizes industrial and commercial facilities.
- The City of Moreno Valley lacks criteria for designating priority levels for industrial and commercial facilities.

- The City of Moreno Valley needs to develop a septic system program to prevent system failures and to replace systems that have already failed.
- The City of Riverside's construction inspectors lack adequate inspection forms, inspection procedures, and training.
- The City of Riverside does not adequately identify and prioritize construction sites.
- The City of Riverside's corporation yard lacks adequate practices to prevent stormwater contamination.
- The City of Riverside's corporation yard lacks a site-specific Urban Runoff Pollution Prevention Plan.
- The City of Riverside does not have written standards, guidance, or training for the maintenance and inspection of structural stormwater controls.

The following program deficiency is considered significant for improvement of the program:

- The cities have not developed city-specific local stormwater management plans.

Several elements of the co-permittees' programs were particularly notable:

- The City of Corona requires a cash deposit for erosion control best management practices (BMPs).
- The City of Moreno Valley has implemented an annual maintenance charge for the City to maintain post-construction water quality BMPs.
- The City of Riverside has developed a GIS database that tracks routine inspections and other activities conducted by the Industrial Waste Division.

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## **1.0 Introduction**

### **1.1 Program Evaluation Purpose**

The purpose of the program evaluation was to determine the co-permittees' compliance with their National Pollutant Discharge Elimination System (NPDES) permit (CAS 618033 and Board Order R8-2002-0011) and to evaluate the current implementation status of the co-permittees' Urban Runoff Program (Program) with respect to EPA's stormwater regulations. Secondary goals included the following:

- Review the overall effectiveness of the Program.
- Identify and document positive elements of the Program that could benefit other Phase I and Phase II municipalities.
- Acquire data to assist in reissuance of the permit.

40 CFR 122.41(i) provides the authority to conduct the program evaluation.

### **1.2 Permit History**

The NPDES stormwater permit was issued on October 25, 2002, and is scheduled to expire on October 26, 2007. The current permit, the third issued to the co-permittees, requires each co-permittee to implement an Urban Runoff Program, including the best management practices (BMPs) identified in the area-wide Drainage Area Management Plan (DAMP).

### **1.3 Logistics and Program Evaluation Preparation**

Before initiating the on-site program evaluation, Tetra Tech, Inc., reviewed the following Program materials:

- NPDES Permit No. CAS 618033
- Santa Ana Region DAMP
- Santa Ana Region Enforcement/Compliance Strategy (December 20, 2001)
- Santa Ana Region Municipal Facilities Strategy (June 1997)
- Appendix C, Supplement A (New Development Guidelines), of the DAMP
- Draft Water Quality Management Plan (WQMP) (April 30, 2004)
- 2002 annual report of each co-permittee
- Regional Board correspondence with each co-permittee
- Co-permittees' Web sites

On May 11–13, 2004, Tetra Tech, Inc., with assistance from the Regional Board, conducted the program evaluation. The evaluation schedule was as follows:

<b>Tuesday, May 11</b>	<b>Wednesday, May 12</b>	<b>Thursday, May 13</b>
<ul style="list-style-type: none"> <li>• Program evaluation kickoff meeting</li> <li>• Program Management</li> <li>• Municipal Facilities and Activities (field and office)</li> <li>• Construction and New Development (office)</li> </ul>	<ul style="list-style-type: none"> <li>• Construction (field)</li> <li>• Industrial and Commercial (office)</li> <li>• Illicit Discharge (office)</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial and Commercial (field)</li> <li>• Education and Outreach</li> <li>• Program Effectiveness</li> <li>• Reporting</li> <li>• Program evaluation outbrief meeting</li> </ul>

Upon completion of the evaluation, an outbrief was held to discuss the preliminary findings. During the outbrief, the attendees were informed that the findings were to be considered preliminary pending further review by EPA and the Regional Board.

#### **1.4 Program Areas Evaluated**

The following program areas were evaluated:

- Program Management, including the co-permittees’ assessment of program effectiveness
- Municipal Facilities and Activities
- Industrial and Commercial Inspections
- Construction
- New Development
- Illicit Connection and Illegal Discharges
- Education and Outreach
- Reporting

#### **1.5 Program Areas Not Evaluated**

The following areas were not evaluated in detail as part of the program evaluation:

- Wet-weather monitoring program and monitoring program details (e.g., sampling location, types, frequency, parameters).
- Other NPDES permits issued to the co-permittees (e.g., industrial or construction NPDES stormwater permits).
- Inspection reports, plan review reports, and other relevant files. The program evaluation team did not conduct a detailed file review to verify that all elements of the Program were being implemented as described. Instead, observations by the evaluation team and statements from the co-permittees’ representatives were used to assess overall compliance with permit requirements. A detailed file review of specific program areas could be included in a subsequent evaluation.

## 1.6 Program Areas Recommended for Evaluation

The evaluation team recommends the following additional assessments:

- A review of the new development planning program implemented by the co-permittees, including implementation of Supplement A and Water Quality Management Plans (WQMPs) after adoption.
- An evaluation of the co-permittees implementing programs developed in compliance with Board Order R8-2002-0011 that were not included in this round of evaluations.

## 2.0 Program Evaluation Results

This program evaluation report identifies potential violations, program deficiencies, and positive attributes. This report is not a formal finding of violation. Potential violations are areas of concern that Regional Board staff should review to determine whether a violation has occurred. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate a co-permittee's overall progress in implementing the Program. The evaluation team identified only positive attributes that were innovative and exceptional (beyond minimum requirements). Some areas were found to be simply adequate; that is, not particularly deficient or innovative.

The evaluation team did not evaluate all components of each co-permittee's Program. Therefore, the co-permittees should not consider the enclosed list of program deficiencies a comprehensive evaluation of individual program elements.

The most significant program deficiencies and positive attributes identified during the evaluation are noted in the Executive Summary and are identified with text boxes in the following subsections.

### 2.1 Findings Common to All Three Cities

#### 2.1.1 Evaluation of Program Management and Effectiveness

##### Potential Permit Violation:

- *The cities are not taking adequate steps to comprehensively evaluate program effectiveness.*

The cities are not taking adequate steps to evaluate program effectiveness more comprehensively and go beyond the collection of water quality monitoring data. The current annual reports summarize past activities but do not provide detailed analysis to evaluate those activities. The cities should use the annual report to analyze not only *what happened* but also *why* it happened and *what needs to change* in the future to improve the Program. Ultimately, this evaluation will help the cities to improve implementation of the Program and help document water quality improvements.

For additional information on program evaluations, the cities should review the presentations from the November 14, 2003, meeting of the California Storm Water

Quality Association. That meeting focused on MS4 program effectiveness and how MS4s can document such effectiveness. The presentation materials are available at <http://www.casqa.org/swqtf/presentations.htm>. An additional resource is *A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs* developed by the San Diego Municipal Storm Water co-permittees. A copy of the report is available at [http://www.projectcleanwater.org/pdf/Copermittees/assessment\\_framework\\_final.pdf](http://www.projectcleanwater.org/pdf/Copermittees/assessment_framework_final.pdf)

Deficiency Noted:

- *The cities have not developed city-specific local stormwater management plans.*

Although the co-permittees have developed the regional DAMP, they have not developed individual stormwater implementation plans to provide each city with specific direction on the implementation of the Program. Review of the DAMP demonstrated that it is general in nature, providing guidance for the co-permittees but not specific details regarding local implementation. The co-permittees should develop individual stormwater management plans, based on the DAMP's overall guidance and program objectives that describe specifically how the Program will be implemented in each municipality. The cities would benefit from developing individual plans that identify the specific city organization(s) responsible for each activity. The local stormwater management plans should not only identify activities specific to the city but also provide the detailed direction and guidance needed to implement these activities.

As an example, the cities can review the stormwater local implementation plan (LIP) developed by the City of San Clemente for the San Diego Regional Water Quality Control Board at <http://ci.san-clemente.ca.us/Org/Dept/Engineering/WaterQ/wq.htm>. The LIP is the City's local plan for complying with stormwater permit requirements, and it is based on the regional DAMP developed by all permittees in the County. The cities in Riverside County should adopt a similar approach to implementing their stormwater program.

### 2.1.2 Evaluation of New Development and Redevelopment Program

Potential Permit Violations:

- *It is unclear whether the co-permittees are fully implementing the requirements in the New Development Guidelines (Supplement A to the DAMP).*

Permit provision VIII.A.2 requires each city to implement the BMPs identified in the New Development Guidelines, Supplement A to the DAMP. Supplement A describes "standard practice" BMPs for specific development types. For example, new retail/office center developments are required to implement specific nonstructural and structural BMPs identified in Tables 1 and 2 of Supplement A. One of these BMPs, control of impervious runoff (S1), describes how direct drainage from impervious areas to the street or a storm drain is discouraged and should be avoided. It was not clear from the evaluation that the cities are consistently requiring the BMPs in Supplement A for the development types specified in Tables 1 and 2.

- *The co-permittees lack adequate guidance for reviewing new development project plans to assist with implementation of Supplement A and Water Quality Management Plans (WQMPs).*

The co-permittees have not developed city-specific guidance and procedures for implementing Supplement A and, after adoption, the WQMP requirements. This guidance would include information on who will review project-specific WQMPs and details of each city's review process for project-specific WQMPs. The review of project-specific WQMPs is a complicated and detailed process. A checklist or similar review guidance would help ensure that plan review staff cover all the required elements in the WQMP. The Principal Permittee could develop model program guidance, and individual co-permittees could then customize the guidance for their unique programs and activities.

Two examples of local manuals developed to address post-construction stormwater requirements are available from San Diego County ([http://www.sdcounty.ca.gov/dpw/watersheds/land\\_dev/susmp.html](http://www.sdcounty.ca.gov/dpw/watersheds/land_dev/susmp.html)) and the City of Los Angeles (<http://www.lastormwater.org/Pages/partb.htm>).

### 2.1.3 Evaluation of Public Education and Outreach Program

#### Deficiency Noted:

- *The cities should develop a more statistically valid survey of public awareness.* Permit provision X.E requires the Public Education Committee to “propose a survey for measuring changes in awareness of Urban Runoff quality as a result of the education program.” The co-permittees currently meet this requirement by asking attendees at public events to complete survey forms. The co-permittees should develop a more statistically valid survey using established public survey techniques. An example of a report on a telephone survey of stormwater awareness conducted in San Diego County is available at [http://www.projectcleanwater.org/pdf/Carlsbad/public\\_awareness\\_03\\_car\\_slr.pdf](http://www.projectcleanwater.org/pdf/Carlsbad/public_awareness_03_car_slr.pdf)

## 2.2 City of Corona

### 2.2.1 Evaluation of Program Management and Effectiveness

See common findings in section 2.1.1.

### 2.2.2 Evaluation of New Development and Redevelopment Program

See common findings in section 2.1.2.

#### Deficiency Noted:

- *The City lacks a system to track maintenance of post-construction BMPs.* The City should develop a system to track structural source control and treatment BMPs identified in project plans complying with Supplement A and project-specific WQMPs. Information such as location, type of BMP, responsible party, and operation and maintenance (O&M) inspection and maintenance frequency should be collected to assist the City in ensuring that post-construction BMPs are adequately maintained.

### 2.2.3 Evaluation of Construction Program

#### Positive Attribute:

- *The City requires a cash deposit for erosion control BMPs.*

Before issuing a grading permit, the City requires project proponents to post security with the City (Corona Municipal Code 15.36.120). The security must be 100 percent of the estimated costs of erosion control, and at least 25 percent of the required security must be in cash. The remainder of the erosion control security may be a letter of credit, bond, or certificate of deposit. This approach allows the City to quickly correct erosion control problems using the developer's security deposit if the developer does not respond to violations found during inspections.

#### Potential Permit Violation:

- *The City does not adequately prioritize construction sites.*

Permit provision IX.A.2 requires the City to prioritize construction sites within its jurisdiction as a high, medium, or low threat to receiving water quality. The permit sets a minimum threshold for high priority as any site that disturbs an area greater than 50 acres. The permit also designates minimum inspection frequencies for high-, medium-, and low-priority sites—once every 2 weeks, once a month, and once during the wet season, respectively.

The City has very few construction projects that fall under the high-priority threshold required in the permit. The permit does not specifically define medium- or low-priority construction sites, so the City has defined all construction that is not high-priority as low-priority (that is, no sites are defined as medium-priority sites). The City inspects all construction sites at the medium inspection frequency or greater. The permit, however, requires prioritization of construction sites to be based on factors such as “soil erosion potential, project sites, proximity and sensitivity of receiving waters, history of compliance, and other relevant factors.” The City should revise its construction site prioritization scheme so it reflects the construction projects in the City and is a useful tool to help City inspectors prioritize their inspections. For example, the City could tabulate the frequency at which each site is currently evaluated for adequacy of compliance with stormwater requirements. This data would allow the City to better assign priority based on current inspection frequency.

#### Deficiencies Noted:

- *The City should develop more specific guidance for reviewing erosion and sediment control plans.*  
To assist plan review staff in reviewing erosion control plans, the City should develop more specific guidance, such as a checklist or written review criteria. Such guidance would ensure that all staff review plans consistently. The guidance should include good housekeeping BMPs covering concrete washouts, vehicle and equipment fueling, cleaning and repair, sanitary waste, and solid waste management practices,

which are not currently included in erosion control plans. The guidance should also include sediment control during the clearing, grubbing, and rough grading stages, such as the use of sediment traps and sediment basins, erosion and sediment control during active construction (such as the use of straw rolls and sediment traps) and, in general, an effective combination of erosion and sediment controls at all stages of construction.

- *The City should more actively involve building inspectors and public works inspectors in inspections for stormwater compliance.*  
Building inspectors and public works inspectors should be more actively involved in conducting inspections for compliance with stormwater requirements. Building inspectors, at a minimum, can correct minor stormwater violations with a verbal warning while on-site, referring serious violations or repeat offenders to the City's primary inspector for stormwater. For public works projects, the City places primary responsibility for stormwater compliance with the contractor. However, the City should also inspect public works projects to ensure compliance with the State's General Construction Permit.

#### 2.2.4 Evaluation of Municipal Facilities and Activities Program

##### Positive Attributes:

- *The City is developing a sophisticated municipal maintenance work order tracking and reporting system.*  
The City is developing a detailed municipal maintenance work order tracking and reporting system called *Crossbow*. This system will eventually allow the City to more accurately track and respond to implementation of the Program. The City is encouraged to integrate stormwater program elements into this system.
- *The City's new corporation yard includes numerous BMPs to address stormwater concerns.*  
The City's corporation yard, which the City built approximately 18 months ago, was designed with most activities conducted and materials stored inside the buildings or under cover. The vehicle wash rack is covered and enclosed, and spill kits and mats to cover the storm drain are available near the fueling island.

##### Deficiencies Noted:

- *The City should increase its storm drain inlet stenciling efforts.*  
Although the City has stenciled approximately 500 storm drain inlets, some of them have faded and have not been re-stenciled. The Public Works Department plans to apply more permanent stencils to storm drains. The City is encouraged to stencil all inlets with appropriate stormwater messages and should set a schedule for accomplishing this goal.

- *The City should develop site-specific urban runoff pollution prevention plans for municipal facilities and activities.*

The City has developed an Urban Runoff Plan with BMPs for its facilities, but the BMPs lack specificity for the major municipal facilities and activities. The City should develop site-specific plans similar to industrial stormwater pollution prevention plans for the corporation yard and other municipal facilities with a significant potential to contaminate stormwater runoff. For example, this plan should include a site map showing potential pollutant sources, BMPs, storm drain inlets, and direction of flow. The plan should also identify staff responsible for implementing the BMPs, schedules for inspection and maintenance of the facility and BMPs, and records of maintenance.

## 2.2.5 Evaluation of Industrial and Commercial Inspection Program

### Potential Permit Violation:

- *The City lacks documentation on how it prioritizes industrial and commercial facilities.*

Permit provisions IX.B.2 and IX.C.4 require the City to prioritize industrial and commercial facilities. The permit allows the City some discretion in setting priorities, defining high priorities generally as facilities with “a high potential for or history of unauthorized, non-stormwater discharges.” The City has not documented how it prioritizes industrial and commercial facilities, and it should develop written criteria to be used to classify facilities as having high, medium, or low priority. The criteria should be objective, where possible, with the potential for facilities to be reclassified after an inspection.

### Positive Attribute:

- *The City has inspected most of its industrial and commercial facilities and has developed a database to track inspections.*

The City has inspected the majority of its industrial facilities and has started to inspect the commercial facilities. In addition, the City has developed a database to inventory industrial and commercial facilities and track inspections.

## 2.2.6 Evaluation of Public Education and Outreach Program

See common finding in section 2.1.3.

## 2.2.7 Evaluation of Illicit Connection and Illegal Discharge Program

Adequate.

## 2.3 City of Moreno Valley

### 2.3.1 Evaluation of Program Management and Effectiveness

See common findings in section 2.1.1.

Deficiency Noted:

- *The City would benefit from regular meetings of City department heads to coordinate stormwater efforts.*

The Public Works and Facilities managers do not require the incorporation of stormwater BMPs into the daily routines of their crews. This practice might be due in part to a lack of communication between departments. Regular meetings would reinforce the need to implement stormwater BMPs and would educate department heads about new stormwater concerns and new technologies that might be implemented.

### 2.3.2 Evaluation of New Development and Redevelopment Program

See common findings in section 2.1.2 above.

Positive Attribute:

- *The City has implemented an annual maintenance charge for the City to maintain post-construction water quality BMPs.*

The City requires that new developments be equipped with water quality ponds and other post-construction stormwater management practices. To ensure that these systems are maintained adequately, the City has developed a legal process by which it assumes maintenance responsibility for these systems. The property owner or homeowner association is legally responsible for maintenance during the initial establishment stage (120 days after installation) and is required to submit as-built planting, irrigation, grading, and drainage plans. After that period, the City performs maintenance on the system and levies an annual NPDES regulatory fee for the service. To track post-construction BMPs, the City developed a spreadsheet and a geographic information system (GIS) of the facilities for which it is responsible, including information such as location, type of practice, property owner, projected maintenance schedule, and actual maintenance costs.

Deficiency Noted:

- *The City lacks a formal, documented plan review process.*  
The plan review process is not formalized and is largely the responsibility of a single person. If the rate of development increases or staff turnover occurs, a more formalized process will be needed. Therefore, the City should document its plan review process by developing a review checklist or similar review guidance. This checklist could be provided to developers, as well as City staff, to improve the transparency of the review process and serve as an educational tool.

### 2.3.3 Evaluation of Construction Program

#### Positive Attributes:

- The City has developed and begun to implement the Permits Plus database to schedule inspections based on priority level and results of previous inspections.*  
The City has cataloged all construction sites in its jurisdiction and entered them into a tracking database called *Permits Plus*, which is also being used for other applications in the City. The database automatically prioritizes sites based on size (other criteria for prioritizing sites, such as direct discharge to an impaired waterbody, are not automated), and the system schedules inspections based on this priority level. (High-priority sites are inspected biweekly, medium-priority sites monthly, and low-priority sites once during the wet season.) The database also stores information from the inspection form and automatically schedules follow-up inspections based on inspection results (i.e., if a violation is reported). At the time of the program evaluation, this system had just been implemented and had not yet been fully utilized.
- The City requires the developer or contractor to pay \$250 per construction inspection.*  
The City implemented a fee for conducting inspections of construction sites to meet the requirements of the NPDES permit (City Resolution 2003-34). This fee is charged per inspection and generates revenue to support the Program.

#### Deficiencies Noted:

- Erosion and sediment control plan review protocols for new development and redevelopment are not formalized.*  
Although basic erosion and sediment control practices are required on site plans, a standardized procedure has not been developed for their review and approval. In addition, there is no approved checklist or other guidance to educate developers about the plan requirements for erosion and sediment control and post-construction stormwater management. Coordination among planners, the City's engineers, and inspectors has not been formalized to ensure that adequate plans are developed, approved, and used in the field to maximize the removal of pollutants during construction.
- Capital improvement projects should use the same criteria as private projects.*  
The City's capital improvement projects (CIPs) are inspected using a checklist that differs greatly from the one used for private development projects. A side-by-side comparison of inspection reports by two inspectors at the same site revealed inconsistencies. Most notably, problems with erosion and sediment controls were not adequately detailed on the CIP inspector's forms, and follow-up activities were not noted. In addition, the CIP inspector, who was hired within the past year, had not undergone formal training in erosion and sediment control.

The City should ensure that the training requirement is met and should apply the same standards and inspection checklist to both CIPs and private construction sites. One way to improve consistency would be for the new inspector to receive on-the-job

training by the more experienced construction inspector at both private development and CIP sites.

- *The City should continue with revisions to the enforcement escalation process for construction sites.*

The City's enforcement escalation process, although clearly defined on the construction inspection form, has not resulted in improved compliance at problem sites. The City recently adopted a revised stormwater ordinance that provides the legal authority to impose civil penalties on parties that violate the provisions set forth in the ordinance, the Municipal NPDES Permit, and the NPDES Permit for Industrial/Commercial and Construction Activity. With this expanded authority, the City should be sure to follow through with programmatic changes to improve compliance, such as increasing the frequency of inspections, revising the enforcement escalation process, increasing penalties, and granting code enforcement capabilities to the construction inspector rather than requiring the inspector to refer incidental violations to other city officials.

#### **2.3.4 Evaluation of Municipal Facilities and Activities Program**

##### Deficiencies Noted:

- *The City should include stormwater management-related procedures and standards as contract specifications for all City contractors.*

Contractors hired by the City, for both construction and maintenance activities, should be required to meet the same standards for stormwater control that City crews must meet. One of the most effective means to achieve this end is the contract language. An outline of the standards that need to be met and BMPs that need to be implemented for each project should be included in the contract. This would provide guidance to the contractors as well as an enforceable mechanism for ensuring that acceptable practices are being used. It is also the City's responsibility to audit contractors periodically to verify that they are meeting the requirements set forth in these contracts.

- *The City should develop a standardized employee-training program and provide guidance materials on BMPs for City maintenance crews.*

It was clear that Public Works and Facilities Management staff were not well versed in stormwater management concepts and BMP implementation. In addition to conducting formal training for these employees on stormwater impacts, a manual or other written guidance material that workers can refer to while working in the field should be developed. Such guidance materials could include fact sheets or posters detailing the proper storage and handling of hazardous chemicals, methods for protecting storm drain inlets during minor road work, and ways to identify and report spills or illicit discharges. Materials should be directly relevant to the tasks being performed by each department, which might necessitate developing more than one set of information, each tailored to a different type of task.

- *The City should develop urban runoff management plans for the corporation yard, animal shelter, and fire stations.*

The City manages several facilities that have the potential to adversely affect stormwater quality. Facility-specific plans similar to industrial stormwater pollution prevention plans should be developed. The plans should identify pollutants likely to be generated at each site and specify the BMPs that will be implemented to reduce impacts on the municipal separate storm sewer system (MS4) and receiving waters. Employees at these facilities should be taught periodically about pollution prevention and stormwater management.

The City's corporation yard would benefit from better housekeeping and dust control. There were several instances where fertilizers, small amounts of gasoline, and bags of concrete mix were stored outside in nondesignated areas; these materials should be stored indoors. Also, chemically treated logs, although covered by a tarp, were stored directly on the ground, which could contaminate runoff flowing through the storage area. These logs should be stored indoors (there was a large roofed area that could accommodate these materials) or on pallets so they will not come into contact with stormwater. The large lot was mostly unpaved and could be a source of excessive dust. In addition, stockpiles of sand and other loose materials were stored on-site and should be monitored for erosion due to rainfall or wind.

### 2.3.5 Evaluation of Industrial and Commercial Inspection Programs

#### Positive Attribute:

- *The City has linked the Permits Plus database of industrial and commercial facilities to the Business License database, which is updated daily.*

The City has undertaken an effort to automate many of its services, such as tracking business licenses. The Storm Water Program plans to use the *Business License* database to identify new industrial and commercial facilities that require inspections. Many jurisdictions update their industrial and commercial inventories only annually, but the *Permits Plus* system allows for daily updates. The system is also capable of automatically scheduling initial and follow-up inspections.

#### Potential Permit Violation:

- *The City lacks criteria for designating priority levels for industrial and commercial facilities.*

The City recently assumed responsibility from the County for industrial and commercial stormwater inspections and has hired a consultant to carry out these tasks. Procedures for prioritizing and conducting inspections to ensure compliance with the permit requirements have not yet been formalized. The City must clearly define criteria for assigning priority levels to industrial and commercial facilities and ensure that inspections are scheduled as specified in Part IX.B.3 of the permit.

**2.3.6 Evaluation of Public Education and Outreach Program**

See common finding in section 2.1.3.

**2.3.7 Evaluation of Illicit Connection and Illegal Discharge Program**

Potential Permit Violation:

- *The City needs to develop a septic system program to prevent system failures and to replace systems that have already failed.*

The permit (Part VII.B.) requires that septic systems be inventoried and a procedure be established to control septic system failures that could affect water quality. This task has not yet been initiated. The City should work with local sewer agencies to identify properties that are not connected to the sanitary sewer as a means to develop an inventory. Once this inventory is established, the City can work with other agencies to determine the most appropriate way to assess the impact of septic systems on urban runoff and local waterbodies.

Deficiency Noted:

- *The City should improve coordination with spill responders to ensure that spill information is tracked and reported to state agencies and to assess whether the MS4 or receiving waters have been adversely affected.*

As required in Part VI.B of the permit, City staff must notify the state Office of Emergency Services of a spill or illegal discharge. At the time of the program evaluation, no procedure was in place for spill responders (the Fire Department or HAZMAT team) to notify the Storm Water Program of spills that might affect the MS4 or receiving waters. It is important for the Storm Water Program to be able to assess the impacts of spills on the MS4 both for tracking purposes and for mitigation, if needed. The City should work with spill responders to develop an official procedure for notifying the Storm Water Program of spills. The City should also consider providing education on stormwater and NPDES permit requirements to managers and staff responsible for spill response.

**2.4 City of Riverside****2.4.1 Evaluation of Program Management and Effectiveness**

See common findings in section 1.2.1 above.

Deficiency Noted:

- *The City should consider using activity and BMP specific language in contract specifications.*

The City contracts out some municipal activities (landscaping and park maintenance). The current contract specifications include general language discussing state standards requiring water quality protection. The City is encouraged to revise or augment the current contract language to include specific stormwater BMPs required by the City to protect water quality.

### 2.4.2 Evaluation of New Development and Redevelopment Program

See common findings in section 1.2.2.

#### Positive Attribute:

- *The Industrial Waste Division of the Public Works Department is included in the plan review process to address industrial and commercial wastewater issues.*  
In-office interviews with the Industrial Waste Division staff revealed that they are included in the new development plan review process. The Industrial Waste Division is responsible for addressing industrial and commercial wastewater issues associated with the plans (inflow and infiltration, drainage, post-construction BMPs associated with industrial and commercial facilities) and must sign off prior to plan approval.

#### Deficiency Noted:

- *The City lacks a formal mechanism to assign responsibility and track the maintenance of post-construction BMPs.*  
The City has no mechanism to assign responsibility for maintaining post-construction BMPs. The development of a formal maintenance agreement would facilitate the assignment of responsibility for routine maintenance of post-construction BMPs. The City also lacks a mechanism to track post-construction BMPs. Tracking the locations, maintenance schedules, and responsible organizations would help the City to establish a routine maintenance schedule and inspection program for such BMPs.

### 2.4.3 Evaluation of Construction Program

#### Potential Permit Violations:

- *The City's construction inspectors lack adequate inspection forms, inspection procedures, and training.*

The City's construction inspectors do not have an adequate construction inspection checklist identifying the site-specific BMPs the City requires. The checklist used on-site lacks specific information to assist in determining compliance, including the evaluation of on-site erosion and sediment control BMPs and BMPs to address construction waste, equipment and material storage, and maintenance. In addition, the daily inspection checklist should note necessary maintenance or changes to BMPs, whether any enforcement action has been taken, and whether the site is covered under the Statewide General Construction Permit. The evaluation team visited three construction sites (Colombia Street, Van Buren Avenue, and Riviera Street) and determined that the construction inspectors lacked consistency from site to site. The City is encouraged to provide additional training opportunities for field staff to make sure that they have the tools and education necessary to ensure that construction sites employ proper stormwater controls. Along with the training, the City should develop formalized written procedures for conducting consistent inspections. The development of formalized inspection procedures would provide inspectors with consistent guidance on adequate BMP installation and maintenance, record-keeping, and enforcement procedures.

- *The City does not adequately identify and prioritize construction sites.*

Permit provision IX.A.2 requires the City to “prioritize construction sites within the jurisdiction as a high, medium, low threat to Receiving Water quality (consistent with the criteria contained in Section IX.A.3).” The City does not have a process for continually updating a construction site list as new projects are added or old projects are completed. Although the City is in the process of using the *Permits Plus* database to track construction sites, the City needs to use the database to develop a dynamic list that is periodically updated to reflect prioritization on active construction in the City. The City should also document the criteria used to prioritize sites as high-, medium- or low-priority sites.

#### 2.4.4 Evaluation of Municipal Facilities and Activities Program

##### Positive Attribute:

- *The City is developing a GIS database system to track municipal maintenance activities in Riverside.*

During in-office evaluations, City staff explained that they are developing a GIS-based Work Order Management System (WOMS) database. The database will track the current municipal maintenance activities by using City work orders. Items that will be tracked include catch basin cleaning, street sweeping, litter removal, and other activities. The database will be suitable for data collection and, ultimately, annual reporting.

##### Potential Permit Violations:

- *The City’s corporation yard lacked adequate practices to prevent stormwater contamination.*

The evaluation team conducted a site visit to the City’s corporation yard at 8095 Lincoln Avenue. The corporation yard lacked basic stormwater practices to ensure control of contaminated runoff. Evaluation of the yard revealed the following stormwater issues:

- Vehicles and equipment stored outside the fleet maintenance shop showed obvious signs of leaks. Drip pans or other controls were not provided for stored vehicles.
- Large spills of oil and miscellaneous fluids were also found in the vehicle parking area. Although some of the spills had been covered with absorbent materials, the materials had not been cleaned up.
- On-site spill kits were not plentiful, visible, or accessible to staff. The corporation yard staff were encouraged to increase the number of spill kits on-site. In addition, the spill kits should be located in areas with a high potential for spills, such as the transformer storage area and fueling area. The spill kits should also be labeled and highly visible to staff.
- Vehicle wash water discharge was identified near one of the corporation yard wash racks. The wash water contained miscellaneous trash and evidence of an

oily sheen. The City staff is encouraged to restrict washing activities to the designated wash racks on-site. Control of non-stormwater discharges should be addressed in the facility's Urban Runoff Pollution Prevention Plan as required in Section XI.N of the municipal permit.

- Approximately fifteen 5-gallon paint containers were found exposed. The City staff was encouraged to properly clean up, cover, and dispose of the containers on a regular basis. Also, trash containers throughout the yard were left open; they should be closed when not in use.
- Stockpiles of street sweeping debris, aggregate, and other miscellaneous materials had not been covered. These stockpiles, as well as the surrounding exposed soil, should have controls to reduce or eliminate dust migration, sediment transport, and erosion. As a recommendation, the City could cover the temporary stockpiles with plastic sheeting and use erosion control blankets for the long-term stockpiles. The city is encouraged to conduct dust-suppression practices on a routine basis through watering or the use of a chemical soil binder.

During the site visit the evaluation team discovered two stormwater facilities, a storm drain inlet, and a concrete-lined trapezoidal channel that showed signs of excessive sedimentation. According to City staff, these stormwater facilities are under the jurisdiction of the Riverside County Flood Control District. The storm drain inlet was at the end of a cul-de-sac within the boundary of the corporation yard. Although the inlet had a sediment filtration system, the inlet had not been cleaned or maintained. Thus the filtration system was inundated with sediment, rendering the system ineffective. The City had recently cleaned out the trapezoidal channel, but the channel lacked controls to prevent sediment from entering. The City staff was encouraged to establish an agreement with the County Flood Control District or other agencies to properly maintain these stormwater facilities on a regular basis.

- *The City's corporation yard lacked a site-specific Urban Runoff Pollution Prevention Plan.*

Section XI.N of the municipal permit requires the City to maintain an updated site-specific Urban Runoff Pollution Prevention Plan. During in-office evaluations, members of the municipal maintenance staff explained that they had not yet developed a site-specific Urban Runoff Plan for the corporation yard. The yard could benefit from a plan similar to an industrial stormwater pollution prevention plan that describes the activities, potential pollutant sources, associated BMPs, training, and responsibilities for the yard. In addition, the plan should specifically incorporate BMPs for the deficiencies identified in the finding above.

- *The City does not have written standards, guidance, or training for the maintenance and inspection of structural stormwater controls.*

The City has not developed standards for the maintenance of stormwater facilities, such as storm drain inlets and stormwater basins. The Public Works Department stated that the Street Division conducts inspections of all the municipal storm drain inlets prior to the wet season. The Street Division is responsible for maintaining the City's jurisdictional storm drain inlets. There is no formal set of procedures on how to

conduct routine inspections and maintenance. The City also lacks a training program to teach its staff appropriate procedures for storm drain inlet maintenance. Training would benefit the City's effort to maintain its municipal storm sewer system consistently and adequately.

#### 2.4.5 Evaluation of Industrial and Commercial Inspection Programs

##### Positive Attributes:

- *The City has developed a GIS database that tracks routine inspections and other activities conducted by the Industrial Waste Division.*

The Industrial Waste Division of the Public Works Department has developed and uses a GIS database that tracks inspections. The database tracks the history of stormwater inspections, violations, and enforcement at industrial and commercial facilities. The industrial inspectors print out the pertinent history and inspection record before any inspection of facilities for that day. The inspection forms, once completed, are entered into the database. New industrial facilities are entered into the database as they obtain new discharge permits. The locations of the new facilities are placed on a GIS map that shows history, location, and contact information when selected in the GIS database.

- *The City has developed requirements that mobile washers and detailers must meet prior to conducting activities in the City.*

The Industrial Waste Division has developed an authorization program for mobile washers and detailers. According to City staff, mobile washers and detailers are not allowed to conduct washing activities until the City has approved them. The City has developed a formal set of requirements that a mobile washer or detailer must meet to operate within the City's jurisdiction. These 10 requirements include, for example, using equipment and procedures to prevent the discharge of wastewater to the storm drain, conducting cleaning activities that comply with the City's ordinance, and using recovery equipment in accordance with the manufacturer's recommendations. The companies must also demonstrate their activities to obtain final approval. The Industrial Waste Division documents the demonstrations and activities. Once a company is authorized to conduct washing activities within the city's jurisdiction, the City adds the company to the vendor list developed by the City. Currently there are 11 such authorized companies; all non-authorized mobile washers and detailers found conducting washing or detailing activities are subject to enforcement per the City ordinance.

- *The City has developed a comprehensive, very detailed, multiphase training program for industrial inspectors.*

The Industrial Waste Division of the Public Works Department has developed a nine-phase training program for industrial inspectors, which the California Water Environment Association has approved. Each phase of the program must be passed with a 90 percent or better score to move on to the next phase. Although the training program focuses on industrial and commercial wastewater discharges, one of the phases concentrates primarily on stormwater aspects such as erosion and sediment

control, nonpoint source discharges, discharges associated with residential areas, and other stormwater issues.

**2.4.6 Evaluation of Public Education and Outreach Program**

See common finding in section 1.2.3.

**2.4.7 Evaluation of Illicit Connection and Illegal Discharge Program**

Adequate.